

# **Assessment of Offender Personality Characteristics**

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vorgelegt von

Hanna Heinzen

Kiel

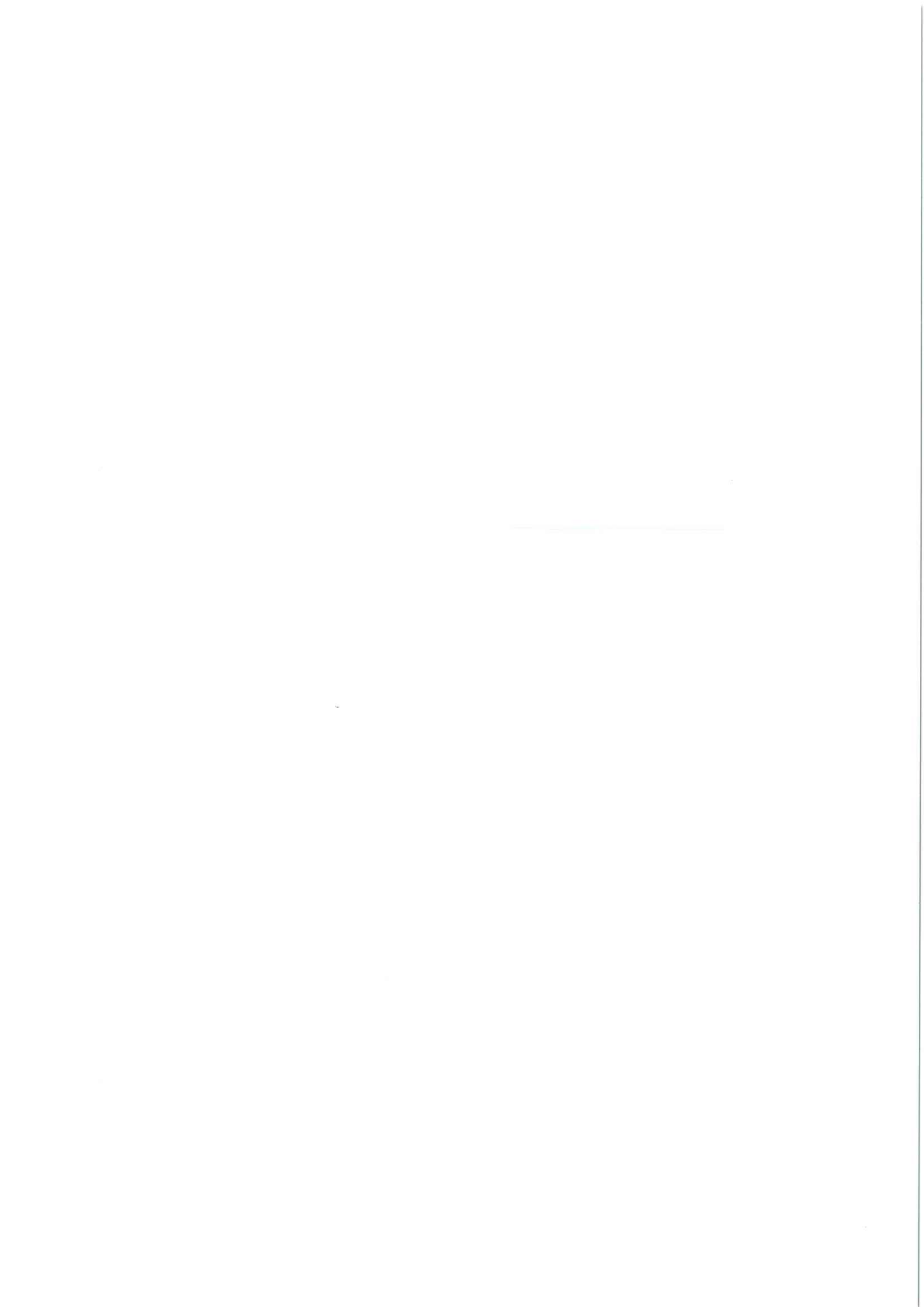
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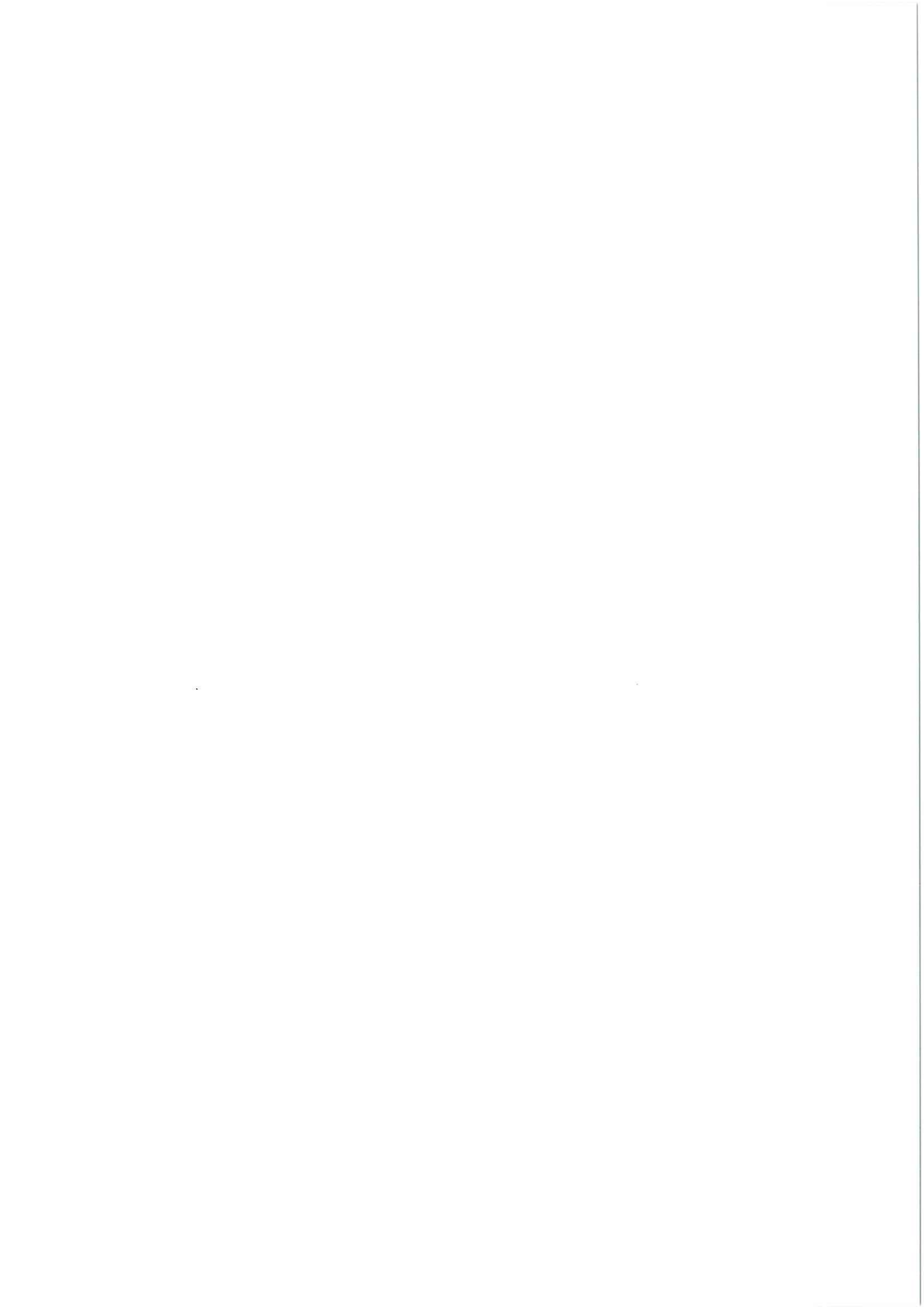
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## Zusammenfassung in deutscher Sprache (German summary)

Ein soziales Leben in Gegenseitigkeit und Eintracht ist als ein natürliches Bestreben des Menschen anzusehen. Denn nur innerhalb dieser prosozialen Ausrichtung kann der Mensch seinen natürlichen Anlagen folgend zu einer kritischen Reflexion seiner selbst und zur vollen Bewusstseinsausbildung gelangen (Ludwig, 2009; Schuller, 2002). Die Voraussetzung für ein Leben in Gemeinschaft, das in der konkreten Ausformung zu sehr unterschiedlichen Gesellschaftsformen führen kann, ist eine Einigung auf gemeinschaftliche Regeln und Normen, deren Einhaltung wesentlich beeinflusst, wie eine Gemeinschaft funktioniert. Obwohl der prosoziale Gemeinschaftssinn demnach als natürliches menschliches Bestreben anzusehen ist (Schuller, 2002), ist das Phänomen der Antisozialität in bisher jeder Gesellschaftsform aufgetreten: Mitglieder, die die Regeln des Zusammenlebens missachten, sich ihnen widersetzen, und dadurch die Ordnung und Sicherheit, aber auch das Miteinander der Gemeinschaft insgesamt bedrohen (Ackermann, Clages, & Roll, 2010; Hare, 1998).

Die Suche nach Gründen und Erklärungen für die Entstehung, den Verlauf und die Konsequenzen von antisozialem Verhalten hat die Wissenschaft zu unterschiedlichen Zeiten beschäftigt. Dabei stand immer wieder die Frage im Vordergrund, warum Menschen sich antisozial verhalten. Der wissenschaftliche Diskurs fokussierte sich, geprägt von unterschiedlichen wissenschaftlichen Strömungen und abhängig vom jeweiligen Zeitgeist, außerdem ganz wesentlich auf die Frage, ob die Tendenz für antisoziales Verhalten angeboren oder das Ergebnis von umweltbedingten Faktoren ist, und welche Faktoren die Entstehung und Entwicklung beeinflussen. Für diese Frage existieren mittlerweile eine große Anzahl unterschiedlicher wissenschaftlicher Erklärungsansätze. Vor allem die klinisch-psychologische und psychiatrische Forschung der letzten Jahre hat integrative Modelle zur Erklärung für Entstehung, Verlauf und Aufrechterhaltung von Kriminalität entwickelt. Diese gehen von einer komplexen Interaktion von Einflüssen unterschiedlicher Faktoren aus, nämlich biologischer Faktoren wie der genetischen Prädisposition, psychologischer

Faktoren, z.B. konstitutioneller Voraussetzungen der Persönlichkeit und psychosozialen Umgebungseinflüssen (Andrews & Bonta, 2003; Dodge & Pettit, 2003; Tremblay, 2011). Dabei werden Einflussfaktoren aus diesen unterschiedlichen Bereichen, von denen gezeigt werden konnte, dass sie mit einem erhöhten Risiko für antisoziales und kriminelles Verhalten korrelieren, in der Literatur als Risikofaktoren benannt (z.B. Andrews & Bonta, 2003).

Mit Bezug auf die psychologischen Einflussfaktoren wird auf der Persönlichkeitsebene heute postuliert, dass die grundsätzliche Tendenz zur Antisozialität angelegt sein kann, während sich das tatsächlich kriminelle Verhalten in Abhängigkeit von einer Anzahl anderer (Risiko-)Faktoren manifestiert. Ein besonders häufig aufgeführtes Beispiel für eine konstitutionelle Disposition, die ein erhöhtes Risiko für antisoziales und kriminelles Verhalten darstellt, ist die psychopathische Persönlichkeit. Hauptkennzeichen dieser Störung scheint ein reduziertes Affekterleben zu sein. Psychopathische Individuen sind unfähig, die eigenen Emotionen differenziert wahrzunehmen und nicht dazu in der Lage, sich in andere hineinzusetzen, was u. a. zu Schwierigkeiten führt, die emotionalen Konsequenzen leidvoller Erfahrungen für sich und andere zu antizipieren bzw. nachzuvollziehen (Blair, Mitchell, & Blair, 2005). Dieses Defizit in der Empathiefähigkeit führt auf der Verhaltensebene zu Kältherzigkeit und damit einhergehend häufig zu hochfrequentem antisozialen und kriminellen Verhalten, wobei charakteristischerweise Schuld- und Reueempfinden bei Psychopathen kaum anzutreffen sind (Hare, 1999).

Weil derartige Merkmale vertiefende Erkenntnisse zu anlagebedingten Faktoren der Delinquenzentstehung voraussetzen, bildet das Konstrukt der Psychopathie seit einigen Jahren einen Schwerpunkt der klinisch-kriminologischen Forschung. Dabei sind zwei wichtige Hauptströmungen erkennbar: Zum einen geht es in den Untersuchungen zur Psychopathie um eine standardisierte und umfassende Erhebung psychopathischer Persönlichkeitsmerkmale im forensischen Setting. Inzwischen liegen einige valide Instrumente mit ausreichenden bis sehr guten Gütekriterien vor (Andershed, Kerr, Stattin, & Levander, 2002; Cooke & Michie, 2001; Hare, 1991; Lilienfeld, 1990). Zum anderen soll das Konstrukt der Psychopathie möglichst differenziert beschrieben werden. Dabei wird



postuliert, dass die psychopathische Persönlichkeit aus unterschiedlichen Faktoren und Facetten besteht, die je nach Ausprägung zu unterschiedlichen klinischen Bildern führen können (Cooke & Michie, 2001; Hare, 1991).

Es erscheint evident, dass ebenso wie bei allen prädisponierenden Persönlichkeitsstrukturen Manifestation und Ausprägung psychopathischer Persönlichkeitsmerkmale durch eine Reihe anderer Risikofaktoren, auch anderer Persönlichkeitsfaktoren, maßgeblich beeinflusst werden (see Kendler, Aggen, & Patrick, in press). Aktuelle Modelle zur Erklärung von antisozialem und kriminellem Verhalten legen daher den Schwerpunkt auf die Erforschung von diesen Faktoren und ihrer Zusammenhänge mit z.B. bestimmten Persönlichkeitsmodellen. Sie betonen besonders, dass für eine Verbesserung des Verständnisses von antisozialem und kriminellem Verhalten Vorkommen und Ausprägungen relevanter Risikofaktoren innerhalb der Population antisozialer und krimineller Probanden sorgfältig und differenziert abgebildet werden müssen (DeWall, Anderson, & Bushman, 2011; Kendler et al., in press).

