



Investigating the Integrated Psychosocial Model of Criminal Social Identity (IPM-CSI) within a sample of community based youth offenders

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For Peer Review Only

Investigating the Integrated Psychosocial Model of Criminal Social Identity (IPM-CSI) within a
sample of community based youth offenders

Abstract

The current study aimed to explore the correlates of CSI in a single study, using the recently validated MDSI (Measure of Delinquent Social Identity). Path analysis was conducted among a sample of opportunistically selected youth offenders ($N = 536$; age range from 12 to 17 years), separately for boys ($n = 348$; M age = 15.28 years) and girls ($n = 188$; M age = 15.23 years). Findings showed a positive significant relationship between interpersonal manipulation and in-group affect ($\beta = .08$) for boys, and a positive significant relationship between interpersonal manipulation and in-group ties ($\beta = .21$) for girls. Among boys, the findings revealed a negative significant relationship between self-esteem and cognitive centrality ($\beta = -.13$). For girls only, a negative significant relationship was identified between living with parents and associating with criminal friends ($\beta = -.20$). Limitations and advantages, including practical implications, of the current research are discussed, highlighting directions for future research.

Key Words: Integrated Psychosocial model of a Criminal Social Identity (IPM-CSI); Delinquent social identity; The Measure of Delinquent Social Identity; Path analysis; Youth offenders

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11 sample of community based youth offenders
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14 **Introduction**

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17 Researchers argue that identity comprises of meanings that an individual assigns to the roles
18 they play in different social contexts (Stryker & Burke, 2000), which is in line with the
19 psychosocial stance the present paper holds. Early theories of identity focus on the psychosocial
20 development of individuals and how social experiences impact upon this (Erikson, 1963).
21 Expanding on this, Turner (1982) asserts that there are two types of identity; personal and social.
22 Personal identity refers to the unique features of individuals that separates them from one another,
23 whereas social identity is concerned with social interactions with others, developing similarities
24 with others and acknowledging self-perception as a member of certain social groups (Vryan, Adler,
25 & Adler, 2003).
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39 The Social Identity Theory (SIT; Tajfel & Turner, 1979) focuses on how one's knowledge of
40 membership in a social group and the value and emotional significance of the group membership
41 contributes towards the development of an individual's self-concept (Tajfel, 1978). The SIT is
42 underpinned by the notion that humans feel the need to have a sense of belonging (Baumeister &
43 Leary, 1995) and, through developing group membership, group behaviours are instilled. The SIT
44 denotes that individuals strive to achieve and maintain a high sense of self-esteem, which is
45 enhanced by portraying positive evaluations about the social group to which they belong (Rubin
46 & Hewstone, 1998). However, achieving a pro-social identity is not always possible (e.g., due to
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3 the lack of pro-social peers with whom one can connect) and may result in the development of an
4 anti-social/criminal identity (Jackson, Sullivan, Harnish & Hodge, 1996).
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8 Boduszek and Hyland (2011) posited that a criminal social identity (CSI) is formed through
9 group membership with other offenders, enduring the same process as highlighted in the social
10 identity theory. Drawing on Cameron's (2004) research into social identity, Boduszek, Adamson,
11 Shevlin, and Hyland (2012a) proposed that a criminal social identity consists of three dimensions:
12 cognitive centrality, in-group affect and in-group ties. Cognitive centrality refers to the
13 psychological prominence and importance of belonging to the social group based on the
14 individual's beliefs about themselves. Thus high cognitive centrality scores indicate that the
15 individual's identity as part of a criminal group is seen as central to their self-concept and the
16 individual places importance on their role within the group. Subsequently they are more likely to
17 adhere to group norms, regardless of the physical presence of other group members. In-group affect
18 relates to the positive feelings the individual has towards the group and its members. Thus, high
19 in-group affect scores can reflect a reduced anxiety from being part of a group. In-group ties
20 dimension relates to the emotional connection one has with other members of the group. Alike
21 high cognitive centrality scores, individuals possessing high in-group ties scores tend to display
22 behaviours that are characteristic of the group.
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43 Focus is therefore drawn to the underlying reasons for generating an identity with a criminal
44 group, pertinent in targeting the risk factors most likely to lead to criminal group membership and
45 thus criminal behaviour. Providing a theoretical perspective of CSI (Boduszek & Hyland, 2011),
46 Boduszek, Dhingra and Debowska (2016a) proposed the Integrated Psycho-Social Model of CSI
47 (IPM-CSI), which is based upon previously empirically tested theories of the origins of CSI. The
48 IPM-CSI explains the underlying reasons for the development of CSI, based upon four sets of
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3 concepts: (1) an identity crisis that results in weak bonds with society, peer rejection, and is
4 associated with poor parental attachment and supervision; (2) exposure to a criminal/antisocial
5 environment in the form of associations with criminal friends before, during, and/or after
6 incarceration; (3) a need for identification with a criminal group in order to protect one's self-
7 esteem and (4) the moderating role of personality traits in the relationship between
8 criminal/antisocial environment and the development of CSI.
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17 **Identity Crisis**

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20 The concept of an 'identity crisis' refers to children being unable to achieve pro-social group
21 membership resulting in feelings of frustration and stress (Agnew, 1993; Erikson, 1959; Higgins,
22 1987; Waterman, 1985; Salovey & Rodin, 1984). It is believed that the weak parental attachment
23 and a lack of parental supervision during childhood can have an adverse impact on pro-social
24 behaviour due to a lack of social control (Boduszek, Adamson, Shevlin, Hyland & Dhingra, 2014a;
25 Hirschi, 1969; Ingram, Patchin, Huebner, McCluskey, & Bynum, 2007; Shaw & Scott, 1991;
26 Simons, Whitbeck, Conger, & Conger 1991). Although no direct relationship has been identified
27 between parental attachment and CSI in an adult population, an indirect negative relationship
28 between parental supervision and all three aspects of CSI has been acknowledged (Boduszek,
29 Adamson, Shevlin, Mallett, & Hyland., 2012b). In addition, Boduszek et al., (2012b) identified
30 that a lack of parental supervision also correlates with associating with other criminals.
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46 Being part of a social group, albeit pro- or anti-social, leads to individuals adapting, or
47 completely changing, their views, attitudes and behaviours to fit with the group they now identify
48 with (Hogg, 2001). Drawing on the Self-Categorisation Theory (SCT; Turner, Hogg, Oakes,
49 Reicher, & Wetherell, 1987; Turner, Oakes, Haslam, & McGarty, 1994), one's social identity
50 becomes salient when individuals categorise themselves as a member of that group. Disparities
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3 between social groups thus become more distinct and members of anti-social groups experience
4 rejection from their pro-social peers, further enhancing identity with the anti-social group
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6 (Thornberry, Krohn, Lizotte, & Chard-Wierschem, 1993). There are numerous studies in support
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8 of a link between peer rejection and anti-social behaviour (e.g., Bagwell, 2004; Laird, Jordan,
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10 Dodge, Pettit, & Bates, 2001; Rubin & Hewstone, 1998), however there is scant research
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12 surrounding the direct and indirect relationship with CSI. Rejection from peers has been linked to
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14 lowered self-esteem with a higher likelihood of engaging in anti-social behaviour (Downs & Rose,
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16 1991; Juvonen, 1991; Parker & Asher, 1987).
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22 **Exposure to criminal/anti-social environment**