Die vorliegende Dissertation widmet sich diesem Ansatz in drei Studien. Diese untersuchen jeweils Risikofaktoren, die sich die persönliche Konstitution krimineller Probanden beziehen und die bereits in früheren Studien als relevant in antisozialen und kriminellen Populationen benannt wurden. Die Studien betrachten diese Faktoren im Bezug auf ihr Vorkommen in drei unterschiedlichen Stichproben inhaftierter Straftäter.

Die erste Studie (*The Prevalence of Mental Disorders in a German Sample of Male Incarcerated Juvenile Offenders*) untersuchte die Prävalenz psychischer Störungen in einer Population junger Straftäter in einer deutschen Jugendstrafanstalt. Psychische Störungen, vor allem bestimmte Persönlichkeitsstörungen, sind in der Vergangenheit als ein einflussreicher Risikofaktor für antisoziales und kriminelles Verhalten identifiziert worden (Fazel & Danesh, 2002; Plattner, Aebi, Steinhausen, & Bessler, 2011). Die Studie präsentiert das Ergebnis der standardisierten Erfassung deskriptiver Informationen in einer Stichprobe von 149 männlichen Delinquenten. Die bei Anwendung der Diagnoseinstrumente SKID-I und II deutlich am häufigsten diagnostizierte Störung der ersten Achse war Substanzmissbrauch,

gefolgt von depressiven Erkrankungen und Störungen des Sozialverhaltens. Unter den Achse-II-Störungen wurde die Antisoziale Persönlichkeitsstörung am häufigsten diagnostiziert, wobei besonders auffällig war, dass fast ein Drittel der Stichprobe mehr als eine Persönlichkeitsstörung aufwies. Trotz des jungen Alters der Probanden konnte mit Hilfe der „Psychopathy-Checklist-Screening-Version“ (Hart, David, & Hare, 1995) zudem eine hohe Prävalenz psychopathischer Persönlichkeitsmerkmale nachgewiesen werden. Diese Ergebnisse bestätigen im wesentlichen die Resultate internationaler Studien zur Prävalenz psychischer Störungen bei jungen und erwachsenen Gefängnisinsassen (Gosden, Kramp, Gabrielsen, & Sestoft, 2003). Die weitere Analyse der Studiendaten ergab drei Cluster von Störungsmustern, die sich in Bezug auf die Ausprägungen ihrer psychopathologischen Auffälligkeiten, aber auch hinsichtlich kriminologischer Merkmale unterscheiden ließen. Während sich das erste Cluster am ehesten durch Diagnosen für die Antisoziale Persönlichkeit und Störungen des Sozialverhaltens, vor allem aber auch durch hohe Komorbiditäten auszeichnet, ist das zweite Cluster weniger explizit im Hinblick auf seinen Schwerpunkt auf diesen Störungen. Diese wurden auch hier noch häufig diagnostiziert, das Cluster stellt sich aber insgesamt heterogener dar. Das dritte Cluster zeigte vor allem Hinweise für eine hohe Prävalenz der nicht näher bezeichneten Persönlichkeitsstörung. Ähnliche Cluster haben sich bereits in vorhergegangenen Studien ergeben (Hemphill & Hare, 2004; Rutherford, Alterman, & Cacciola, 2000; Taylor & Lang, 2006), und es wird davon ausgegangen, dass sie auf klinisch und kriminologisch relevante Subgruppen verweisen (Myers, Burket, & Harris, 1995; Rutherford et al., 2000). So haben sich Verhaltensauffälligkeiten von Probanden, die eher dem ersten Cluster entsprechen, in anderen Studien als besonders schwerwiegend und persistierend herausgestellt. Es wird daher postuliert, dass das Ergebnis einer differenzierten Analyse von kriminalprognostisch relevanten Subgruppen innerhalb der Gefängnispopulation behilflich sein könnte. Nicht nur die hohe Prävalenz der Störungen und Komorbiditäten, sondern auch diese Differenzierung durch Subgruppen zeigen demnach, dass die psychische Auffälligkeit ein wichtiger Faktor in der deutschen Population inhaftierter Straftäter ist, dessen Erfassung dringlich eine

besondere Bedeutung zukommen sollte (Teplin, Abram, McClelland, Dulcan, & Mericle, 2002). Die Ergebnisse machen ebenfalls deutlich, dass die Gruppe der Straftäter nicht nur eine juristische sondern auch eine psychiatrische Herausforderung darstellt. So könnte der Einsatz von Methoden aus der Allgemeinpsychiatrie eine störungsspezifische Täterbehandlung ermöglichen, die entsprechend der Ergebnisse der vorgestellten Studie durch die spezielle Ansprache von Risikogruppen besonders effektiv sein könnte.

Weil die vorgestellten Studienergebnisse sowie zahlreiche frühere Studien (Hare, 1999b; Hervé, Ling, & Hare, 2000; Huchzermeier, Bruß, Geiger et al., 2006) die besondere Bedeutung von psychopathischen Persönlichkeitsmerkmalen in antisozialen und kriminellen Populationen betonen, sollten die zwei nachfolgend vorgestellten Studien sich mit den Zusammenhängen bestimmter Teilaspekte der Psychopathie im Zusammenhang mit weiteren relevanten Faktoren befassen. Die zweite Studie (*Emotion regulation in incarcerated young offenders with psychopathic traits*) erhob die Qualität der Affektregulation bei jungen Straftätern mit psychopathischen Persönlichkeitseigenschaften. Bei antisozialen und kriminellen Probanden haben sich in der Vergangenheit in Befragungen durch Selbstbeurteilungsverfahren häufig aversive Affekte wie Angst, Traurigkeit und Wut zeigen lassen, wobei außerdem nachzuweisen war, dass diese negativen Affekte weniger adaptiv und mehr maladaptiv reguliert wurden (Grob & Smolenski, 2005), womit die Wahrscheinlichkeit sinkt, durch die Regulation eine Verminderung der negativen Gefühle zu erreichen (z.B. Eisenberg, 2004). Zur Überprüfung des Zusammenhangs dieser Variablen mit psychopathischen Persönlichkeitsmerkmalen wurde in dieser Studie ein validiertes Instrument zu Erhebung psychopathischer Persönlichkeitsmerkmale bei inhaftierten Jugendlichen angewendet („Youth Psychopathic Traits Inventory“; Andershed, Kerr, & Levander, 2002), das von einem dreifaktoriellen Modell der Psychopathie nach Cooke & Michie (2001) ausgeht. Das Level der selbstberichteten negativen Emotionalität sowie die Verhaltensauffälligkeiten wurden mit zwei Skalen des „Fragebogens zur Erhebung von Stärken und Schwächen“ (Goodman, 2001; Wörner et al., 2002) untersucht, und die Qualität der Emotions- Regulation durch den „Fragebogen zur Erfassung der Emotionsregulation bei

Kindern und Jugendlichen“ (Eisenberg et al., 2005; Kopp, 1989). Die Resultate wiesen darauf hin, dass Probanden mit vorwiegend grandios-manipulativen Psychopathiepersönlichkeitsmerkmalen (Cooke & Michie 2001) keine höheren Level an negativen Emotionen berichteten. Tendenziell gaben diese Personen außerdem an, ihre negativen Gefühle eher maladaptiv zu regulieren. Probanden mit emotional kaltherzigen Psychopathiepersönlichkeitsmerkmalen (Cooke & Michie, 2001) berichteten signifikant weniger negative Emotionen und gaben keine eindeutige Tendenz für die Qualität ihrer Emotions-Regulation (adaptiv versus maladaptiv) an. Probanden, die hoch auf impulsiv-unverantwortlichen Merkmalen der Psychopathie (Cooke & Michie 2001) scorten, rapportierten hohe negative Emotionalität und tendierten dazu, Emotionen eher maladaptiv als adaptiv zu regulieren. Diese Ergebnisse lieferten einen Einblick in die selbstberichtete negative Emotionalität und deren Regulation bei psychopathischen Probanden, indem sie auf signifikante Unterschiede zwischen den verschiedenen Persönlichkeitsausprägungen hinweisen. Davon können einige Implikationen für das weitere Verständnis von antisozialem und kriminellem Verhalten abgeleitet werden: Zunächst gilt als gesichert, dass negative Emotionalität und die Qualität der Regulation dieser Affekte ein Risikofaktor für die Entwicklung psychiatrischer Störungen darstellt, vor allem auch derer, die mit antisozialen Verhaltensauffälligkeiten assoziiert werden (Eisenberg, Guthrie et al., 2000; Kring & Sloan, 2010). Die Dokumentation der unterschiedlichen Zusammenhänge dieser Faktoren mit Persönlichkeitsmerkmalen kann dabei hilfreich für ein besseres Verständnis der Störungen sowie deren spezifische Manifestationen werden. In Anbetracht der Hinweise auf einen direkten Zusammenhang zwischen negativer Emotionalität, dysfunktionaler Emotions-Regulation und antisozialem Verhalten (Kring & Sloan, 2010) könnten die Ergebnisse des Weiteren zur Verbesserung der differenzierten Vorhersage von zukünftigen Verhaltensabweichungen und der Evaluation der Rückfallwahrscheinlichkeit beitragen. Darüber hinaus sind die untersuchten Faktoren häufig mit Therapiemotivation und –resonanz in Verbindung gebracht worden (Hicks & Patrick, 2006; Kring & Sloan, 2010). Die

Informationen über individuelle Unterschiede könnten demnach auch für die Entwicklung und Spezifizierung therapeutischer Ansätze für Straftäter genutzt werden.

In der dritten Studie (*Psychopathy, Intelligence and Conviction History*) wurde in einer Stichprobe inhaftierter erwachsener Straftäter der Zusammenhang zwischen dem Persönlichkeitsfaktor Intelligenz, und den deskriptiven Informationen der Länge des Strafmaßes und der Häufigkeit der Verurteilungen bei psychopathischen und nicht psychopathischen antisozialen Persönlichkeiten verglichen. Die Annahme war, dass die Länge des Strafmaßes einen Hinweis auf die durchschnittliche Schwere der begangenen Straftaten geben würde, und die Häufigkeit früherer Verurteilungen ein Indikator für eine retrospektive Einschätzung von Rückwahrscheinlichkeit sein kann (Cornell et al., 1996). Eingeschränkte kognitive Leistungsfähigkeit ist in früheren Studien generell mit einer erhöhten Wahrscheinlichkeit für antisoziale Verhaltensabweichungen assoziiert worden (Rushton & Timpler, 2009). Dieser Zusammenhang konnte aber für psychopathische Probanden bisher nicht konsistent bestätigt werden (Neumann & Hare, 2008; Salekin, Neumann, Leistico, & Zalot, 2004). Im Gegenteil wurde sogar postuliert, dass psychopathische Täter zwar antisozial, dabei aber besonders intelligent sein können (Cleckley, 1941). Diese Befunde sollten in der aktuellen Studie überprüft und weiter differenziert werden. Die Analysen ergaben, dass Personen mit Ausprägung auf der interpersonellen Komponente der Psychopathie (unter anderem: verflachter emotionaler Affekt, eingeschränkte Empathiefähigkeit, sowie pathologisches Lügen und übersteigertes Selbstwertgefühl; Hare, 1991) Straftaten begehen, die ein längeres Strafmaß zur Folge haben. Sie erwiesen sich als intelligenter (hier gemessen mit der „CFT-20-R Grundintelligenz Skala 2 - Revidierte Fassung“; Weiss & Weiss, 2006) im Vergleich zu Probanden mit verhaltensrelatierten Merkmalen der Psychopathie (unter anderem: unverantwortliches Verhalten, Impulsivität und schlechte Verhaltenskontrolle; Hare 1991), jedoch als weniger intelligent im Vergleich zu nichtpsychopathischen Inhaftierten. Personen mit ausgeprägten verhaltensrelatierten Psychopathiemerkmalen zeigten dagegen eine höhere Zahl an Eintragungen im Bundeszentralregister und waren die Gruppe mit den niedrigsten

Intelligenzwerten innerhalb der gesamten Gefängnispopulation. Demnach replizierten die Ergebnisse frühere Hinweise zu den strafrechtlich relevanten Merkmalen (z. B. Cornell et al., 1996; Moffitt, 1993), konnten aber vor allem im Hinblick auf den Zusammenhang zwischen Psychopathie und Intelligenz neue Einblicke geben. Obwohl das stereotypische Bild der hochintelligenten, antisozialen Psychopathen für die inhaftierte Population in Übereinstimmung mit anderen rezenten empirischen Untersuchungen (Moffitt, 1993; Neumann & Hare, 2008; Salekin et al., 2004) nicht bestätigt werden konnte, wurde deutlich, dass psychopathische Persönlichkeitsmerkmale ein wichtiger Parameter zur möglichen Differenzierung von Tätergruppen innerhalb der Gefängnispopulation sein können. Das ist zunächst hoch relevant, weil eine Differenzierung nach kriminologisch relevanten Merkmalen (Zahl der vorhergegangenen Verurteilungen, Länge des Strafmaßes) entscheidend für die prognostische Einschätzung von Rückfälligkeit und der Entwicklung von Risikotaxonomien sein kann. Des Weiteren ist postuliert worden, dass die Untersuchung von Unterschieden z.B. bezüglich der Intelligenz für unterschiedliche (psychopathische) Tätergruppen gegebenenfalls erste Hinweise auf verschiedene Wirkungszusammenhänge von antisozialem und kriminellem Verhalten für diese Gruppen geben kann. So wurde unter anderem vorgeschlagen, dass hohe Intelligenz als ein Schutzfaktor für Antisozialität in der einen, derweil aber als Risikofaktor für besonders heftige Auffälligkeiten in der anderen psychopathischen Gruppe angesehen werden kann (Johansson & Kerr, 2005; Walsh, Swogger, & Kosson, 2004).

Die Ergebnisse der vorgelegten Studien sollten nicht ohne Betrachtung der Limitationen der einzelnen Erhebungen und Methoden, die in den jeweiligen Manuskripten aufgeführt sind, interpretiert werden. Außerdem muss betont werden, dass eine Analyse korrelativer Zusammenhänge und Gruppenvergleiche keinen direkten Schluss auf die Beurteilung von Entwicklung oder Ursache und Wirkung im Bezug auf antisoziales und kriminelles Verhalten zulässt. Derartige Untersuchungen gestatten zunächst nur theoretische Rückschlüsse durch einen Blick auf die Bedeutung möglicher Risikofaktoren, sowie theoretische Ableitungen unter Betrachtung aktueller Erklärungsmodelle. Dennoch wird in der Erforschung

antisozialen und kriminellen Verhaltens immer wieder besonders herausgestellt, dass die Untersuchung dieser Faktoren und die genaue Differenzierung nach Subgruppen in der Population antisozialer und krimineller Populationen ein wichtiger Schritt auf dem Weg zu einem Erklärungsmodell sein muss, und deshalb als unbedingte Voraussetzung gesehen werden sollte (Knight, 2011).

Der Rahmentext der vorliegenden Arbeit gibt zunächst eine generelle Einführung in das Thema der Antisozialität und der Relevanz einzelner (Persönlichkeits-) Faktoren, fasst dann die Ergebnisse der Studien zusammen, um sie zum Ende noch einmal in einen breiteren Forschungskontext zu integrieren. Die drei Studien werden in den veröffentlichten Manuskripten vorgestellt, indem die jeweiligen theoretischen Modelle eingeführt, die Durchführung und Methodik beschrieben, und die Ergebnisse dargestellt und diskutiert werden.

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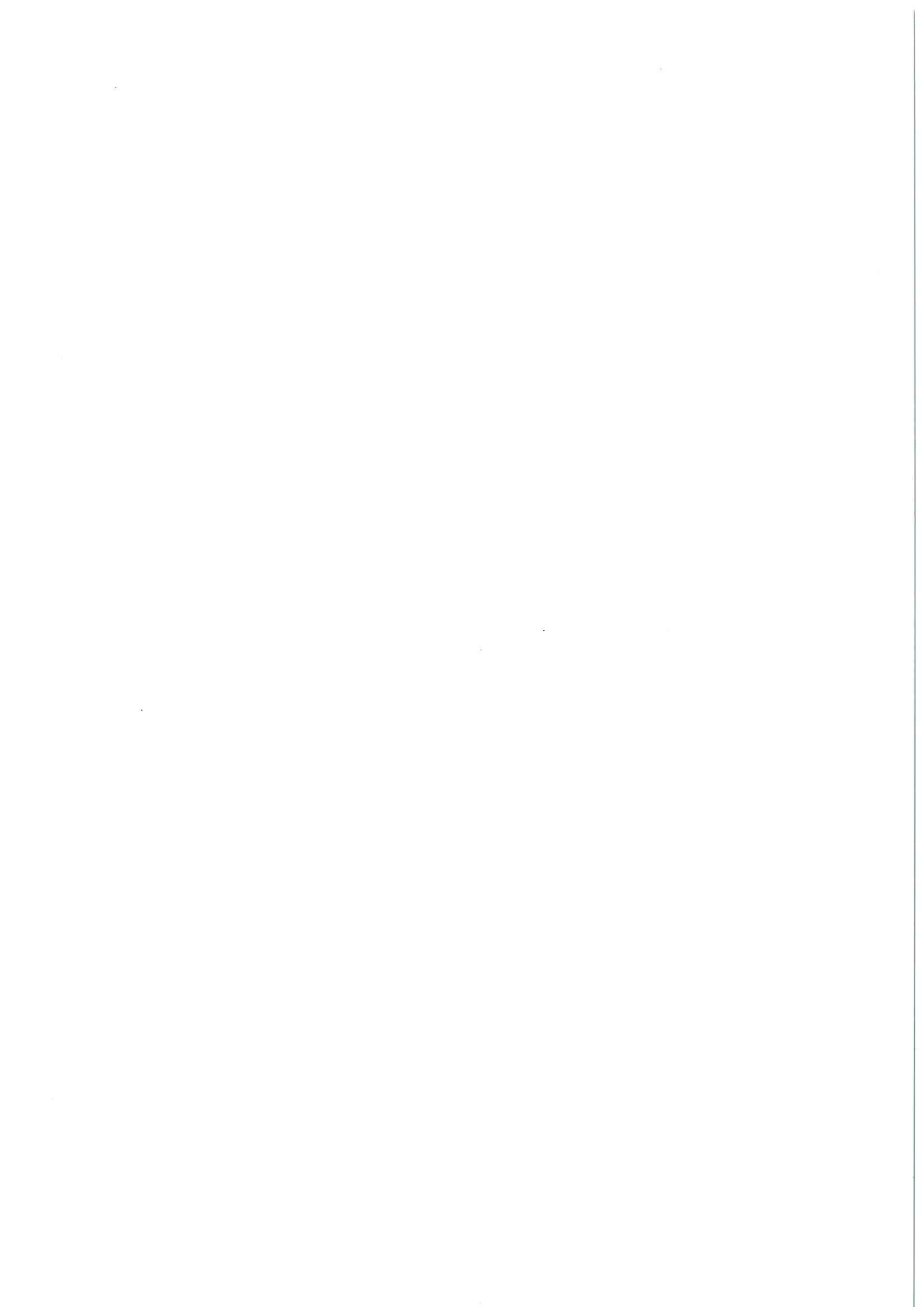
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## Contents

THEORETICAL FRAMEWORK.....	23
1 INTRODUCTION.....	25
1.1 Definition and Relevance of Antisocial and Criminal Behavior.....	25
1.2 Explaining Antisocial and Criminal Behavior .....	26
1.2.1 The Role of Personality Factors in Antisocial and Criminal Behavior .....	28
1.2.2 The Antisocial Personality and Psychopathy.....	29
1.2.2.1 <i>The Special Relevance of Psychopathy for Antisocial and Criminal Behavior...</i>	31
1.2.2.2 <i>The History of Psychopathy.....</i>	32
1.2.2.3 <i>Psychopathy as a Construct.....</i>	33
1.2.2.4 <i>Assessment of Psychopathy.....</i>	35
EMPIRICAL STUDIES .....	37
2 EMPIRICAL STUDIES OF THE PRESENT DISSERTATION.....	39
2.1 Study 1. The Prevalence of Mental Disorders in a German Sample of Male Incarcerated Juvenile Offenders.....	40
2.2 Study 2: Emotion Regulation in Incarcerated Young Offenders with Psychopathic Traits .....	59
2.3 Study 3: Psychopathy, Intelligence and Offence History .....	87
SUMMARY AND CONCLUSION.....	95
3 SUMMARY AND CONCLUSION .....	97
3.1 General Conclusion and Future Implications.....	102
4 COMPLETE LIST OF REFERENCES .....	105





# THEORETICAL FRAMEWORK



## 1 Introduction

### 1.1 *Definition and Relevance of Antisocial and Criminal Behavior*

The human being has been depicted as naturally striving for communal living. It has even been supposed that humans are able to experience true consciousness only by relating their individual needs and desires to a collective endeavor (Ludwig, 2009). Aristotle called the human being a *zoon politikon* (*social being*) that depends on a social reality to develop its innate sense of morality and even to reach a state of individual self-confidence and –awareness (Schuller, 2002). A crucial premise for any kind of community is that all its members agree on, and adhere to, common rules. Depending on the type of community, these common agreements may be implicit or highly explicit and organized, as in laws (Hare, 1998; Ludwig, 2009). Hegel stated that determining the rules which permit cohabitation in communities may seem an artificial action but truly represents a natural result of the ‘unification of self-consciousness and societal being in an entity’ (Ludwig, 2009, p. 86 ).

Despite this, every known community has faced the problem of antisocial behavior. Antisocial behavior has been defined as behavior that is painful to others, violates the common rules and norms, thus threatening the functionality of the community and the safety of all its individuals (Andrews & Bonta, 2003). Obviously, the nature of antisocial behavior differs depending on the rules of the community which it takes place in. It is therefore highly dependent on the social and cultural environment. Hence, the manifestation and impact of antisocial behavior varies across age, socialization and culture, depending on the rules and norms prevailing (Millon, Simonsen, & Birket-Smith, 1998). Likewise, the magnitude of an individual’s antisocial behavior may range from minor violations, like dishonesty or misuse of another person’s property, to serious acts including aggressive and violent behavior (Pickersgill, 2009). In communities with a developed legal system an antisocial action is classed as criminal when it contravenes the law and necessitates criminal prosecution

(Andrews & Bonta, 2003; Hare, 1998). Hence, although antisociality does not equal criminality, all criminal behavior may be considered antisocial (Stoff, Breiling, & Maser, 1997). Because of the variety of associated behavior deviancies, antisocial behavior is sometimes also referred to as problem behavior, deviant behavior or conduct problems in clinical contexts. In the following sections the terms antisocial and criminal behavior will be used as covering all behaviors that meet the above mentioned definition of antisociality and that, at the same time, contravene against the law. It will be used as covering as kinds of antisocial and criminal behavior and not make differentiations between specific behavior deviances.

### ***1.2 Explaining Antisocial and Criminal Behavior***

It is the obviously the significance of communal living for human individuals and the severity of the threat posed by antisocial and criminal behavior that makes it one of the most extensively studied phenomena of human behavior. A tremendous number of theorists have been fascinated by the phenomenon and have generated ideas on how to explain and react to antisociality. These have varied significantly at different times and places, but antisocial behavior and the search for appropriate ways to deal with it remains crucially relevant for all human societies.

Around the beginning of the 19<sup>th</sup> century medical clinicians and philosophers started to stress the need for scientific studies of abnormal behavior and possible ways of treating it. During that time, the study of human behavior and the occurrence of behavioral deviancy became a profession in its own right and since then antisocial behavior has become a topic of scientific relevance (Ackerknecht, 1985). Although the phenomenon of antisociality and criminality concerns various disciplines, such as law, criminology and economics (Andrews & Bonta, 2003), the investigation of its origins and the impact of its consequences has occurred mainly within (clinical) psychology and psychiatry. In this field, discussions have revolved around the same questions: *why do people behave antisocially?* In most societies the vast majority of individuals do not behave antisocially. So, if we assume that adapting to a

community's rules and norms is a natural human urge (Ludwig, 2009; Schuller, 2002): *what makes an individual behave antisocially?*

Over the course of history, the focus of research has shifted from the first of these questions to the second, with increasing attention being given to the investigation of the specific differences between individuals who behave antisocially and those who do not. The goal of this is to isolate the crucial influences that might lead to antisocial and criminal behavior (Coie & Dodge, 1998). Also, with reference to the heterogeneity of antisocial and criminal behavior, the need for comparisons between the characteristics of subgroups of antisocial individuals has been emphasized as a prerequisite for promoting a deeper understanding of the development, manifestation and maintenance of deviant behavior (e.g. Hervé et al., 2000). It has become clear that many different relevant factors of different origin must be considered to achieve a coherent description of the contributions to antisocial behavior. Recent theoretical models of antisocial and criminal behavior have sought to identify these sources and to integrate the influences of different factors. The majority of these models have suggested *Biopsychosocial Approaches* to explain what it is that makes an individual antisocial. They identify influences of biological predispositions (e.g. genetic), psychological factors (e.g. personal and interpersonal), and external features (e.g. social or cultural; e.g. Dodge & Pettit, 2003).

In the investigation of these factors it has been shown that their effects tend to be interactive and nonlinear (Dodge & Pettit, 2003). Some have been found to correlate with antisocial and criminal behavior while others show a causal relationship (Andrews & Bonta, 2003; Dodge & Pettit, 2003; Endres, in press). These factors are often described as distal and proximal respectively. The action of distal factors is seen as being indirect, influencing the likelihood that an individual will develop deviant behavior. They can act either to increase this likelihood (risk factors) or to reduce it (protective factors). An extensive number of risk and protective factors has been identified and studied extensively (Andrews & Bonta, 2003; Bliesener, 2011; De Vogel, De Vries Robbé, & De Ruiter, 2011; Lösel & Bliesener, 1990). It has been emphasized that empirical assessment and analysis of these factors need to take

their mode of action into account (Andrews & Bonta, 2003; Dodge & Pettit, 2003; Endres, in press).

In conclusion, it is now assumed that the development of antisocial and criminal behavior is a complex process in which many factors influence the likelihood of deviant behavior and no single factor can cause such behavior alone. Systematic assessment of the effect of each factor on behavior is therefore essential so that comprehensive models of their action and interaction can be developed. Although many studies have been carried out in this field, the information available on factors affecting antisocial and criminal behavior, and on the effects in different offender subgroups, is still far from conclusive.

Therefore, the work presented here investigates a number of psychological risk factors that have been shown to be closely associated with antisocial and criminal behavior. The aim was to investigate their incidence in the criminal population, and within certain subgroups of offenders. All the risk factors investigated here refer to a specific group of psychological influences, namely those that are manifested in an individual's personality.

### *1.2.1 The Role of Personality Factors in Antisocial and Criminal Behavior*

By definition, and unlike situational influences on antisocial and criminal behavior, personality factors tend to have a generalized and life-long, predisposing influence on behavioral outcomes (Eysenck, 1998; Rutter, Giller, & Hagell, 1998). The assessment of these factors has been called the 'trait perspective' on antisocial and criminal behavior. It is known that personality factors can give rise to 'enduring behavioral, cognitive, and affective predispositions' (Andrews & Bonta, 2003, p. 12) and it has been shown that a number of personality features constitute important risk factors for antisocial and criminal behavior. Correlational analysis has identified personality factors differentiating groups of antisocial and non-antisocial individuals, and, equally important, defining certain subgroups at high or low risk of exhibiting deviant behavior. It is beyond the scope of this work to discuss each variable that has been considered relevant but comprehensive descriptions can be found in

the literature (see e.g. Andrews & Bonta, 2003; Carr & Vandiver, 2001). Three correlational risk factors, however, are relevant in the present investigations: high levels of negative emotionality, dysfunctional emotion regulation strategies and low cognitive functioning. All these factors have been shown to be consistently associated with a heightened risk of antisocial and criminal behavior. They are part of an 'antisocial personality pattern', which, in turn has been seen as one of the 'Big Four risk factors for criminal behavior' (Andrews & Bonta, 2003, p. 10). The current work seeks to affiliate to the current knowledge about the relevance of these factors for antisocial and criminal behavior by investigating a number of specifics that have remained inconclusive up to the current point of time. The theoretical implications of these investigations and the hypotheses tested will be introduced and discussed in greater detail in the studies presented in Section 2.