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25 In line with Aker's (1979; 1985) Differential Reinforcement Theory, exposure to an anti-
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27 social/criminal environment, particularly during the process of an identity crisis, is more likely to
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29 lead to associations with offenders, influencing criminal attitudes and cognitions and leading to
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31 criminal behaviour (Andrews & Kandel, 1979; Holsinger, 1999; Mills, Kroner, & Forth, 2002;
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33 Mills, Anderson, & Kroner, 2004). Studies surrounding this concept explore criminal associations,
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35 prisonization/time spent in prison and/or criminal attitudes. Research suggests that associating
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37 with other criminals is positively related to all three facets of CSI (Boduszek et al., 2012b;
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39 Boduszek, Dhingra & Debowska, 2016b; Spink et al., 2018). Boduszek et al (2012b) identified an
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41 indirect relationship between parental supervision and CSI, through criminal associations.
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43 Sherretts, Boduszek and Debowska (2016) found that psychopathy moderates the relationship
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45 between criminal associations and in-group ties. Studies have shown that the more time spent in
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47 prison the higher the likelihood of the development of certain facets of CSI (Boduszek &
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49 Debowska, 2017; Walters, 2003). Whilst prisonization ("the adoption of the folkways, mores,
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51 customs, and general culture of the inmate subculture", Clemmer, 1940, p. 270) was shown to
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3 increase cognitive centrality and in-group ties (Boduszek & Debowska, 2017), a longitudinal study
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5 by Walters (2003) revealed that cognitive centrality only increased for those serving their first
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7 prison sentence. Furthermore, some researchers have only found an indirect relationship whereby
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9 psychopathy has moderated the relationship between time spent in prison and CSI (Boduszek et
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11 al., 2016b; Sherretts et al., 2016). Although research identifies a relationship between CSI and
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13 criminal attitudes, findings are inconsistent as to which CSI facets are related with this external
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15 criterion (Boduszek, Adamson, Shevlin & Hyland, 2012c; Boduszek, Adamson, Shevlin, Hyland,
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17 & Bourke, 2013).

22 **A need for identification with a criminal group in order to protect one's self-esteem**

25 Drawing on the Social Comparison Theory (Festinger, 1954), group members compare
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27 themselves to their respective group members (in-group) and other social groups' members (out-
28
29 group) in order to acknowledge their social group as more favourable and subsequently increase
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31 positive self-evaluations (Ellemers, Kortekaas, & Ouwerkerk, 1999; Tajfel & Turner, 1979).
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33 Rejection from peers has been linked to lowered self-esteem and a higher likelihood of engaging
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35 in anti-social behaviour (Downs & Rose, 1991; Juvonen, 1991; Parker & Asher, 1987). However,
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37 individuals within anti-social groups may increase their self-esteem by adopting a 'social creativity
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39 strategy', whereby they compare their group to more deprived/lower class groups to perceive their
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41 group as more positive, in turn allowing for positive evaluations (Tajfel, 1978). In line with this,
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43 research suggests that the formation of criminal cognitions (cognitive centrality) is associated with
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45 negative self-evaluations, while loyalties (in-group ties) and emotional connections (in-group
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47 affect) to the group are associated with positive self-evaluations (Boduszek et al., 2012b; Boduszek
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49 & Debowska, 2017).

The moderating role of personality traits in the relationship between criminal/antisocial environment and the development of CSI

The IPM-CSI model elucidates that the relationship between environmental factors and CSI may be moderated by an individual's personality traits. Within the model, a special emphasis is placed on psychopathic personality traits. The prevalence of psychopaths within the prison service (9-30%) has been noted to be higher than within the general population (1-3%) (Nicholls, Ogloff, Brink & Spidel, 2005; Vitale, Smith, Brinkley & Newman 2002; Strand & Belfrage, 2005). Therefore, it is not surprising that psychopathy is a widely researched topic in the area of offending behaviour (Declercq, Willemsen, Audenaert, & Verhaeghe, 2012; Gendreau, Goggin, & Smith, 2002; Häkkänen & Hare, 2009; Laurell & Dåderman, 2007; Salekin, Rogers, & Sewell, 1996). Psychopathy has been characterised by interpersonal (e.g. selfishness, grandiose, lying and manipulative behaviour), affective (e.g. lacking empathy/remorse) and behavioural (impulsivity, violating social norms and expectations) traits (Hare, 2003). The callous affect facet (lack of remorse, lack of empathy, shallow; Hare & Newman, 2008) of psychopathy has been shown to act as a moderator between criminal associations and in-group ties (Sherretts et al., 2016). Sherretts et al. also identified that the antisocial behaviour facet of psychopathy correlates with all three aspects of CSI, whereas erratic lifestyle and interpersonal manipulation aspects of psychopathy positively associate with in-group ties. The researchers theorised that individuals utilise interpersonal manipulation skills in order to simulate changes in identity and, using impression management, elicit positive evaluations from others, leading to the maintenance of positive self-esteem (Goffman, 1963, 1990). Based upon this, offenders with low levels of interpersonal manipulation could be expected to have low self-esteem; however, this remains to be empirically tested.