Apart from individual personality features, research has identified certain constellations of traits, called personality constructs, which are especially relevant as risk factors for severe and persistent antisocial and criminal behavior. These constructs include antisocial personality, and – to an even greater extent – psychopathic personality. Their role will be discussed in more detail in the following section.

### *1.2.2 The Antisocial Personality and Psychopathy*

The antisocial personality describes a constellation of personality traits that are known to put an individual at high risk for behaving harmfully towards other people and contravening social rules. The construct was introduced by early clinical scientists (Pinel, 1806) and has gained great support in the course of empirical investigations on antisociality and criminality (Eysenck, 1998; Prichard, 1835; Tribolet-Hardy, Vohs, Domes, Regli, & Habermeyer, 2011). The antisocial personality has been included in the diagnostic manuals for psychiatric disorders as a diagnosis for personality disorders comprising criteria such as 'repeated failure to conform to social norms with respect to unlawful behavior, deception, impulsiveness, aggressiveness, reckless disregard, lack of remorse and conduct disorder'

(American Psychiatric Association, 2000). The disorder is currently known as one of the most clearly diagnosable personality disorders (Tribolet-Hardy et al., 2011). Its validity as a risk factor for antisocial and criminal behavior is undisputed, but has often been diminished because of the inclusion of behavior-based criteria of antisociality that have been thought to confound its predictive value (e.g. Kendler et al., in press).

A personality construct that has even more consistently been associated with antisocial and criminal behavior, and that puts greater emphasis on personality-related features of risk is the psychopathic personality (e.g. Andrews & Bonta, 2003; Cooke, Michie, Hart, & Clark, 2004; Hare, 1991, 1999a). Depending on the country and its scientific tradition the psychopathic personality has been considered either a sub-construct of the antisocial personality (Sutker, 1994) or a separate disorder sharing a number of characteristics with the antisocial personality but also possessing distinctive characteristics, i.e. affective and interpersonal personality traits like low emotional affect, lack of conscience or remorselessness (Harpur & Hare, 1994). In both approaches, these features are considered to be unique to the phenomenon of psychopathy and have therefore been described as the most important domain for delineation from the antisocial personality. They are also thought to explain the special relevance of the personality construct in the investigation of antisociality since they are known to contribute to highly severe and persistent behavioral outcomes (Fowles & Dindo, 2006; Hare, 1991). Prevalence data suggest a high incidence of psychopathy in correctional settings (13-30%), although prevalence rates vary significantly across studies and are mostly available for North American and Anglo-Saxon samples (Blair, Mitchell, & Blair, 2008; Cooke & Michie, 1999; Hare, 2003; Neumann & Hare, 2008). The prevalence of psychopathy in German samples of antisocial and criminal individuals has been reported but the information is still insufficient (Huchzermeier, Bruß, Geiger et al., 2006; Köhler, Hinrichs, & Huchzermeier, 2006).

As for all other relevant personality variables, the behavioral consequences of psychopathic personality depend on a number of additional relevant factors, including other features of personality. It has also been suggested that psychopathic personality features



may be manifested differently in individuals, implying the existence of specific subgroups of psychopathic offenders. It has been emphasized that research should elaborate on these variations to further define the concept of psychopathy, its relationship to other relevant factors and the meaning of these constellations for their specific relatedness to antisocial and criminal behavior. The present work follows this recommendation by assessing the above mentioned personality variables (negative emotionality, quality of emotion regulation, cognitive functioning) more specifically in psychopathic and non-psychopathic criminal individuals. As an introduction to this, the importance for the research on antisocial and criminal behavior is described in greater detail in the next section (Section 1.2.2.1). For deeper comprehension of the theoretical background of psychopathy the following sections outline the historical development and its contributions to the current understanding of psychopathy (Section 1.2.2.2 and 1.2.2.3).

#### *1.2.2.1 The Special Relevance of Psychopathy for Antisocial and Criminal Behavior*

When compared to non-psychopathic offenders, those with psychopathic personality traits have been shown to exhibit an earlier onset of antisocial and criminal behavior that tends to persist longer (Hare, 1999b; Huchzermeier et al., 2007). Furthermore, psychopathy has been found to be associated with very severe offences (Porter & Woodworth, 2006) and to have a high predictive value for general and violent recidivism (Douglas, Vincent, & Edens, 2006; Hart, Kropp, & Hare, 1988). The construct has been found to be associated with problematic behavior during incarceration (Hildebrand, De Ruiter, & Nijman, 2004) and to be influenced relatively little by treatment programs (Harris & Rice, 2006). All these findings highlight the special relevance of psychopathic personality for the work with antisocial and criminal individuals. However, it should also be pointed out that, despite the strikingly frequent co-occurrence of psychopathy and criminality, these two are not identical. Antisociality and criminality must be seen as '...a consequence, rather than a symptom of psychopathy' and it has been suggested that the construct should be assessed accordingly

(Cooke, Michie et al., 2004, p. 338). In line with this, psychopathic individuals may be callous, unemotional, grandiose and antisocial but be able to use these attributes in a way that may even lead to great personal success rather than conviction (Hall & Benning, 2006). The present thesis, however, concentrates upon the investigation of criminal psychopathy and will use the term only to refer to criminal psychopathic individuals.

Hence, the investigation of psychopathic personality traits is a major focus in the studies presented in this work.

### 1.2.2.2 *The History of Psychopathy*

As an introduction to the current understanding of psychopathy, descriptions of psychopathic individuals can be traced back to ancient times, appearing in ancient Greek literature. The philosopher Theophrastus first described 'The Unscrupulous Man', a being who corresponded closely to the current understanding of a psychopathic individual. Following on from this, Aristotle made a more precise distinction, which might be interpreted as the first description of the difference between antisocial personality and psychopathy: In his treatise on human ethics Aristotle defined the struggle of humankind between virtue and vice (Millon et al., 1998). He developed a hierarchy for elaborating on this, postulating a qualitative difference between those who struggle between their appetite for vice and the urge for virtue and the 'brutes' who consciously follow their drives for vice 'as a result of passion' without regret (Schuller, 2002, p. 151). Despite the lack of scientific methods, these observations do not seem too dissimilar from recent ideas about the phenomenon of psychopathy. Pinel (1806) defined psychopathy as a mental illness that did not involve signs of delusional distortion but was the result of emotional and moral deficits (*manie sans delire*).

Around the time that the idea of an antisocial personality emerged, psychopathy was integrated into a personality typology. Since then, the deficits associated with psychopathy have been seen as trait-like and therefore static (Blackburn, 1975; Eysenck & Eysenck, 1970; Karpman, 1941b; Prichard, 1835). The most direct influence on the current

understanding of psychopathy in the forensic and clinical setting is usually ascribed to Hervey Cleckley and his book 'The Mask of Sanity' (1941). Although Cleckley still based his theories on non-standardized clinical observation, he was the first to intensively study and thoroughly map the symptoms of psychopathic individuals. He defined many features that are still used for the assessment of psychopathy. In his early work he listed 21 characteristics of psychopathy, which were later reduced to the 16 most relevant. He also introduced the idea of a two-fold structure of primary and secondary psychopathy. He described primary psychopathy in terms of the interpersonal deficits, including features such as lack of emotionality, remorseless and manipulation, grandiosity and deceit. Secondary psychopathy centered on the behavioral components: impulsivity, lack of planned behavior, lack of planning skills and antisociality. Some of the symptoms listed by Cleckley (1941) show a considerable overlap with the ancient descriptions mentioned above (e.g. lack of emotional depth, lack of self-reflection, egocentrism; Schuller, 2002). The work of Cleckley and his comprehensive list of features can also be considered the foundation for all subsequent research on psychopathy.

#### *1.2.2.3 Psychopathy as a Construct*

The predecessors of current research on psychopathy have paved the way for the current view of psychopathy as a multifactorial construct. As postulated by a number of early scientists, psychopathy is considered to be a constellation of different features. However, the prominence of each of these features may differ in different individuals. Consequently, clinical descriptions of psychopathic individuals also differ considerably with respect to e.g. the severity of symptoms, the focal point of the deviation or the behavioral consequences. Therefore, one emphasis of the research on psychopathy is to find a detailed and coherent description that conceptualizes the construct according to different subtypes (Poythress & Skeem, 2006).

As mentioned above, Cleckley (1941) proposed a division of the construct into primary and secondary psychopathy. This division was later refined by a number of researchers and called the Two-factor model of psychopathy. It assumes that the features of psychopathy are manifested in two intercorrelated but independent factors called Factor 1 interpersonal (incorporating features such as remorselessness, lack of consciousness, shallow affect, grandiosity, deceit) and Factor 2 antisocial (incorporating features such as impulsiveness, antisociality and irresponsible behavior tendencies; Hare, 1991). As well as this Two-factor solution a number of other models have since been proposed, which are thought to permit more valid distinction of the subtypes of psychopathy and cover their features more comprehensively (Cooke & Michie, 2001; Cooke, Michie et al., 2004; Poythress & Skeem, 2006). For example, the Two-factor model has been further subdivided to yield four factors. Each factor of the Two-factor model was seen as being made up of two components. Factor 1 was subdivided into affective features (including remorselessness, lack of consciousness, shallow affect) and interpersonal features (including grandiosity, deceit) features. Factor 2 was divided into two components called lifestyle (including impulsivity, parasitic, irresponsibility) and antisocial (including poor behavioral control, rule-breaking behavior; Hare, 2003). A Three-factor model was also proposed in which psychopathy was divided into grandiose- manipulative (Factor 1), callous- unemotional (Factor 2) and impulsive- irresponsible (Factor 3) features (Cooke & Michie, 2001). Importantly, these models do not vary greatly in their ideas about which features are important for psychopathy. They differ mainly in their theoretical understanding of how psychopathy should be measured and captured methodologically. Cooke and colleagues (2004) recently introduced a model presenting a new structure of psychopathy including a number of features that were not considered in earlier approaches (Cooke, Hart, Logan, & Michie, 2010). In this model, six domains (self, attachment, emotional, dominance, behavioral and cognitive) are thought to describe the construct more coherently than previous models (Cooke, 2008). This recent model of psychopathy is currently under

validation and will have to undergo further investigation before it can be used as a reliable and valid assessment tool.

The debate about the most valid and coherent model of psychopathy is thus still in progress, which makes research and assessment of psychopathy a complex but important undertaking. Further knowledge about the variants and peculiarities of the construct and their implications for relevant risk factors will be crucial for the understanding of the relationship between psychopathy and antisocial and criminal behavior. The present work contributes to this discussion by investigating psychopathy and its relatedness to other risk factors according to valid factorial models which will be discussed in the manuscripts of the studies in Section 2.

#### *1.2.2.4 Assessment of Psychopathy*

Reliable assessment techniques are essential for valid investigation of the implications and varied manifestations of psychopathy. Hare (1991) developed the first instrument that measured psychopathic personality traits in a standardized way: the Psychopathy Checklist (Hare, 1991), which consists of a semi-structured interview involving 22 items addressing the features of psychopathy. The Psychopathy Checklist is based on the Two-factor model of psychopathy (interpersonal and antisocial personality characteristics), but results may also be assessed according to four factors. It has undergone several revisions, is currently known as a useful measurement tool possessing high reliability and validity and is often called the gold standard of psychopathy measures (Corrado, Vincent, Hart, & Cohen, 2004; Dolan & Rennie, 2006; Kosson, Cyterski, Steuerwald, Neumann, & Walker-Matthews, 2002). One of its derivatives, the Psychopathy Checklist: Screening Version (Hart et al., 1995), was used for assessment in one study presented in Section 2. The derivative of the Psychopathy Checklist is a screening version of the original instrument and has been found as valid and as reliable as Psychopathy Checklist itself (Hart et al., 1995). The instrument is described in more detail in the account of Study 1 and 3 in Section 2.

Aside from the Psychopathy Checklist, a number of other instruments have been developed to assess psychopathy, some of which show promise (Andershed, Kerr, & Stattin, 2002; Kreis, Cooke, Michie, Hoff, & Logan, in press; Lilienfeld, 1990; Lilienfeld & Andrews, 1996; Pedersen, Kunz, Elsass, & Rasmussen, 2010; Stoll, Heinzen, Köhler, & Huchzermeier, 2011). The tools differ in their assumptions about the underlying factor structure of psychopathy, their target group (e.g. children, juveniles, incarcerated or non-incarcerated offenders), their theoretical approaches and their method of assessment (e.g. external rating or self-report data). One is the Youth Psychopathic Traits Inventory (YPI; Andershed, Kerr, Stattin et al., 2002) which has become a widely used and well validated tool for the assessment of young offenders. It is based on a Three-factor structure of psychopathy (grandiose- manipulative, callous- unemotional and impulsive- irresponsible) and is directed at assessing young individual offenders. The instrument is discussed in more detailed in the account of Study 2 in Section 2.

# EMPIRICAL STUDIES





## 2 Empirical Studies of the Present Dissertation

Current approaches that seek to explain what makes an individual antisocial emphasize that the phenomenon must be viewed as multifactorial. Relevant factors that contribute to the understanding of antisociality have been shown to stem from different areas and types of influence. It is therefore suggested that research should focus on the investigation of these factors, systematically mapping their characteristics and their different manifestations (Pickersgill, 2009). The studies presented in this work address the special relevance of personality risk factors for the understanding of antisocial and criminal behavior. They are specifically concerned with the investigation of the psychopathic personality and its relatedness to other relevant factors in the criminal population. The three studies presented here are based on the idea that correlations between variables point at risk for antisocial and criminal behavior (Andrews & Bonta, 2003). The first study has two goals. First, it assesses the mental health of criminal individuals in general, thereby defining the relevance of mental disorders as a risk factor for crime in the German prison population. Second, it assesses the relevance of deviant personality in general, and of psychopathic personality traits in particular, and the utility of these features for defining subgroups. The second and third studies consider the relevance of psychopathic personality traits in incarcerated individuals in Germany by assessing their occurrence and their relationship with the personality variables intelligence, negative emotionality and the quality of emotion regulation strategies. All of these personality factors have been shown to be highly relevant risk factors for antisocial and criminal behavior (see Andrews & Bonta, 2003).

The following sections present the three publications, each of which is preceded by a brief introduction. Each study manuscript will be presented in its original publication form and include a theoretical introduction to the specific topic, a derivation of the hypotheses and a discussion of the relevant findings in the light of current scientific knowledge.

## **2.1 Study 1. The Prevalence of Mental Disorders in a German Sample of Male Incarcerated Juvenile Offenders**

A number of earlier studies have shown that the population of antisocial and criminal individuals is a group with great psychiatric relevance (Gosden et al., 2003; Stalenheim & von Knorring, 1996; Steiner, Garcia, & Mathews, 1997; Vreugdenhil, Doreleijers, Vermeiren, Wouters, & Van den Brink, 2004). This group exhibits a high prevalence of mental disorders and a high degree of comorbidity, especially of those disorders that are associated with negative behavioral consequences (Fazel & Danesh, 2002; Plattner et al., 2011). This has especially been suggested for personality disorders and psychopathic personality traits. On the basis of these findings, a number of mental disorders have been considered relevant risk factors for antisocial and criminal behavior and the standardized assessment of the mental disorders in the criminal population is considered an essential prerequisite for the elaboration of the origins of antisocial and criminal behavior. However, up to now only little information has been available about the mental health of incarcerated antisocial individuals in Germany (Plattner et al., 2011). Also, reports of the prevalence of psychopathy and other personality disorders relevant for antisocial behavior refer mostly to North American samples (Eppright, Kashani, Robinson, & Reid, 1993; Teplin et al., 2002; Wassermann, McReynolds, Lucs, Fisher, & Santos, 2002). Study 1 thus fills an important gap in this area of research by giving a thorough description that relies on standardized assessment methods and evaluates these in light of their relevance. It also assesses the specific relevance of psychopathic personality traits by presenting their prevalence in the German prison population.

# The Prevalence of Mental Disorders in a German Sample of Male Incarcerated Juvenile Offenders

Denis Köhler

*University of Hamburg, Germany*

Hanna Heinzen

Günter Hinrichs

Christian Huchzermeier

*Zentrum für Integrative Psychiatrie, Kiel, Germany*

The current study investigated the prevalence of mental disorders among incarcerated juvenile offenders in Germany and sought to identify clinically relevant subgroups. In sum, 149 newly incarcerated male juvenile delinquents ( $M$  age = 19 years) were included. Diagnostic tools included the German version of the Structured Clinical Interview for *DSM-IV* and the Psychopathy Checklist–Screening Version. The most prevalent diagnoses in the sample included conduct disorders (81%), Cluster B personality disorders (up to 62%), and substance-related disorders (up to 60%). Moreover, psychopathic features were found among 21% of the participants. Cluster analysis distinguished three subgroups among this group of young offenders. The most problematic consisted of juveniles with multiple psychopathology, including antisocial traits, personality pathology, higher scores on the Psychopathy Checklist, as well as multiple substance abuse. Study outcomes are discussed in light of their implications for the development of effective treatment for juvenile offenders.

**Keywords:** *mental disorders; personality disorders; psychopathy; incarcerated juvenile offenders*

Empirically founded knowledge about the association between certain personality features, mental disorders, and antisocial behavior in juvenile delinquents is a crucial premise for the development of specialized treatment programs that are aimed at the prevention of future recidivism. The association has consistently been supported by studies that show a high prevalence of mental disorders among juvenile

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**Authors' Note:** Address correspondence to Denis Köhler, PhD, University of Hamburg, Faculty of Psychology, Department of Individual Differences and Psychological Diagnostic, Van-Melle-Park 11, 20146 Hamburg, Germany; e-mail: [denis.koehler@uni-hamburg.de](mailto:denis.koehler@uni-hamburg.de).

delinquents in correctional facilities. For example, North American studies that investigated juvenile offenders have provided evidence for a rate of 50%-60% of the incarcerated juvenile population's suffering from at least one mental disorder (Duclos et al., 1998; Eppright, Kashani, Robinson, & Reid, 1993; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Wasserman, McReynolds, Lucas, Fisher, & Santos, 2002). The most commonly diagnosed mental disorders were personality disorders (up to 75%), substance-related disorders (about 50%), disruptive behavior disorders (up to 40%), and conduct disorders (between 20% and 87%). Furthermore, affective disorders (between 10% and 20%), posttraumatic stress disorder (between 32% and 42%), and anxiety disorders (between 6% and 10%; Brosky & Lally, 2004; Kashani, Henrichs, Reid, & Huff, 1982; Ruchkin, Schwab-Stone, Kopolov, Vermeiren, & Steiner, 2002; Steiner, Garcia, & Mathews, 1997) were also documented in this population of juvenile offenders. Several European studies yielded similar results. For example, 90% of incarcerated males in the Netherlands met criteria for at least one psychiatric disorder; findings included the diagnosis of affective and anxiety disorders (6%-9%), substance use disorders (55%), and disruptive behavior disorders (75%; Vreugdenhil, Doroleijers, Vermeiren, Wouters, & Van den Brink, 2004; Vreugdenhil, Van den Brink, Wouters, & Doroleijers, 2003). Additionally, psychotic symptoms were found in 34% of the sample, and 8% of the participants were diagnosed with attention deficit disorder. In a Danish sample of prisoners on remand, 41% were diagnosed with substance abuse disorder; 31% of the participants were identified as having conduct disorder; and 36% were found to meet criteria for at least one personality disorder (Gosden, Kramp, Gabrielsen, & Sestoft, 2003).

Even though the German Juvenile Court Act (*Jugendgerichtsgesetz*) suggests an emphasis on education and treatment in reaction to juvenile delinquency, the empirical basis for the practical implementation of this approach is still insufficiently founded. Only two studies have investigated the prevalence of mental disorders among incarcerated juveniles in Germany. In the first one, Hinrichs (2001) found that 92% of 101 juveniles met diagnostic criteria for one mental disorder according to the ICD-10. The most prevalent diagnoses were personality disorders (33%) and substance abuse or dependence (25%), followed by behavioral or emotional disorders during childhood and adolescence (16%), as well as neurotic, somatoform, and stress disorders (12%). In the second study, Jacobs and Reinhold (2004) found evidence for depression (10%-22%) and anxiety (1%-12%) according to the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994) in their sample of 40 detainees from a juvenile justice facility population. The most common diagnosis in this study were substance-related disorders (80%) and personality disorders (e.g., antisocial, 53%; paranoid, 20%). However, the representativeness of these results is diminished by several methodological flaws. For example, both studies were conducted on relatively small samples and merely reported outcomes of descriptive statistical analysis, leaving out information about

comorbidities and clinically relevant subgroups. Furthermore, Jacobs and Reinhold investigated offenders of a low-security prison, and Hinrichs recruited his participants from an intramural treatment program. Of course, individuals receiving psychological treatment exhibit a heightened prevalence of mental disorders. This biased sample selection surely limits the representativeness of the findings. Additionally, Hinrichs based the diagnosis of a mental disorder on clinical decision, meaning that the experimenter did not use structured instruments. Although it does seem reasonable to assume that mental disorders are a severe problem in juvenile incarcerated offenders, reliable prevalence rates for German institutions remain unknown.

To overcome the above-mentioned weaknesses of prior investigations in Germany and to specify earlier findings, the goal of the current study was to investigate prevalence rates of mental disorders among male incarcerated juveniles by using standardized and internationally established research instruments. Additionally, an attempt was made to identify forensic relevant groups with psychopathological features that may require special attention and treatment. This information is crucial for the development of evidence-based treatment of prisoners in the German juvenile justice system.

## Method

### Participants

The German Juvenile Court Act is the juridical basis for the conviction of young offenders who are 14 to 18 years old. Its application can be extended to the age of 20 years, 11 months, in case of severe deficits of maturation. In instances of prolonged sentences, young detainees can remain in juvenile prison up to the age of 25. The juvenile prison population in Germany consists of offenders imprisoned on remand, those being legally convicted, and those who have failed probation.

It was sought to include all juveniles who had been referred to the juvenile prison of Neumünster between 2001 and 2003 during a period of 15 months. Participants were tested according to the order of their referral, at the soonest possible point after their arrival. Inclusion criteria for participation were sufficient language skills in written and spoken German as well as sufficient intellectual capacity. The latter was estimated during the first contact with the participants, before the actual testing, via clinical impression of the experimenter and intelligence testing. Of those invited to participate in the current study, 12 refused to take part in the assessment. This is not thought to have significantly influenced the test results. The exclusion of juveniles through the application of inclusion criteria and the opportunity for refusal of participation imply that the current selection process was nonrandom. Exact randomization would have been unrealizable because of practical and ethical conditions. The exclusion of offenders who did not meet these criteria implies that the current results are not valid across cultures and may not be applicable to juveniles with deficient reading and writing skills.

**Table 1**  
**Characteristics of the Total Sample (*N* = 149)**

Characteristic	Percentage <sup>a</sup>
<b>Age</b>	
<i>M</i>	19.07 years
<i>SD</i>	2.11 years
Range	15-25 years
15-17 years	25
18 years and older	75
<b>Sociodemographics</b>	
Lived with family	34
Lived alone	20
Lived with a female partner	21
Foster care	8
No permanent accommodation	8
<b>Work and school background</b>	
Unemployed	23
No professional/vocational training (no daily routine)	22
Employed	23
Student	43
No school-leaving qualifications	43
<b>Juridical information</b>	
Time of incarceration to examination	
<i>M</i>	8.75 days
<i>SD</i>	6.35 days
Range	1-30 days
Prisoners on remand	63
Prisoners in penal detention	37
Previous incarceration	52
Previous conviction/prosecution	69
<b>Registered offences</b>	
Theft/robbery	53.0
Sexual crime	4.0
Murder	1.3
Manslaughter	2.7
Assault	14.1
Fire setting	3.4
Other	12.1
Missing	9.4

a. Figures in percentages unless denoted otherwise.

A total of 149 newly incarcerated male delinquents were analyzed with semistructured interviews for the assessment of mental disorders. Table 1 shows the sociodemographic and juridical background of the sample: 86% ( $n = 128$ ) of the sample was German, and 7% comprised other nationalities ( $n = 10$ ). Because of the low amount of missing data, no significant influence on the distribution was expected.

## Procedure

Before the investigation, permission was obtained from the ethical commission of the Kiel University. All juveniles referred during the prior-mentioned period were asked for their consent of participation shortly after their arrival. Permission of the parents or legal guardians was obtained in cases where the subject was underage. Participants were tested with two structured clinical interviews and received no reward for participation.

## Measures

The German version of the Structured Clinical Interview for *DSM-IV* (SCID), consisting of two parts (SCID-I and SCID-II; Fydrich, Renneberg, Schmitz, & Wittchen, 1997; Wittchen, Zaudig, & Fydrich, 1997; for English versions, see First, Spitzer, Gibbon, & Williams, 1997; Gibbon et al., 1997), is a semistructured interview used for the assessment of Axis I and II disorders. The procedure of the SCID consists of first screening the participants' symptoms through self-assessment. Second, the participants are interviewed to investigate the symptoms that were highlighted during self-assessment. The analysis of these interviews was used for later diagnoses.

The Psychopathy Checklist–Screening Version (PCL-SV; Hare, 2003; German version: Freese, 1999) was used to rate psychopathy according to the concept proposed by Hare (2003). This semistructured interview is aimed at screening for the presence of the two factors of psychopathy: first, interpersonal and affective symptoms; second, socially deviant behavior and chronically instable or antisocial lifestyle. It consists of 12 items rated on a 3-point scale (*not present*, *maybe present*, and *present*). The items were answered on the basis of information available through records, as well as through self-report. A participant can receive a maximum total score of 24 points; a total score of 18 or higher is required for a diagnosis of psychopathy. Additionally, the participants' files were evaluated using all available information (e.g., forensic experts' opinions, detainees' personnel files, court procedures), and offence-specific and sociobiographical data were extracted anonymously for further supporting the outcomes of the PCL-SV results. The analysis was done by psychologists with extensive clinical and forensic experience who had been trained to use the diagnostic tools administered in the current study and who underwent additional supervision, if necessary.

## Statistical Analysis

SPSS (German Version 11.5) was used for data processing and statistical analysis. Parametric procedures (ANOVA, *F* test with Scheffé post hoc tests) and non-parametric procedures (Mann-Whitney *U* test, chi-square test, Kruskal–Wallis test) were conducted. The SCID diagnosis for substance use was categorized into use, abuse, and addiction. The other *DSM-IV* diagnoses (e.g., personality disorders) were

defined categorically (0 = *not present*, 1 = *present*). Additionally, a two-step cluster analysis was conducted. This exploratory analysis is widely used as the standard procedure for categorical and static variables. It uses the Bayesian information criteria and the distance measure (log-likelihood) as its fit indices (higher distance measure indicates the best cluster difference).

## Results

### *DSM-IV* Axis I Disorders

A remarkably high number of Axis I disorders was found in the current sample. Table 2 lists the most prevalent disorders (listed per age group: 18 years and older and younger than 18 years). Because of the low number of participants in each cell for all Axis I disorders, except the ones for substance-related disorders and conduct disorder, age differences have not been calculated. For substance-related disorders and conduct disorder, the comparison between age groups revealed a significant difference: Delinquents 18 and older showed higher use of opiate (Mann-Whitney  $U = 1,617.50$ ,  $p < .01$ ) and cocaine (Mann-Whitney  $U = 1,582.50$ ,  $p < .05$ ) than the younger ones did. Participants under the age of 18 met *DSM-IV* criteria for conduct disorder significantly more often than those aged 18 or older ( $\chi^2 = 6.12$ ;  $p < .01$ ). Because the German version of the SCID-II does not differentiate between childhood- and adolescent-onset conduct disorder (*DSM-IV* 312.81, 312.82), these two types were pooled and classified as conduct disorder during childhood/adolescence. In line with expectations, 81% of the sample met diagnostic criteria for conduct disorder, which was diagnosed without comorbid antisocial personality disorder in 19% of the sample.