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3 Hare's (2003) concept of psychopathy has been critiqued for including behavioural factors
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5 – erratic lifestyle and antisocial/criminal behaviour - as they seem to be an outcome of
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7 psychopathy, not an integral part of it (see Boduszek & Debowska, 2016 for a review). Since
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9 criminal behaviour can also be an outcome of CSI, the use of a psychopathy measure indexing
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11 criminal/antisocial behaviour as a moderator in the IPM-CSI model would be tautological. In
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13 considering the above criticisms, Boduszek, Debowska, Dhingra, and DeLisi (2016c) developed a
14
15 four-factor, personality-based model of psychopathy consisting of affective responsiveness (low
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17 empathy and emotional shallowness), cognitive responsiveness (emotional awareness of others'
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19 emotional states and an ability to engage with others' emotionally on a cognitive level),
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21 interpersonal manipulation (superficial charm, grandiose beliefs and calculating behaviour) and
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23 egocentricity (self-centredness). To date, research testing the associations between this
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25 personality-based psychopathy model and CSI is missing. Furthermore, all of the above-cited
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27 studies in the area of CSI and psychopathic traits focused on adult populations. Although
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29 personality is in the state of flux in childhood and adolescence and, as such, youngsters cannot be
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31 diagnosed with a personality disorder, recognising problems early on could be beneficial to
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33 designing appropriate interventions (Frick, 2007). In the context of IPM-CSI, targeting
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35 malfunctioning personality traits related to CSI development can result in improved outcomes for
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37 youth at risk (i.e., those exposed to environmental risk factors for CSI). As such, empirical research
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39 testing associations between environmental and personality characteristics and CSI among
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41 adolescents may have important practical implications.
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50 Research surrounding gender differences in psychopathy tends to be based upon Hare's
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52 (2003) concepts of psychopathy. In studying females, findings showed that correlations between
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54 interpersonal and affective facets of psychopathy and recidivism are positive and significant,
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3 whereas correlations between behavioural factors of psychopathy and recidivism are non-
4 significant (Salekin et al., 1996). Gender differences have also been acknowledged in criminal
5 social identity, suggesting that females are more likely to form stronger bonds and identification
6 than males due to an increased desire to be accepted by other group members (Brown, Condor,
7 Matthews, Wade, & Williams, 1986; Kiesner, Cadinu, Poulin, & Bucci, 2002; Newman, Loman,
8 & Newman, 2007). Providing additional support to female offenders, such as additional visits to
9 maintain family bonds, was suggested as a practical implication by Sherretts et al. (2016),
10 however, further research is required to support this notion.
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22 Research concerned with exploring the elements of the IPM-CSI is predominantly based
23 on imprisoned male adults (Boduszek et al., 2012b; Boduszek et al., 2012c; Boduszek et al., 2013;
24 Boduszek & Debowska, 2017; Walters, 2003), with scant research focussing on youth offenders
25 (Boduszek et al., 2016b; Spink et al., 2018) and females (Sherretts et al., 2016; Spink et al., 2018).
26 All but one piece of research (Spink et al., 2018) considers offenders who are imprisoned and there
27 is a void in investigating the developments of CSI in community based offenders. As most of the
28 research surrounding CSI is over five years old (Boduszek et al., 2012b; Boduszek et al., 2012c;
29 Boduszek et al., 2013; Walters, 2003), limited studies utilise up to date measures (Boduszek &
30 Debowska, 2017; Spink et al., 2018). For example, only Boduszek and Debowska (2017) used a
31 revised measure of CSI (MCSI-R; Boduszek & Debowksa, 2017), whereas the older studies
32 (Boduszek et al., 2012b; Boduszek et al., 2012c; Boduszek et al., 2013) administered the original
33 CSI measure (MCSI; Boduszek et al., 2012a), which has been critiqued for lacking internal
34 consistency among some participant samples and being too simplistic for such a complex
35 psychological construct (Sherretts et al., 2016).
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54 55 **The current study** 56 57

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3 Although the IPM-CSI (Boduszek et al., 2016a) offers a comprehensive explanation of the
4 development of CSI, research has not explored all of its elements in one single study. The main
5 aim of the present research was to fill this void by testing the following associations: parental
6 factors (parental rejection, parental attachment, parental supervision, presence of a parent/no
7 parent) with criminal associations; parental factors (parental rejection, parental attachment,
8 parental supervision, presence of a parent/no parent) with self-esteem; criminal associations with
9 criminal attitudes; criminal associations with each DSI facet (cognitive centrality, in-group affect
10 and in-group ties), self-esteem with each DSI facet (cognitive centrality, in-group affect and in-
11 group ties), and each psychoopathy facet (affective responsiveness, cognitive responsiveness,
12 interpersonal manipulation and egocentricity) with each DSI facet (cognitive centrality, in-group
13 affect and in-group ties). Since existing studies in the area are predominantly adult male based, the
14 present study focused on a mixed gender sample of youth offenders in order to expand the existing
15 scholarship. It is envisaged that this will have a valid contribution towards the development of
16 psychological offender behaviour programmes.

36 Method

39 Sample

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42 Using opportunistic sampling, the authors approached $N = 624$ youth offenders in total and
43 $N = 536$ returned completed surveys (response rate = 85.9%). The only inclusion criterion was that
44 participants were currently serving a sentence with the YOT and were aged between 12 and 17
45 years old. Although the YOT engages with young persons from the age of 10, it was deemed that
46 the nature of the questionnaires could cause some unnecessary discomfort or distress to those under
47 the age of 12 and they may struggle to understand certain concepts. Thus, youths below the age of
48 12 were not given the opportunity to partake. There was no missing data, which is likely due to
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3 youth workers assisting youth offenders in the completion of the survey. Therefore, $N = 536$ of
4 youth offenders were included in the current analysis, comprising of $n = 348$ (64.9%) males (age
5 range from 12 to 17 years, $M = 15.28$, $SD = 1.10$, $Mdn = 15$, and Mode = 15) and $n = 188$ (35.1%)
6 females (age range from 12 to 17 years, $M = 15.23$, $SD = 1.19$, $Mdn = 15$, and Mode = 15).
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13 For males, 128 (36.8%) participants were living with one parent, 90 (25.9%) living in a
14 care home, 60 (17.2%) living with both parents, 36 (10.3%) living in foster care, 18 (5.2%) living
15 with grandparents, 8 (2.3%) living without parents and 8 (2.3%) living with step parents. For
16 females, 75 (39.9%) participants were living with one parent, 47 (25%) living in a care home, 26
17 (13.8%) living with both parents, 18 (9.6%) living in foster care, 16 (8.5%) living with
18 grandparents, 4 (2.1%) living without parents and 2 (1.1%) living with step parents.
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27 Procedure

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30 Authors in collaboration with the Youth Offending Team (YOT) chose five establishments
31 within the Yorkshire area to take part in the research. The authors distributed self-report surveys
32 to all establishments. The youth workers, trained by the authors, administered the surveys in their
33 one to one sessions with the youth offenders. To minimise sampling bias and maximise the
34 generalisability of findings, participants were encouraged to complete the survey in the presence
35 of their youth worker. The likelihood of such was enhanced given an existing professional
36 relationship, encouraging openness and honesty, between the youth offender and their youth
37 worker. This also gave the youth offenders the opportunity to discuss the content of the survey
38 which enabled youth workers to assist with any difficulties in reading and/or understanding the
39 content and also address any safeguarding concerns. The youth offenders were provided with an
40 information sheet, whereby the nature and purpose of the study was clarified, and a consent sheet
41 informing of anonymous data collection and how to withdraw from the study. Given youth
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3 offenders' standing as a vulnerable population and that this took part in their YOT sessions there
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5 was potential that they may have felt compelled to participate. It was therefore made clear both in
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7 the consent form and verbally that participation was voluntary, without any form of reward.
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10 **Measures**