### *DSM-IV* Axis II Disorders

Multiple Axis II diagnoses were common in the current sample (see Table 2): 35% met criteria for one personality disorder; 26%, for two; and 16%, for more than two. Only 24% did not meet the criteria for any Axis II disorder. The *DSM-IV* recommends that a diagnosis of a Axis II personality disorder be applied to people under the age of 18 only if personality deviations have been present for at least 1 year. This was the case in all underaged participants who received an Axis II diagnosis. However, the diagnosis of antisocial personality disorder (APD) requires an individual to be 18. Therefore, participants who fulfilled all other criteria of APD despite the one regarding age were regarded as a high-risk group for the development of APD and were treated as though they had received diagnoses of APD in the statistical analysis. Comparison of the occurrence of personality disorders in the two age groups did not reveal any significant differences in frequency (self-defeating:  $\chi^2 = 2.52$ ,  $p = .13$ ; dependent:  $\chi^2 = 1.41$ ,  $p = .24$ ; obsessive-compulsive:  $\chi^2 = 6.40$ ,  $p = .42$ ; negativistic:  $\chi^2 = 0.49$ ,  $p = .49$ ; depressive:  $\chi^2 = 1.05$ ,  $p = .31$ ; paranoid:  $\chi^2 = 0.36$ ,  $p = .56$ ; schizotypal:  $\chi^2 = 0.99$ ,  $p = .75$ ; histrionic:  $\chi^2 = 0.69$ ,  $p = .41$ ;



**Table 2**  
**Most Prevalent Mental Disorders per the Structured Clinical Interview**  
**for DSM-IV and the Psychopathy Checklist–Screening Version**

DSM-IV Disorders	<18 years (n = 38)		≥18 years (n = 111)		Total (N = 149)	
	n	%	n	%	n	%
Axis I						
Depression	3	7.9	6	5.4	9	6.0
Adaption deficits/adjustment disorder	1	2.6	6	5.4	7	4.7
Psychotic disorders						
Substance induced	1	2.6	4	3.6	5	3.4
Not substance induced	0	0.0	1	0.9	1	0.7
Any anxiety disorder	2	5.3	8	7.2	10	6.7
Substance induced	0	0.0	5	4.5	5	3.4
Tic disorder	1	2.6	1	0.9	2	1.3
Enuresis	1	0.0	0	0.0	1	0.7
Any paraphilia	1	2.6	1	0.9	2	1.3
Eating disorder	1	2.6	0	0.0	1	0.7
Posttraumatic stress disorder	0	0.0	2	1.8	2	1.3
Substance use						
Alcohol						
Abuse	20	52.6	69	62.2	89	59.7
Addiction	7	18.4	24	21.6	31	20.8
Sedative						
Abuse	7	18.4	23	20.7	30	20.1
Addiction	1	2.6	9	8.1	10	6.7
Cannabis						
Abuse	13	34.2	31	27.9	44	29.5
Addiction	17	44.7	63	56.8	80	53.7
Amphetamine						
Abuse	12	31.6	48	43.2	60	40.3
Addiction	3	7.9	12	10.8	15	10.1
Opiate <sup>a</sup>						
Abuse	4	10.5	13	11.7	17	11.4
Addiction	3	7.9	30	27.0	33	22.1
Cocaine <sup>a</sup>						
Abuse	11	28.9	31	27.9	42	28.2
Addiction	3	7.9	30	27.0	33	22.1
Hallucinogens						
Abuse	14	36.8	43	38.7	57	38.3
Addiction	6	15.8	27	24.3	33	22.1
Polytox						
Abuse	8	21.1	28	25.2	36	24.2
Addiction	6	15.8	31	27.9	37	24.8
Other						
Abuse	2	5.3	4	3.6	6	4.0
Addiction	0	0.0	0	0.0	0	0.0

(continued)

Table 2 (continued)

DSM-IV Disorders	<18 years (n = 38)		≥18 years (n = 111)		Total (N = 149)	
	n	%	n	%	n	%
Conduct disorder <sup>a</sup>	36	94.7	85	76.6	121	81.2
Axis II (personality disorders) <sup>b</sup>						
Self-defeating	0	0.0	7	6.3	7	4.7
Dependent	0	0.0	4	3.6	4	2.7
Obsessive-compulsive	1	2.6	1	0.9	2	1.3
Negativistic	1	2.6	6	5.4	7	4.7
Depressive	0	0.0	3	2.7	3	2.0
Paranoid	2	5.3	9	8.1	11	7.4
Schizotypal	1	2.6	2	1.8	3	2.0
Schizoid	0	0.0	0	0.0	0	0.0
Histrionic	0	0.0	2	1.8	2	1.3
Narcissistic	4	10.5	13	11.7	17	11.4
Borderline	4	10.5	20	18.0	24	16.1
Antisocial	26	68.4	67	60.4	93	62.4
Personality disorder not otherwise specified	10	26.3	35	31.5	45	30.2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
No. of DSM-IV personality disorders	1.26	1.18	1.52	1.34	1.46	1.30
Psychopathy						
Factor 1	5.97	2.50	5.43	2.86	5.57	2.78
Factor 2	7.87	1.89	8.63	2.64	8.44	2.50
Total	13.84	3.64	14.01	4.27	13.97	4.11

Note: DSM-IV = *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; American Psychiatric Association, 1994)

a. Significant differences for age groups (see Results section).

b. Suspected personality disorders for the group comprising those younger than 18 years old.

narcissistic:  $\chi^2 = 0.04$ ,  $p = .84$ ; borderline:  $\chi^2 = 1.18$ ,  $p = .28$ ; antisocial:  $\chi^2 = 0.78$ ,  $p = .38$ ; PDNOS:  $\chi^2 = 0.78$ ,  $p = .38$ ). Cluster B personality disorders were the most prevalent: 30% of participants exhibited clinically relevant personality deviations that resemble those exhibited by patients who are suffering from personality disorders. However, these 30% did not exceed the cutoff scores required for receiving a specific diagnosis of personality disorder and are therefore labeled with the diagnosis of personality disorder not otherwise specified (PDNOS).

### Psychopathic Traits

Table 2 also shows the mean PCL-SV scores found in the sample, as well as those found in the two age groups separately. No significant differences were found between the two age groups (Factor 1:  $F = 1.01$ ,  $p = .30$ ; Factor 2:  $F = 2.69$ ,  $p = .10$ ; total score:  $F = 0.05$ ,  $p = .83$ ). With respect to the above-mentioned problem arising

with the diagnosis of personality disorder in juveniles younger than 18, Item 12 (adult antisocial behavior) could be rated in 96 participants of the sample. This might have resulted in an underestimation of total scores and Factor 2. Hare's cutoff score for the PCL-SV (total score  $\geq 18$ ; Freese, 1999; Hare, 2003) was used in diagnosing psychopathy. According to this classification, 55 participants (37%) received a score of less than 13 and were therefore classified as low scorers; 63 participants (42%) were found to be within the moderate scorer range; and 31 (21%) could be diagnosed as psychopathic (i.e., total score  $\geq 18$  or above).

### Subgroups of Offenders

To shed light on comorbidities of mental disorders and to identify possibly existing subgroups, a two-step cluster analysis was conducted. Based upon the *DSM-IV* Axis II criteria, participants were included in the analysis only if they were 18 years or older. The most commonly diagnosed disorders were included in the calculation—specifically, conduct disorder, personality disorders (paranoid, borderline, narcissistic, antisocial) and PDNOS, and substance-related disorders (exclusion of polytoxic abuse). Fifteen cluster solutions were found with the best solution (Bayesian information criteria: 1,098, 18; maximum distance measure, log-likelihood: 1, 85) distinguishes between three clusters (Cluster 1:  $n = 38/34$ , 9%; Cluster 2:  $n = 45/41$ , 3%; Cluster 3:  $n = 26/23$ , 9%). Table 3 shows the three clusters in comparison to the variables: personality disorders, conduct disorder, and substance-related disorders. Cluster 1 included offenders with multiple personality deviations and problems with social behavior. Individuals in this cluster exhibited a significantly higher frequency of sedatives, amphetamine, opiate, cocaine, and hallucinogens intake, as well as polytoxic drug use, than did the people in the other two clusters. Significant cluster differences were found in association with the number of prior convictions, PCL-SV scores, and number of diagnosed personality disorders (see Table 4). Cluster 2 consisted of people who primarily exhibit antisocial features, PDNOS, and conducts disorder (see Tables 3 and 4). Cluster 3 included participants that lack antisocial features but exhibit diffuse/mixed personality problems (see Tables 3 and 4).

## Discussion

The present study, which investigated the prevalence of mental disorders in male incarcerated juvenile delinquents, supports the importance of examining the mental health of young offenders, by indicating a high rate of mental disorders in the current sample. Although the generalizability of these results might be restricted because of the aforementioned sample selection criteria, the similarity between the current results and those of international studies indicates their validity. In comparison to earlier studies in Germany, the current investigation is thought to be more representative of the juvenile prison population owing to the aforementioned methodological advantages.

**Table 3**  
**Groups of Young Offenders According to the**  
**Most Prevalent Mental Disorders**

	Cluster 1: <i>n</i> = 38	Cluster 2: <i>n</i> = 45	Cluster 3: <i>n</i> = 26	Tests of Differences
<i>DSM-IV</i> Mental Disorders	<i>n</i>	<i>n</i>	<i>n</i>	$\chi^2$
Personality Disorders				
Paranoid				
No	30	44	26	12.72**
Yes	8	1	0	
Borderline				
No	23	41	25	17.66**
Yes	15	4	1	
Narcissistic				
No	27	43	26	16.40**
Yes	11	2	0	
Antisocial				
No	0	18	26	64.14**
Yes	38	27	0	
PDNOS				
No	35	28	12	16.74**
Yes	3	17	14	
Conduct disorder				
No	0	0	26	109.00**
Yes	38	45	0	
Substance Use				
	Mean Rank	Mean Rank	Mean Rank	Kruskal–Wallis ( $\chi^2$ )
Sedative	69.58	43.44	53.69	22.18**
Amphetamine	77.16	42.32	44.56	34.97**
Opiate	72.37	41.62	52.77	26.31**
Cocaine	73.51	39.29	55.13	27.84**
Hallucinogens	75.05	45.58	42.00	26.97**
Polytox	72.58	43.73	48.81	21.49**

Note: *n* = 109, age  $\geq$  18 years. *n* = number of participants in cell; PDNOS = personality disorder not otherwise specified.

\*\**p* < .01.

### ***DSM-IV* Axis I**

Conduct disorder represented the most prevalent disorder (81%; see Table 2) among delinquents under the age of 18 (meeting criteria). It remains to be seen whether a diagnosis of conduct disorder can add explanatory value in a forensic sample. Given that diagnostic criteria for conduct disorder almost exclusively refer to deviant and criminal behavior, the relationship between conduct disorder and criminal behavior seems tautology.

**Table 4**  
**Group Differences Among Incarcerated Young Offenders**

	Cluster 1: <i>n</i> = 38		Cluster 2: <i>n</i> = 45		Cluster 3: <i>n</i> = 26		Tests of Differences
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	ANOVA ( <i>F</i> )
Juridical data							
No. of previous convictions	2.65 <sup>1</sup>	2.17	2.76 <sup>1</sup>	3.60	0.73	1.16	4.46** <i>MD</i> : 3 vs. 1 = -1.92*; 3 vs. 2 = -2.03*
No. of previous incarcerations	1.06	1.22	1.07	1.37	0.52	0.96	1.85 ( <i>p</i> = .16), <i>ns</i>
Psychopathy Checklist– Screening Version							
Factor 1	6.82 <sup>2,3</sup>	3.01	4.93	2.64	4.15	2.24	8.72*** <i>MD</i> : 1 vs. 2 = 1.88**; 1 vs. 3 = 2.66***
Factor 2	10.05 <sup>2,3</sup>	2.24	8.6 <sup>3</sup>	2.18	6.42	2.50	19.56*** <i>MD</i> : 1 vs. 2 = 1.45*; 1 vs. 3 = 3.63***; 2 vs. 3 = 2.18**
Total	16.63 <sup>2,3</sup>	3.40	13.53 <sup>3</sup>	4.15	10.69	3.00	20.88*** <i>MD</i> : 1 vs. 2 = 3.10***; 1 vs. 3 = 5.94***; 2 vs. 3 = -3.10***
No. of personality disorders	2.32 <sup>2,3</sup>	1.49	1.29	1.14	0.73	0.78	14.63*** <i>MD</i> : 1 vs. 2 = 1.03***; 1 vs. 3 = 1.59***

Note: *n* = 109, age ≥ 18. All mean comparisons are ANOVAs with Scheffé post hoc tests. The elevated numbers indicate the number of the cluster that the present cluster is significantly (*p* < .05) higher than as shown in Scheffé post hoc test. *MD* = mean difference, Scheffé post hoc test.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

The current study confirms earlier findings regarding the high prevalence of substance-related disorders in forensic samples (e.g., Teplin et al., 2002). Regarding age-related differences in drug use, opiate and cocaine consumption was more frequently used among older participants (see Table 2). No other significant age differences emerged. Surprisingly, Axis I disorders (see Table 2) were less common than what has been reported in previous studies (Fazel & Danesh, 2002; Hinrichs, 2001; Jacobs & Reinhold, 2004; Köhler & Hinrichs, 2004; Teplin et al., 2002; Vreugdenhil et al., 2004). Several possible explanations can be postulated for this finding: first, the occurrence of sampling biases, for example, preselection of facility location. Second, more severely disordered juveniles may be admitted to psychiatric facilities

rather than be incarcerated in correctional ones. Third, typical symptoms of Axis I disorders are exhibited by many incarcerated juveniles, but the severity of those symptoms is often not sufficient for a diagnosis according to the *DSM-IV*. This assumption is in line with findings derived from a study by Köhler, Hinrichs, and Huchzermeier (2004) in which juvenile offenders in an incarcerated sample were found to exhibit a high rate of psychopathological symptoms—specifically, depression and anxiety problems. Fourth, juveniles in the current sample may represent a population that tends to compensate for mental problems by externalizing behavior, such as aggression and violence, which may explain their engagement in lawbreaking behavior and their lower scores on measurements of Axis I symptomatology. Internalization of psychopathology, however, would be less strongly associated with criminal behavior but would enhance self-reported feelings of distress (e.g., anxiety, depression; Köhler et al., 2004).