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14 *The Measure of Delinquent Social Identity* (MDSI; Spink et al., 2018) is adapted from
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16 the MCSI-R (Boduszek & Debowska, 2017). The MDSI consists of 15 items scored on a 4-point
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18 Likert scale (1 = completely disagree to 4 = completely agree). Scores range from 15 to 60, with
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20 higher scores suggesting enhanced levels of delinquent social identity. The scale consists of three
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22 subscales: cognitive centrality (five items) subscale measures the psychological salience of a
23
24 delinquent's group identity; in-group affect (five items) subscale measures a delinquent's felt
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26 attitude toward other in-group criminals; and in-group ties (five items) subscale assesses the level
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28 of personal bonding with other delinquents. Good internal reliability was reported with the current
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30 sample (cognitive centrality = .86, in-group affect = .73, in-group ties = .86).
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35 *Peer Rejection* (Mikami, Boucher, & Humphreys, 2005). A 4-item self-
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37 report/retrospective inventory with a 5-point Likert scale response format ranging from a positive
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39 answer (5) to a negative (1) with one reverse-scored question. Thus, the possible total score can
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41 range from a minimum of 4 to a maximum of 20, with higher scores reflecting more positive peer
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43 relations and lack of rejection. Participants are asked to indicate the amount of peers they like
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45 versus dislike in the class they attend (Sample question: "How many students in your class did you
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47 get along with?"). In addition, they had to estimate the amount of peers who respected them versus
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49 those who tend to picked on them (Sample question: "How many students in your class teased you,
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51 put you down, or picked on you?"). Internal reliability = .74.
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3 **Parental attachment** (Ingram et al., 2007). A 9-item self-report measure of the nature of
4 the positive and negative relationship between offenders and their parents. Participants were asked
5 how often they felt each statement was true (e.g., positive relationship “They support my goals
6 and interests”; negative relationship “They ignore what I have to say”). Answers were based on a
7 4-point Likert type scale ranging from 1 (not at all) to 4 (very much). Thus, the possible total score
8 can range from a minimum of 9 to a maximum of 36, with higher values indicating stronger
9 parental attachment. Internal reliability = .97.
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20 **Parental Supervision** (Ingram et al., 2007). A 6-item self-report instrument including
21 questions regarding parental knowledge about range of aspects of offenders’ lives when they were
22 at the school age. These aspects included parental knowledge of participants’ close friends, friends’
23 parents and school teacher; what they were doing with friends; who they were with when they
24 were not at home; and what they were doing at school. Answers were based on a 4-point Likert
25 type scale ranging from 1 (almost nothing) to 4 (almost everything). Thus, the possible total score
26 can range from a minimum of 6 to a maximum of 24, with higher scores indicating greater indirect
27 parental supervision. Internal reliability = .96.
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39 **The Measure of Criminal Attitudes and Associates** (MCAA; Mills & Kroner, 1999). A
40 two-part self-report measure of associations with criminal friends and criminal thinking style. For
41 the purpose of this study only Part A will be used. Part A of the measure intends to quantify
42 criminal associations. Participants are asked to recall three individuals with whom they spent most
43 of their time and then answered four questions regarding the degree of criminal involvement of
44 their associates: (a) “Has this person ever committed a crime?”, (b) “Does this person have a
45 criminal record?”, (c) “Has this person ever been to prison?”, and (d) “Has this person tried to
46 involve you in a crime?”. This measure is referred to as “Criminal Friend Index” calculated by
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3 assigning 1 through 3 to the amount of time spent with each friend (1 = not a lot, 2 = quite a lot, 3
4 = lots of time). That number is then multiplied by the number of “yes” responses to the four
5 questions of criminal association. All answers are summed as the Criminal Friend Index.
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11 ***Attitudes towards in-group and out-group members.*** A 5-item self-report measure on
12 attitudes towards in-group and out-group members, measured on a 4-point Likert scale ranging
13 from 1 (completely disagree) to 4 (completely agree). Thus, the possible total score can range from
14 a minimum of 5 to 20, with questions 2, 4 and 5 scores reversed. Lower scores indicate stronger
15 attitudes towards offenders/offending. Internal reliability = .71.
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23 ***Self-Esteem Measure for Delinquents*** (SEM-D) is adapted from the SEM-C (Debowska,
24 Boduszek, & Sherretts, 2017). The Self-esteem measure for criminals is an 8-item self-report
25 measure assessing self-esteem among incarcerated adult populations. The measure consists of two
26 subscales: prison-specific self-esteem (4 items), looking at self-esteem in a specific context, and
27 personal self-esteem (4 items), inquiring into self-esteem in a context-free manner. Responses are
28 indexed on a 4-point Likert scale (1 = *never*, 4 = *always*). The items of the measure were adapted
29 to suit the non-prison population and youth age group. Due to this, one of the items was removed
30 as it was not deemed suitable for the sample population. This resulted in a 7-item self-report
31 measure assessing self-esteem among delinquent youths. The 4-point Likert scale (1 = never, 4 =
32 always) remained for responses to be recorded. Scores for the total scale range from 7 to 28, with
33 higher scores indicating increased levels of self-esteem. Internal reliability = .80.
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49 ***Psychopathic Personality Traits Scale*** (PPTS; Boduszek et al., 2016c) The PPTS is a self-
50 reported 20-item measure designed to assess psychopathic traits in forensic and non-forensic
51 populations. The scale was developed to measure four factors labelled affective responsiveness
52 (Factor 1), cognitive responsiveness (Factor 2), interpersonal manipulation (Factor 3), and
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3 egocentricity (Factor 4). Each subscale consists of five items measured using agree (1) and
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5 disagree (0) format (i.e., a trait is either present or absent). Scores range from 0 to 20, with higher
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7 scores indicating elevated levels of psychopathic personality traits (i.e., greater egocentricity and
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9 interpersonal manipulation and increased deficits in affective and cognitive responsiveness). The
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11 affective responsiveness subscale is made up of items concerning characteristics of low empathy
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13 and emotional shallowness. Cognitive responsiveness subscale measures the ability to understand
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15 others' emotional states, mentally represent another person's emotional processes, and engage with
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17 others' emotionally at a cognitive level. The interpersonal manipulation subscale measures
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19 characteristics such as superficial charm, grandiosity, and deceitfulness. Finally, egocentricity
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21 subscale assesses an individual's tendency to focus on one's own interests, beliefs, and attitudes.
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23 Internal reliability for affective responsiveness = .71, cognitive responsiveness = .70, interpersonal
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25 manipulation = .79, and egocentricity = .72.