### ***DSM-IV* Axis II**

The aforementioned age criterion of *DSM-IV* was not met by approximately one third of the participants. In an analysis of the prevalence rates found in the sample, however, test results of all participants were taken into account, and results of those younger than 18 were considered as future possible diagnoses. This was done because personality deviations resembling symptoms of a personality disorder in people younger than 18 are assumed to imply a severe risk for the diagnosis of a personality disorder after the age of 18. The detection of these early signs is therefore considered to be highly relevant. In line with our expectations and prior empirical findings (Fazel & Danesh, 2002; Hinrichs, 2001; Teplin et al., 2002; Vreugdenhil et al., 2004), *DSM-IV* Axis II disorders were the most prevalent conditions documented in the current sample (see Table 2). Of these, Cluster B personality disorders were represented most frequently. The previously mentioned lack of an age effect (between <18 and ≥18) in the prevalence of personality disorders questions the utility of using an age limit of 18 as core criterion for a diagnosis of personality disorder in the clinical context and therefore supports the idea that personality deviations are relevant for the detection and prediction of behavioral outcomes in forensic settings at a very young age. It further underlies the importance of early detection of these difficulties using a dimensional approach, as proposed in the *DSM-IV*, additional to the categorical one.

Remarkably, the diagnosis of PDNOS was present in 30% of the current sample, with no differences found between juveniles younger than 18 and those 18 and older. Although it seems that this disorder is an important feature of the juvenile forensic population, no study has yet investigated the prevalence of this diagnosis more closely. A meta-analysis conducted by Verheul and Widiger in 2004 assessed the prevalence of PDNOS in community and clinical samples. In their analysis of studies using the SCID-II as diagnostic tool, a prevalence of 25% to 26% of participants met

criteria for PDNOS. These results are validated by the recently published findings of Verheul, Bartak, and Widiger (2007). The high prevalence rates may partly be due to the fact that "PDNOS has at times been characterized derogatorily as the wastebasket of mental disorder classifications, for persons who fall between the cracks of the more specifically defined diagnostic categories" (p. 310; see also Verheul & Widiger, 2004). As a result, this diagnosis significantly lacks informative value because of the absence of an explicit definition of symptoms that would describe a prototypical clinical picture. Therefore, PDNOS is limited in its implications for offender treatment in practice. To account for the above-mentioned considerations, assessment of personality in juvenile delinquents should emphasize the investigation of personality dimensions that are directly linked to personality disorders, appropriate treatment interventions, and the prevention of recidivism (Hare, 2003; Widiger & Costa, 2001; Widiger & Frances, 2001; Widiger, Simonson, Sirovatka, & Regier, 2006).

An example of a more valuable framework for the description of personality may be the five-factor model of personality, proposed in the *DSM-IV*, which is based on five biologically founded dimensions (Neuroticism, Extraversion, Openness to Experience, Conscientiousness, Agreeableness). The advantage of the five-factor model lies in its ability to capture personality variations that can be practically assessed through the NEO Five-Factor Inventory (McCrae & Costa, 2004).

Despite the above-mentioned restrictions, the diagnosis of PDNOS in juveniles may still have important implications with respect to its putative predictive value for the development of personality disorders in later life.

A general consideration of the current diagnostic procedure for Axis II disorders pertains to the preselective procedure of the SCID-II instrument. On one hand, self-reported symptoms may not meet *DSM-IV* criteria during the first screening phase and may therefore result in a high risk of false-negative identification through the exclusion of respective participants from the following interview. On the other, participants may be falsely qualified for a more extensive investigation during the interview stage if they report an exaggerated experience of their symptoms.

## Psychopathic Traits

The same diagnostic difficulties as described in the preceding section arise with the application of the diagnosis of psychopathy to offenders younger than 18. However, for the same aforementioned reasons discussed, early detection of psychopathic traits is thought to be extremely important. Study results further indicate high recidivism risk, severe behavior outcomes, and poor treatment effects in psychopathic offenders, which additionally underlie the early detection approach (Hare, 2003). A tool for the assessment of psychopathic traits in juvenile offenders—the youth version of the Psychopathy Checklist—has recently become available (Forth, Kosson, & Hare, 2003). However, a German version of this instrument is still in preparation and not yet available for empirical usage. Additionally, the majority of the participants in the

current sample are older than 18. For the above-mentioned reasons, the PCL-SV instrument, constructed to measure psychopathy in young adults, was the instrument of choice in the current study. Therefore, results have to be interpreted carefully, and it should be kept in mind that they reflect psychopathic traits and characteristics rather than a categorical classification of psychopathy. Via the PCL-SV, 21% of the sample met the criteria for the diagnosis of psychopathy according to Hare (2003; see Table 4). These findings are in line with results documented in previously conducted adult studies (e.g., Hare, 2003; Hare & Neumann, 2005; Huchzermeyer, Bruss, Godt, & Aldenhoff, 2006) and with juvenile samples (Forth et al., 2003). No significant differences were found between the two age groups. The high prevalence of psychopathy and the lack of an age effect support the utility of the PCL-SV to test offenders under the age of 18 and, generally, the importance of assessment of psychopathic traits in juveniles and young adults. Early detection may promote the development of tailored intervention and increase the likelihood of its effectiveness in avoiding negative outcomes (Andershed, Kerr, Stattin, & Levander, 2002; Forth et al., 2003; Freese, 1999; Hare, 2003). As mentioned, the PCL-SV is the only available German-language instrument for the assessment of psychopathy; alternative instruments that are tailored to the assessment of juveniles are lacking. This is surprising in light of the current findings that suggest the presence of psychopathic traits in one fifth of the sample. The relevance of identifying psychopathic personality features in juvenile offenders becomes obvious when considering their high correlation with recidivism and disruptive behavior in correctional settings (Forth et al., 2003; Huchzermeyer et al., 2006). In the German juvenile justice system, however, the concept has still not received much attention on account of prevailing reservations about negative connotations and labeling effects resulting from its application. The obvious consequence of insufficient empirical investigation and standardized assessment is the fatal absence of efficient intervention programs (Wong & Hare, 2005).

### **Clinically Relevant Subgroups**

Cluster analysis yielded three statistically relevant clusters in the current sample (see Tables 3 and 4), which are in line with previous international research (Hemphil, Hart, & Hare, 1994; Mailloux, Forth, & Koner, 1997; Myers, Burket, & Harris, 1995; O'Neil, Lidz, & Heilbrun, 2003; Rutherford, Alterman, & Cacciola, 2000; Taylor & Lang, 2006). Participants from Cluster 1 show the most explicit personality pathology; these pathologies are also the most clear-cut in terms of *DSM-IV* categorization. They resemble the group of risk offenders defined by Andrews and Bonta (2003). They are also the most likely to exhibit the most problematic behavior outcomes as reflected in criminal records and recidivism rates; that is, they are most in need of intervention and treatment. This is supported by the high occurrence of antisocial behavior within the first cluster, which significantly decreases across clusters. Likewise, lower specificity of personality deviances is indicated by a high occurrence of



PDNOS in the second and the third clusters in comparison to the first. Because of the heterogeneity and diversity of personality pathology within each cluster (see Table 3), it is problematic to base treatment exclusively on risk and need principles. In contrary, the goal of intervention programs is to account for the pathology of an individual (e.g., Linehan, 1996). Referring to previously discussed findings that indicate a rather diffuse picture of personality pathology in juveniles, it is essential to thoroughly investigate these diversities to meet the requirements of tailored interventions. At the present point, however, neither assessment nor treatment facilities offered in the German juvenile justice system sufficiently account for these principles (Huchzermeier & Aldenhoff, 2002; Repp, Köhler, & Hinrichs, 2004).

### Future Implications

The current study profits from several methodological advantages, in comparison to earlier ones, and is therefore thought to be more representative in its implications for the German juvenile prison population. Future research will have to focus on avoiding preselection in the sampling procedure. This involves the consideration of methods that allow for the inclusion of those offender groups that were excluded in the current study because they could not be tested by the traditional self-report instruments. Specifically, those methods would have to address illiteracy as well as offenders who constitute a potential safety risk.

To improve research on the relevance of mental disorders among young offenders, future studies should further seek to scrutinize mental health on symptom level, emphasizing the dimensional viewpoint. An approach that involves a thorough description of psychological symptoms and is not restricted to categorical classifications like the SCID-II instrument can surely add valuable information to the assessment of mental constitutions for the development of tailored treatments.

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## **2.2 Study 2: Emotion Regulation in Incarcerated Young Offenders with Psychopathic Traits**

As mentioned above, it has been suggested that personality features of an individual – and particularly the existence of psychopathic personality traits - can be associated with a person behaving in antisocial and criminal ways. Whether and to what extent these behaviors are manifested is likely to be influenced by a great many other external and personal factors (Eisenberg & Fabes, 1990; Rushton & Timpler, 2009). One factor that has been considered critical in the development and expression of antisocial and aggressive behavior is the way individuals perceive, evaluate and regulate their own negative emotional states (Eisenberg & Morris, 2002; Eisenberg et al., 2005; Gross, 1998, 2002). Dysfunctional regulation of negative emotions has recently been implicated as a core mechanism in the development of mental disorders in general and of those that are associated with externalizing behavior tendencies like antisociality in particular (Eisenberg, Guthrie et al., 2000). The effect of the quality of emotion regulation on the development of manifest antisocial and criminal behavior however may be very different depending on the personality structure of an individual (Eisenberg, Guthrie et al., 2000). Psychopathic individuals have often been shown to experience low levels of negative emotions because of their deficits in processing and evaluating emotion-provoking stimuli (Blair, Colledge, Murray, & Mitchell, 2001; Verona, Patrick, & Joiner, 2001). The quality of emotion regulation in antisocial psychopathic individuals has not yet been assessed. Study 2 therefore aimed to further define the associations between the subjective experience of negative emotions, emotion regulation mechanisms and psychopathy in criminal individuals by focusing on the relationship between negative emotions and the quality of emotion regulation in incarcerated juvenile offenders with psychopathic traits.



## Emotion regulation in incarcerated young offenders with psychopathic traits

Hanna Heinzen<sup>a\*</sup>, Denis Koehler<sup>b</sup>, Tom Smeets<sup>c</sup>, Tibor Hoffer<sup>d</sup> and Christian Huchzermeier<sup>a</sup>

<sup>a</sup>Zentrum für Integrative Psychiatrie und Psychotherapie, Niemannsweg, Kiel, Germany; <sup>b</sup>SRH Hochschule Heidelberg, Faculty of Social and Behavioral Science, Heidelberg, Germany; <sup>c</sup>Department of Clinical Psychological Science, Maastricht University, Maastricht, The Netherlands; <sup>d</sup>Hamburg University, Hamburg, Germany

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Core features of psychopathic personality in adults are shallow affectivity and generally low levels of emotional distress. Several studies suggest that these features are also in young people with psychopathic personality traits. The concept of emotion regulation refers to a person's ability to regulate negative emotions to reduce feelings of emotional distress. Since maladaptive emotion regulation has been associated with high levels of emotional distress it may be expected that individuals with psychopathic personality traits show particularly adaptive strategies for the regulation of negative emotionality. On the basis of these expectations, the current study investigated the relationship between psychopathic traits, self-reported degree of emotional problems, and emotion regulation strategies in 104 incarcerated young offenders. Psychopathic traits were not associated with emotional problems or with adaptive emotion-regulation but were positively related to maladaptive emotion regulation strategies. When scores for each psychopathy factor were investigated separately, significant disparities were found in emotional symptoms and emotion regulation.

**Keywords:** psychopathy; emotion regulation; juvenile offenders; negative emotionality; young offenders; antisocial behavior; forensic setting

### Introduction

#### *Psychopathy*

The psychopathic personality is characterized by interpersonal features such as a general poverty of affect and low levels of empathy on the one hand and characteristics such as impulsivity and antisocial behavior on the other. Although psychopathy does not necessarily include criminal behavior, research suggests a very close association (Hare, 1991b; Hart, Kropp, &

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\*Corresponding author. Email: h.heinzen@zip-kiel.de

Hare, 1988; Serin, 1991). The prevalence of psychopathy in the incarcerated population exhibits marked cross-cultural variations (Cooke, 1998). Recent studies suggest that the prevalence of psychopathic personality ranges from 15 to 30% in the North American prison population (Hare & Neumann, 2008). European prison samples have commonly shown considerably lower rates of psychopathic personality than samples in North America (Cooke & Michie, 1999; Sullivan & Kosson, 2006). Psychopathic personality traits have been found to be linked to various personality disorders (Hare, Hart, & Harpur, 1991; Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003). The two most frequently associated are antisocial (Hildebrand & Ruitter, 2004) and narcissistic personality disorder (Dolan & Fullham, 2004; Herpertz & Sass, 2000). Furthermore, psychopathic personality traits have been shown to be correlated with high incidence of substance abuse (Hildebrand & Ruitter, 2004), but rather less frequently with other Axis I disorders (Stalenheim & Knorrning, 1996).

The characteristics of psychopathy are usually not represented in an individual as a uniform construct but rather form a complex personality picture (Hicks, Markon, Patrick, Krueger, & Newman, 2004; Karpman, 1941b). It has therefore been proposed that the construct of psychopathy should be subdivided into more specific variants. It was suggested at an early stage that individuals should be described as 'primary' or 'secondary' psychopaths (Cleckley, 1941; Karpman, 1941a). These two forms of psychopathy were supposed to both include hostile antisociality and lack of empathy (Karpman, 1948). 'Primary psychopathy', however, would involve an affective deficit contributing to purposeful antisocial behavior aimed at gaining excitement and enhancing personal profit. Secondary psychopathy, by contrast, was thought to drive the individual to experience strong feelings of anxiety and hatred which, with insufficient impulse control, could lead to impulsive antisocial behavior (Karpman, 1941a). While this early work was based on clinical observations, Hare (2003) introduced an empirical perspective by proposing the two-factor model of psychopathy. The two-factor model of psychopathy according to Hare describes an interpersonal factor (Factor 1) a behavioral factor (Factor 2) of psychopathy and has gained support from numerous studies (Blackburn, 1975; Hare, 2003; Lykken, 1995; Porter, 1996). Aside from the supporting evidence for the two-fold distinction, however, doubts have been raised as to whether this solution is adequate to cover all the variation in psychopathic individuals. Considerations chiefly rely on methodological and definitional arguments against prior investigations (Cooke & Michie, 2001; Cooke, Michie, Hart, & Clark, 2004; Poythress & Skeem, 2006). Hervé, Ling, and Hare (2000) suggested four factors giving a better a framework for detecting psychopathy in the criminal population than the initial two factor solution. Cooke and Michie (2001) proposed a three-factor solution, derived from factor analysis of the pool of psychopathy features, including arrogant and



deceitful interpersonal style, deficient affective experience, and impulsive and irresponsible behavioral style.