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31 **Demographics Questionnaire.** Further to the above, the following data was obtained; age,
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33 gender and living condition (with parent(s) / without parents (i.e. on my own).
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36 **Analytical procedure**

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39 An independent samples t-test was used to compare mean scores between males and
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41 females on all continuous variables. Cohens d (Cohen, 1988) was used to calculate the size of the
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43 effect. According to Cohen (1988) a small effect is 0.2 a medium effect is 0.5 and a large effect
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45 is 0.8 and above.
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49 In the current study the DSI model was tested via path analysis in MPlus version 7.11. The
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51 following statistics were used to assess the fit between the data and pre-established theoretical
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53 model: Chi Square (χ^2), Tucker Lewis Index (TLI; Tucker & Lewis, 1973), Root-Mean-Square
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55 Error of Approximation (RMSEA; Steiger, 1990) with 90% confidence interval (90% CI), Root
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3 Mean-Square Residual (RMSR) and Comparative Fit Index (CFI; Bentler, 1990). For a good
4 model, the Chi square should be non-significant (Kline, 2005) and CFI and TLI values above .95
5 (Hu & Bentler 1999; Vandenberg 2002). However, CFI and TLI, values above .90 indicate
6 adequate fit (Bentler 1990; Hu & Bentler 1999). RMSEA and RMSR values less than .05 suggest
7 good fit and values up to .08 indicate reasonable errors of approximation in the population (Browne
8 & Cudeck 1989). Regression weights indicate the direction and strength of the relationship with
9 higher values representing a stronger relationship.
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Descriptive statistics, including means (M) and standard deviations (SD) for the three MDSI factors, Criminal friend index, Criminal Attitudes, Self-esteem, Peer Rejection, Parental Attachment, Parental Supervision and the four PPTS factors are presented in Table 1.

(Please insert Table 1 here)

An independent t-test was conducted to compare the CFI, Criminal Attitudes, Self-esteem, Peer Rejection, affective responsiveness, cognitive responsiveness, interpersonal manipulation and egocentricity scores of males and females. There was a significant difference between both groups on CFI scores, $t(534) = 1.95, p < .05$, with males ($M = 19.72, SD = 5.54$) scoring higher than females ($M = 18.72, SD = 5.85$). The magnitude of the differences in the means of CFI (mean difference = .99, 95% CI: -.01 to 2) was small ($d = .18$). There was a significant difference between both groups on cognitive responsiveness scores, $t(534) = -1.93, p < .05$, with females ($M = 2.78, SD = 1.34$) scoring higher than males ($M = 2.55, SD = 1.28$). The magnitude of the differences in the means of cognitive responsiveness (mean difference = -.23, 95% CI: -.46 to .004) was small ($d = .18$).

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3 Due to some significant differences between males and females being found path analysis
4 was conducted separately for males and females. The fit of the proposed model for males was
5 adequate, $\chi^2(34) = 65.58, p < .001, CFI = .95, TLI = .90, RMSEA = .07$ (90% CI = [.05, .10]),
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Due to some significant differences between males and females being found path analysis was conducted separately for males and females. The fit of the proposed model for males was adequate, $\chi^2(34) = 65.58, p < .001, CFI = .95, TLI = .90, RMSEA = .07$ (90% CI = [.05, .10]), RMSR = .05. The fit of the proposed model for females was adequate, $\chi^2(34) = 64.10, p < .01, CFI = .90, TLI = .80, RMSEA = .10$ (90% CI = [.06, .13]), RMSR = .06. Table 2 presents the direct path regression weights for males and females. Figure 1 present the direct paths for males and figure 2 present the direct paths for females.

(Please insert Table 2 here)

(Please insert Figure 1 here)

(Please insert Figure 2 here)

As can be observed, there was a significant positive correlation between egocentricity and cognitive centrality for both males ($\beta = .84$) and females ($\beta = .80$). There was a significant positive correlation between egocentricity and in-group affect for both males ($\beta = .87$) and females ($\beta = .82$). There was a significant negative correlation between egocentricity and in-group ties for both males ($\beta = -.25$) and females ($\beta = -.28$). There was a significant positive correlation between interpersonal manipulation and in-group affect for males ($\beta = .08$), however, interpersonal manipulation significantly correlated with in-group ties for females ($\beta = .21$). There was a significant negative correlation between cognitive responsiveness and in-group ties for both males ($\beta = -.25$) and females ($\beta = -.18$). There was a significant positive correlation between affective responsiveness and in-group ties for females ($\beta = .25$) but no significant relationships were identified between affective responsiveness and any of the three MDSI factors for males.

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There was a significant positive correlation between CFI and in-group ties for males ($\beta = .15$) but no significant relationships were identified between CFI and DSI for females. There was a significant negative correlation between self-esteem and cognitive centrality for males ($\beta = -.13$). However, a significant positive correlation was identified between self-esteem and in-group ties for both males ($\beta = .42$) and females ($\beta = .50$).

There was a significant negative correlation between parental supervision and CFI for both males ($\beta = -.19$) and females ($\beta = -.19$). There was a significant negative correlation between living with a parent and CFI for females ($\beta = -.20$).

Discussion

The Integrated Psychosocial Model of Criminal Social Identity (IPM-CSI; Boduszek et al., 2016a) was introduced as a theoretical explanation for the development of criminal social identity (CSI), however, research supporting this framework is scarce (Boduszek et al., 2012c; Boduszek et al., 2013; Boduszek et al., 2016b; Sherretts et al., 2016). The present research is the first study to consider all of the components of the IPM-CSI in a single study. Further, research surrounding CSI has mainly focussed on adult male populations using a measure of CSI (MCSI; Boduszek et al., 2012a) devised for adults (Boduszek et al., 2012b; Boduszek et al., 2012c; Boduszek et al., 2013). The present study aimed to fill the void in research by utilising a recently validated measure of delinquent identity devised for youth offenders (MDSI; Spink et al., 2018) in a sample of mixed gender youth offenders. The findings are also impactful due to identifying the differences in the correlates of delinquent social identity (DSI) between girls and boys who offend. The main gender differences identified within the study surround the effect of psychopathy, criminal friend index (CFI) and self-esteem on DSI, and the effect of presence of a parent on CFI.

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3 First, we tested the effect of four psychopathic personality traits (affective responsiveness,
4 cognitive responsiveness, interpersonal manipulation, and egocentricity) on DSI dimensions
5 (cognitive centrality, in-group affect, and in-group ties). Interpersonal manipulation was found to
6 significantly correlate with in-group affect for boys and with in-group ties for girls. This suggests
7 that male youth offenders with increased grandiosity and manipulative tendencies are more likely
8 to develop emotional attachments with other delinquents, whereas girls with such tendencies are
9 more likely to be loyal towards other delinquents. The latter is in support of research using mixed-
10 gender samples (Sherretts et al., 2016), despite such research using a measure of psychopathy
11 based on Hare's (2003) concepts (Paulhus, Newman, & Hare, 2015). Sherretts et al. (2016)
12 proposed that the correlation between interpersonal manipulation and in-group ties is falsified
13 through the individual influencing others' perceptions in a bid to increase their own self-esteem.
14 However, current findings show that girls have marginally higher self-esteem scores than boys
15 suggesting that this relationship would be expected more in boys, yet a weak non-significant
16 correlation was identified between interpersonal manipulation and in-group ties among boys. It is
17 suggested that future research considers the moderating effect of self-esteem on the relationship
18 between interpersonal manipulation and in-group ties.
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41 Affective responsiveness was shown to significantly positively correlate with in-group ties
42 for girls. Among boys, the relationship between affective responsiveness and DSI factors was
43 statistically non-significant. This indicates that female youth offenders who lack affective empathy
44 are more likely to develop loyal relationships with youth offenders. This is in line with prior
45 research utilising a mixed-gender sample which found that the relationship between criminal
46 associations and in-group ties was moderated by high levels of callous affect (i.e., a construct
47 characterised by low empathy) (Sherretts et al., 2016). A stronger social identity has been
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3 associated with the development of group norms in terms of behaviours and attitudes (Hogg, 2001;
4 Van Veelen, Hansen, et al., 2013). For example, criminal groups display rule breaking / illegal
5 behaviour. It could therefore be predicted that possessing a strong delinquent social identity would
6 result in delinquent behaviours by group members. Previous research indicates that females with
7 deficits in affective traits are more likely to reoffend (Salekin et al., 1996) and the present research
8 shows a link between affective traits and delinquent social identity. Thus, it could be suggested
9 that there is a link between personality, delinquent social identity and delinquent behaviour. This
10 notion is also supported by research indicating that individuals, particularly youth offenders, are
11 more likely to offend if they lack victim empathy (Eysenck & McGurk, 1980). Further research
12 should be directed to explore the moderating effect of in-group ties on the relationship between
13 affective responsiveness and reoffending.
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29 Another psychopathy factor, egocentricity, was shown to have a positive effect on
30 cognitive centrality and in-group affect for both boys and girls. This result indicates that youth
31 offenders who centralise their own beliefs, attitudes and interests are more likely to have an
32 increased identification and sense of belonging with other delinquents. One possible explanation
33 of this finding is that individuals with increased egocentric traits are likely to treat others with
34 similar attitudes and outlook as an extension of self, resulting in positive feelings towards in-group
35 members. However, as indicated by the finding that egocentricity forms a negative association
36 with in-group ties, male and female youth offenders who tend to focus on their own beliefs,
37 attitudes and interests are less likely to show loyalty towards other delinquents. This further
38 highlights the self-serving function of the positive feelings towards in-group members.
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53 The model for boys did not differ greatly from the model for girls in respect of cognitive
54 responsiveness. More specifically, cognitive responsiveness was shown to negatively affect in-
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3 group ties, indicating that youth offenders who are able to engage with others emotionally at a
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5 cognitive level have decreased loyalty towards other youth offenders. As research surrounding
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7 psychopathy and CSI has focussed on Hare's (2003) model of psychopathy, which does not
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9 distinguish between affective and cognitive components of responsiveness to others (e.g., Sherretts
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11 et al., 2016), it is difficult to compare the current result with prior research findings. In considering
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13 the differential associations between affective and cognitive responsiveness and DSI dimensions
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15 demonstrated in the present investigation, it is recommended that more future research in the area
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17 employs PPTS to assess psychopathy.
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22 The present research indicates that interventions should target different psychopathic
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24 personality traits among girls and boys in order to decrease the likelihood of developing a
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26 delinquent social identity and, in turn, committing offences. For example, interventions for boys
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28 should focus on reducing grandiosity and manipulative behaviours in order to prevent or reduce
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30 positive feelings towards offending groups and other offenders. Interventions for girls should
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32 target increasing empathic concern for others in order to prevent or reduce emotional connections
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34 towards other offenders. For both genders, interventions should focus on increasing selflessness
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36 to prevent or reduce criminal cognitions and positive feelings towards other offenders.
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41 CFI was shown to significantly correlate with in-group ties for boys but a non-significant
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43 relationship was identified between CFI and DSI for girls indicating that associations with criminal
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45 friends may increase the loyalty towards other delinquents for boys only. This is in line with
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47 previous research focussing on male samples (Boduszek et al., 2012b; Boduszek et al., 2016b). It
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49 may be that interventions targeting reducing criminal associations would be particularly beneficial
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51 to boys, however, further research is required to support this.
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3 Self-esteem was positively correlated to in-group ties for boys and girls, but also negatively
4 correlated to cognitive centrality in boys. Although in light of this finding it appears that
5 interventions aimed at increasing self-esteem would be especially beneficial for boys, care must
6 be taken when designing such programmes because they may also have a negative impact on other
7 aspects of delinquent social identity. For example, in line with existing research (Boduszek et al.,
8 2012b; Boduszek & Debowska, 2017), the present research shows that both boys and girls with
9 higher levels of self-esteem are more likely to develop loyal relationships with other youth
10 offenders. It is therefore important to acknowledge the strengths and weaknesses of increasing
11 self-esteem in interventions. Although previous theories (Differential Reinforcement Theory;
12 Aker's, 1979; 1985) suggest that associations with criminal friends stem from exposure to a
13 criminal environment during the process of an identity crisis when self-esteem levels are lower
14 (Downs & Rose, 1991; Juvonen, 1991; Parker & Asher, 1987), the present findings open up the
15 opportunity to explore whether boys and girls have different experiences during the identity crisis
16 and whether the onset of such varies between genders. A longitudinal study would also allow the
17 temporal relationship between the three factors to be explored to establish whether delinquent
18 social identity increases or decreases self-esteem to support or contrasts with existing theory
19 (Social Comparison Theory; Festinger, 1954) and research (Ellemers et al., 1999; Juvonen, 1991;
20 Tajfel, 1978).

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45 The model for boys did not differ from the model for girls in respect of the relationship
46 between parental supervision and CFI. In line with existing research (Boduszek et al., 2012b) the
47 present findings revealed a significant negative correlation between parental supervision and CFI
48 indicating that the involvement of parents in childhood decreases the likelihood of developing
49 criminal friends. This further supports Boduszek et al. (2012b) who emphasised that parental
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3 supervision has more importance in the relationship with offending than parental attachment. In
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5 addition, the presence of a parent during childhood had a negative effect on CFI but only for girls.
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7 Thus, living with a parent during childhood decreases the likelihood of developing friendships
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9 with delinquents among girls. This highlights the importance of providing support in sustaining
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11 living conditions with at least one parent among girls in particular.
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15 The present study is not without its limitations which should be considered when noting
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17 the practical implications. A cross-sectional study design was implemented which restricted the
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19 ability to test the temporal order of the IPM-CSI. Longitudinal studies are therefore required to
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21 offer support to the temporal order. The sample consisted of youth offenders in the community
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23 within the Yorkshire area and so future research should explore whether the present results are
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25 generalisable across communities and settings. The present study aimed to limit response bias by
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27 encouraging participants to undertake the self-report measures in the presence and with the
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29 assistance of their youth offender worker. Although this would limit some of the response bias, it
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31 did not eradicate it, as some participants chose to complete the survey by themselves.
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37 It is envisaged that, by contributing to the existing literature, the present research will allow
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39 advancements to be made within offender behaviour programmes. It is already evident that some
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41 offender behaviour programmes, for example Juvenile Enhanced Thinking Skills (JETS),
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43 incorporate cognitive behavioural skills related to DSI, such as managing criminal associates
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45 (negative influences). However, as the present study has identified, there are further specific areas
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47 that require targeting and this may differ depending on gender. The current findings provide
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49 empirical support for gender specific offender behaviour programmes.
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Table 1. Descriptive Statistics for males and females for the MDSI Factors, Criminal Friends Index, Attitudes, Self-esteem, Rejection, Parental Attachment and Parental Supervision

Variables	Boys					Girls					t-value
	M	SD	Mdn	Min.	Max.	M	SD	Mdn	Min.	Max.	
Cognitive centrality	13.79	2.97	14	5	20	13.61	3.10	14	5	20	0.66
In-group affect	13.86	2.65	14	5	20	13.69	2.78	14	5	20	0.72
In-group ties	14.57	3.02	15	5	20	14.30	3.14	15	5	20	0.99
Criminal Friends Index	19.72	5.54	20	4	33	18.72	5.85	19	4	33	1.95*
Criminal Attitudes	13.34	2.28	13	7	18	13.26	2.30	13	7	18	0.38
Self-esteem	15.55	2.76	15	7	22	15.76	2.68	16	7	22	-0.87
Peer Rejection	11.51	2.34	11	6	19	11.52	2.34	11	6	19	-0.02
Parental Attachment	19.69	5.92	18	9	36	19.71	6.24	18	9	36	-0.04
Parental Supervision	12.30	4.31	12	6	24	12.27	4.37	12	6	24	0.09
Affective Responsiveness	2.63	1.31	3	0	5	2.52	1.28	3	0	5	0.96
Cognitive Responsiveness	2.55	1.28	2	0	5	2.78	1.34	3	0	5	-1.93*
Interpersonal Manipulation	2.68	1.40	3	0	5	2.47	1.41	2	0	5	1.69
Egocentricity	3.18	1.35	3	0	5	3.19	1.23	3	0	5	-0.06

Note . * $p \leq 0.05$

Table 2. Direct regression weights (and Standard Errors) for boys and girls

Variables	<i>Boys</i>		<i>Girls</i>	
	β	<i>SE</i>	β	<i>SE</i>
Peer Rejection (REJ) \Rightarrow Criminal Friends Index (CFI)	-.18	.12	-.10	.17
Parental Attachment (ATT) \Rightarrow Criminal Friends Index	.16	.12	-.05	.16
Parental Supervision (SUP) \Rightarrow Criminal Friends Index	-.19**	.08	-.19*	.11
Living with parents (PAR) \Rightarrow Criminal Friends Index	.09	.07	-.20*	.10
Living without parents (NO) \Rightarrow Criminal Friends Index	.08	.07	.07	.10
Criminal Friends Index \Rightarrow Criminal Attitudes (ATTI)	-.10	.08	.06	.10
Criminal Friends Index \Rightarrow Cognitive Centrality (C)	.02	.04	-.02	.07
Criminal Friends Index \Rightarrow In-group Affect (A)	-.01	.04	-.02	.06
Criminal Friends Index \Rightarrow In-group Ties (T)	.15*	.07	.12	.09
Self-esteem (SE) \Rightarrow Cognitive Centrality	-.13*	.04	-.11	.07
Self-esteem \Rightarrow In-group Affect	-.03	.04	-.04	.06
Self-esteem \Rightarrow In-group Ties	.42***	.06	.50***	.08
Affective Responsiveness (AR) \Rightarrow Cognitive Centrality	.02	.04	.01	.07
Affective Responsiveness \Rightarrow In-group Affect	-.01	.04	.05	.06
Affective Responsiveness \Rightarrow In-group Ties	-.01	.06	-.25**	.09
Cognitive Responsiveness (CR) \Rightarrow Cognitive Centrality	.01	.04	-.04	.06
Cognitive Responsiveness \Rightarrow In-group Affect	.02	.04	-.01	.06
Cognitive Responsiveness \Rightarrow In-group Ties	-	.06	-.18*	.08
Interpersonal Manipulation (IPM) \Rightarrow Cognitive Centrality	.07	.04	-.02	.07
Interpersonal Manipulation \Rightarrow In-group Affect	.08*	.04	.04	.06
Interpersonal Manipulation \Rightarrow In-group Ties	.06	.06	.21*	.09
Egocentricity (E) \Rightarrow Cognitive Centrality	.84***	.03	.80***	.04
Egocentricity \Rightarrow In-group Affect	.87***	.02	.82***	.04

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Egocentricity ⇒ In-group Ties	-	.07	-.28**	.09
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Note .** p ≤ 0.05; ** p ≤ 0.01; *** p ≤ 0.001.*

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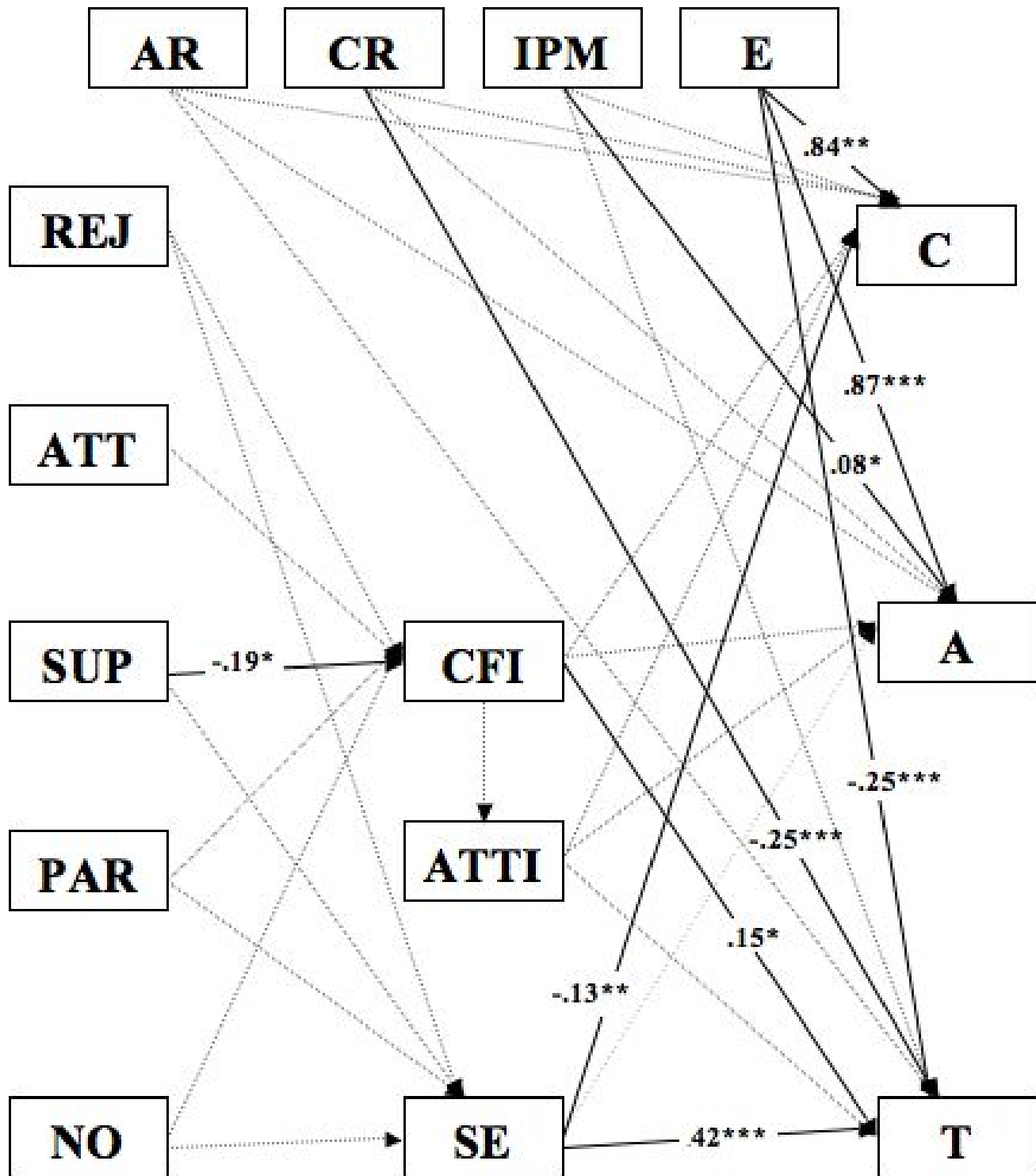


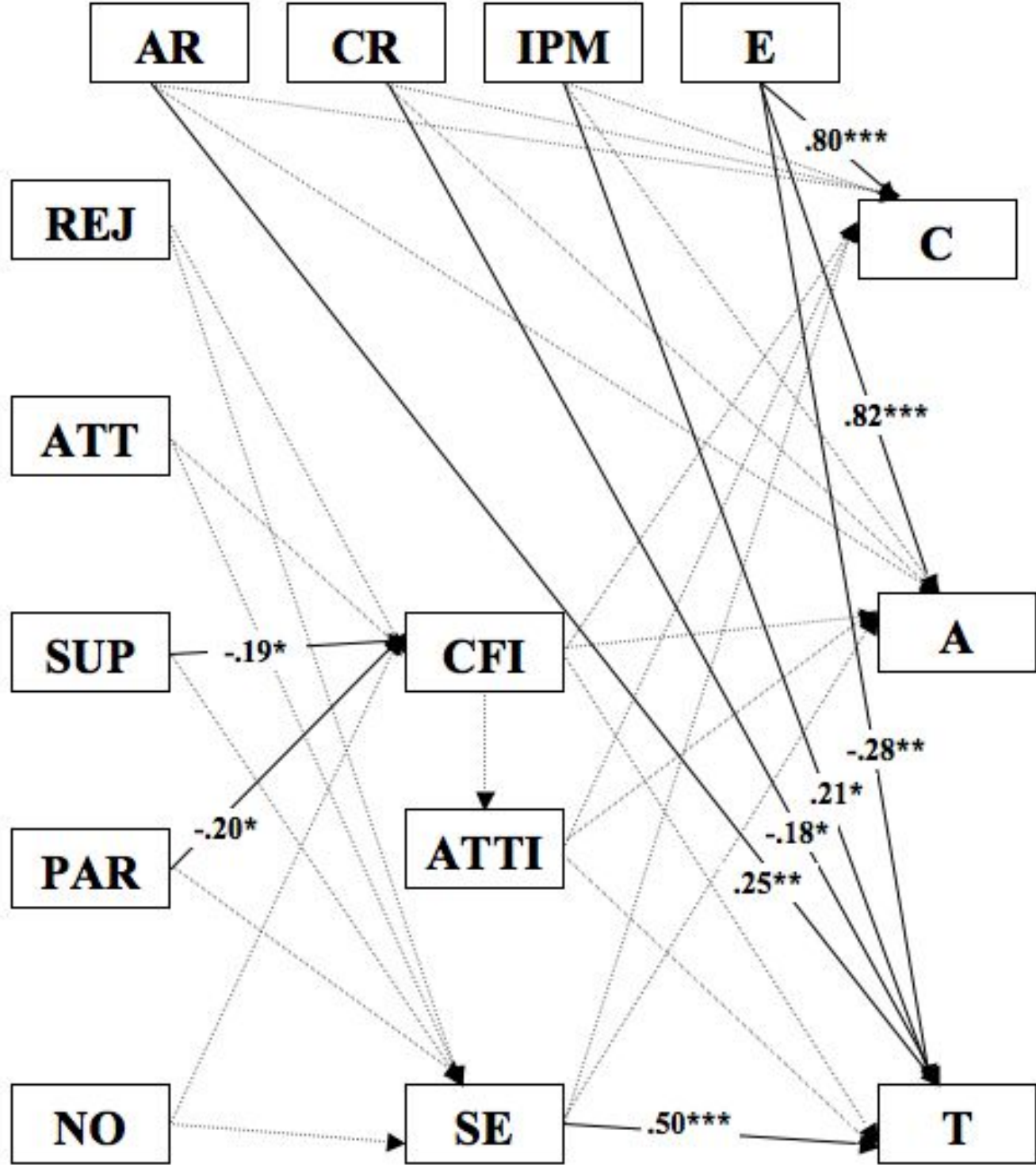
Figure 1. Path analysis of the MDSI for boys (C = Cognitive centrality; A = In-group affect; T = In-group ties; CFI = Criminal Friends Index; ATTI = Criminal Attitudes; SE = Self-esteem; REJ = Rejection; ATT = Parental attachment; SUP = Parental supervision; PAR = Parent; NO =

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No parent; AR = Affective responsiveness; CR = Cognitive responsiveness; IM = Interpersonal manipulation; E = Egocentricity).

—> significant correlation;> non-significant correlation.

* p < .05; ** p < .01; *** p < .001.



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3 *Figure 2.* Path analysis of the MDSI for girls (C = Cognitive centrality; A = In-group affect; T
4 = In-group ties; CFI = Criminal Friends Index; ATTI = Criminal Attitudes; SE = Self-esteem;
5 REJ = Rejection; ATT = Parental attachment; SUP = Parental supervision; PAR = Parent; NO =
6 No parent; AR = Affective responsiveness; CR = Cognitive responsiveness; IM = Interpersonal
7 manipulation; E = Egocentricity).

8 —▶ significant correlation;▶ non-significant correlation.

9 * $p < .05$; ** $p < .01$; *** $p < .001$.

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