A number of instruments have been developed that seek to assess psychopathic personality traits in a standardized way. These are usually based on the different concepts of factor structure. The most commonly used is the Psychopathy Checklist (Hare, 1991a) while other tools like the Psychopathic Personality Inventory (Lilienfeld, 1997) or the Self-Report Psychopathy Scale (Hare, 1985) have shown good reliability and validity. A new instrument has recently been proposed: The Comprehensive Assessment of Psychopathic Pathology (Cooke, Hart, Logan, & Michie, 2004) is currently being validated.

### *Psychopathy in young individuals*

The concept of psychopathy has been extended to young individuals attracting great interest in practice and research. Although manifestations of psychopathic personality traits in young individuals tend to be more heterogeneous and unstable than in adults (Frick & Marsee, 2006) significant similarities were found between the expression of psychopathic traits in adults and young individuals (Herpertz & Sass, 2000). Early indications may include conduct and behavior problems (Herpertz & Sass, 2000), low levels of anxiety (Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999), sensation seeking tendencies, and high risk behavior (Frick et al., 2003). A tendency to bully or harm others has also been identified (Frick, Bodin, & Barry, 2000; Frick & Marsee, 2006). Not surprisingly, early psychopathy has shown high comorbidity rates with Oppositional Defiant Disorder (ODD), Conduct Disorder (MacDonald & Iacono, 2006), and Antisocial Personality Disorder (APD). Although not all young individuals with these diagnoses develop psychopathy in later life, all adults meeting the diagnostic criteria for adult psychopathy have shown diagnostic indications for at least one of these diagnoses in early life (Burns, 2000).

Etiological research on psychopathy has primarily focused on genetic and environmental factors. Karpman (1941a) proposed that the differences between primary and secondary adult psychopathy might result from a primarily biological versus primarily environmentally determined deficit. Although this proposition is not specific it has gained some empirical support in more recent studies. For example, features like under-responsiveness to fear-inducing stimuli, indifference to punishment and lack of emotional distress, known as 'callous unemotional traits', have been detected in children at a very early age and have been proposed to be precedents of the interpersonal component of psychopathy. They seem to carry substantial predictive value for the development of adult psychopathy (Campbell, Porter, & Santor, 2004) and to be significantly determined by genetic influences (Larsson et al., 2007). In contrast, environmental factors

like antisocial family background, early physical abuse or a nonparental living situation tend to be connected with the development of antisocial psychopathic tendencies (Campbell et al., 2004).

In line with these findings it has been proposed that the characteristics of early psychopathy resemble the factorial structure of adult psychopathy and may therefore consist of the same components. Based on this, instruments have been developed that aim to assess psychopathic traits in young individuals such as the youth version of the Psychopathy Checklist (PCL:YV; Forth, Kosson, & Hare, 2003) or the Youth Psychopathic Traits Inventory (Andershed, Kerr, Stattin, & Levander, 2002). Like the adult version, the Psychopathy Checklist Youth Version assumes a two-factor structure of psychopathy while the Youth Psychopathic Traits Inventory (Andershed, Kerr, Stattin, 2002) assesses psychopathic personality traits in juveniles on the basis of a three-factor model of psychopathy (Cooke & Michie, 2001). Despite the heterogeneity of psychopathy in young people these instruments have been shown to possess high validity and acceptable to good reliability (Andershed et al., 2002; Forth et al., 2003).

### *Negative emotions and emotion regulation*

'Negative emotions' refer to the emotional distress that an individual experiences when feeling sad, angry or anxious (Hicks & Patrick, 2006). According to the definition this is usually the case when an individual's expectation does not match with the situation in the environment (Eisenberg, 2004). The ability to regulate negative emotions to reduce feelings of distress is called emotion regulation and reflects one of the most complex domains of human emotionality (Gross, 1998). Because of its complexity there is yet no consensus about the definition and circumscription of the concept. According to the literature, emotion regulation may be defined as involving elaborate processes with cognitive as well as physiological components which modulate long-lasting and complex affective states. This differentiates it from 'coping' – a more immediate mechanism applied to deal with short-term emotional consequences. For example Barrett and Gross (2001) consider emotion regulation to include all strategies that are directed at modifying a current emotional state and do not make any limitation with respect to the strategy itself.

It is often stressed that adequately and adaptively developed emotion regulation strategies in adults require detailed understanding and attribution of emotionality – both in oneself and in others – and of its effect on social interactions (Bradley, 2000). Whether the processes required for emotion regulation are usually activated automatically, or whether they primarily need conscious attention, has been the subject of controversy. Most recent suggestions assume the involvement of both conscious and unconscious

components (Eisenberg, 2004). Recent studies have therefore focused on the separate investigation of conscious and unconscious emotion regulation strategies, in the former case usually via self-report and in the latter case employing psychophysiological measures or implicit testing procedures (Barrett & Gross, 2001; Garnefski, Koopman, Kraaij, & ten Cate, 2009; Gross, 2002).

Emotion regulation strategies are developed by an individual throughout their lifetime, most critically during the early and late years of childhood (Bradley, 2000). They reflect interactions between prior experience and dispositional tendencies (Blair et al., 2006; Hare, 1999). A child's emotional response to the experience of negative emotions is initially a reflex and based directly on the current interaction with caregivers. In later life, however, sophistication of cognitive skills and developing Theory of Mind abilities enable the child to create internal representations of interactional rules and appropriate social behavior. Accordingly, strategies for emotion regulation start simple, primarily representing basic reactions of avoidance (e.g. looking away, covering eyes) and occur in situations of direct confrontation (Kopp, 1989). Later on, they develop to include more sophisticated internal (e.g. shift focus of attention, distracting thoughts) and external (e.g. verbal or physical expression) processes (Eisenberg, Guthrie et al., 2000).

Emotion regulation strategies have been conceptualized in various ways, e.g. according to their function, their source or their nature (Eisenberg, Fabes, Guthrie, & Reiser, 2000; Gross, 2002). A differentiated view of emotion regulation has been recommended (Gross, 2002) and a number of different conceptualizations have been found to be useful when investigating emotion regulation (Deimann, 1984). Views distinguishing internalizing and externalizing strategies (Eisenberg, Guthrie et al., 2000) and antecedent and response focused strategies (Gross, 2002), for example, have been assessed extensively (Gross, 2002). Emotion regulation strategies have also been classified according to their effectiveness in modifying a current aversive emotional state (Gross, 2002; Weber, 1994). This view categorizes strategies that are successful in reducing negative emotions as 'adaptive strategies' and those that are ineffective as 'maladaptive strategies'. This approach has been used in a number of studies and found to be valid in predicting e.g. subjective well-being, psychological maladjustment and behavioral deviancy (Eisenberg & Morris, 2002; Garnefski et al., 2009).

With reference to this categorization, a person's tendency to use maladaptive strategies to attempt to regulate negative emotions has been found to constitute a risk factor for eliciting negative responses from the environment. This can influence the quality of social interaction, which in turn has a negative impact on the child's well-being. Eisenberg and Morris (2002) found disruptive behavior tendencies to be negatively correlated with 'effortful control' and positively correlated with 'reactive control'. Being prone to impulsivity, constantly seeking for immediate reward and being

insensitive to punishment have consistently been associated with maladaptive emotion regulation and an increased likelihood of difficulties arising in early interaction situations (Eisenberg & Fabes, 1990; Koskelainen, Sourander, & Kaljonen, 2001; Kostiuk & Fouts, 2002).

Standardized methods of assessment of emotion regulation strategies usually include observation and recording of behavior, psychophysiological measures, self-report questionnaires, and interviews (Gross, 1998; Mauss & Robinson, 2009; Thayer, Newmann, & McClain, 1994). As mentioned above, a number of self-report questionnaires have been used to approach the conscious aspects of emotion regulation. These have been shown to be reliable and valid, mainly under consideration of several external correlates (Garnefski & Kraaij, 2007; Gross, 2002). Although no single measurement can take in all areas and processes involved in emotion regulation, it has been emphasized that self-report may be a more representative method of accessing emotion regulation than laboratory study because it refers to generalized natural situations (Garnefski et al., 2009; Garnefski & Kraaij, 2007; Gross, 2002). Also, it has recently been proposed that a direct measurement by self-report may provide a purer insight into the functionality of a person's emotion regulation in reducing negative emotions (Grob & Smolenski, 2005).

### *Emotion regulation and psychopathic personality traits*

The direct link between psychopathy features and the quality of emotion regulation has not yet been assessed. However, such a link may be inferred. Empirical studies have consistently indicated that impulsive and irresponsible personality features (Factor 2 according to the two-factor model, Factor 3 according to the three-factor model) are related to high levels of negative emotions (feelings of sadness, anger or anxiety) and maladaptive emotion regulation (Danziger, Faillenot, & Peyron, 2009). It has been suggested that this relationship may be explained by a heightened reactivity to negative emotional stimuli combined with a tendency to react in impulsive and maladaptive ways that seem ineffective in reducing negative feelings.

By contrast, grandiose and manipulative (Factor 1 of the two-factor model, Factor 1 of the three-factor model), and especially callous and unemotional, traits (Factor 1 of the two-factor model, Factor 2 of the three-factor model) have been shown to be related to low levels of negative emotions (feelings of sadness, anger or anxiety) (Hicks & Patrick, 2006). It seems that individuals with these personality traits are not fully able to process and integrate stimuli that provoke negative emotions (Cappadocia, Desrocher, Pepler, & Schroeder, 2009).

On the basis of these findings it might be expected that narcissistic and grandiose self-perception (Factor 1 of the two-factor model, Factor 1 of the

three-factor model) work as a mechanism guarding against high levels of negative emotions (Bradley, 2000; Hicks & Patrick, 2006) and therefore against maladaptive emotion regulation. Furthermore, it has been suggested that low affective processing as seen in individuals with callous, unemotional psychopathy features (Factor 1 of the two-factor model, Factor 2 of the three-factor model) not only leads to low levels of negative emotions (feelings of sadness, anger or anxiety) but is also associated with inadequate emotion regulation (Cappadocia et al., 2009).

### *The current study*

The current study sought to investigate the relationship between psychopathy, the level of negative emotions and the quality of emotion regulation strategies in individuals serving sentences at a young offenders' facility. Psychopathic personality traits were assessed with the Youth Psychopathic Traits Inventory (Andershed et al., 2002). This questionnaire is based on a three-factor model of psychopathy. Great empirical support has been found for the validity of this model in young and adult samples (Cooke & Michie, 2001). Therefore, the current analyses will be based on this psychopathy concept. Negative emotions and emotion regulation strategies were evaluated using self-report instruments.

On the basis of the findings mentioned above it was predicted that scores on the first psychopathy component (Factor 1; grandiosity, manipulation) and on the second component (Factor 2; callous, unemotional traits) would be negatively or at least not positively related to emotional problems and unrelated to the quality of emotion regulation. On the other hand, it was hypothesized that individuals with high scores for Factor 3 of the psychopathy construct (impulsivity, irresponsibility) would exhibit high levels of emotional problems and use maladaptive rather than adaptive strategies.

## **Method**

### *Participants*

One hundred and four male young offenders newly incarcerated in the juvenile division of Neumünster prison (Germany) were invited to take part in the present study. Offenders incarcerated in the juvenile department of German prisons are between 14 and 18 at the time of the offence, or 19–21 for those with significant developmental deficits. Where court proceedings are prolonged an offender in the juvenile division may be older than 21. On the basis of the legal and psychological classification the current sample was considered juveniles and adolescents. To test if these groups were significantly different one-way ANOVA was carried out to analyze putative differences in negative emotions, emotion regulation, and psychopathy

scores between three age groups (juveniles, adolescents, and young adults). No significant age differences were found. The mean age in the current sample was 18.46 (SD = 1.9) years. Participants were tested while serving their sentence. However, it was ensured that the assessment did not take place during their first few days at the young offender facility in order to avoid any bias resulting from the shock of the trial, sudden isolation or worries about the future (Kopp et al., 2011; Singleton & Meltzer, 2002).

### *Measurements*

#### *Strength and Difficulties Questionnaire, SDQ (German language version SDQ-Deu)*

The SDQ is a screening device for children and juveniles assessing emotional well-being and its effect on behavioral outcomes (Goodman, 1997). The self-report version of the test consists of 25 items referring to five subscales (emotional symptoms, conduct problems, hyperactivity, problems with peers, and prosocial behavior). The present study considered SDQ total scores and scores on the 'emotional symptoms' subscale (ESS). This subscale is thought to reflect the construct of negative emotions as described above (Goodman, 2001) and is therefore taken to represent this construct in the following sections. For further elucidation of results the conduct problems subscale scores were included in an additional correlational analysis.

#### *Youth Psychopathic Traits Inventory (YPI)*

The Youth Psychopathic Traits Inventory (Andershed et al., 2002) is a self-report instrument for the assessment of psychopathic traits in adolescents, which has gained considerable attention in recent years (Dolan & Rennie, 2003; Skeem & Cauffman, 2003). Its validity and reliability has been supported in a number of studies (Andershed et al., 2002). Andershed et al. (2002) and others (Cooke & Michie, 2001; Hall, Benning, & Patrick, 2004) found empirical support for their three factor model by using cluster analysis. They found three clusters, representing the three main dimensions of the YPI, to carry meaningful value. In the same study the three main factors all correlated highly with the total score. The YPI consists of 50 items that are rated on four-point Likert scales (ranging from 1 = fully disagree to 4 = fully agree). Items refer to three intercorrelated factors of psychopathy, namely grandiose, manipulative (Factor 1), callous, unemotional (Factor 2) and impulsive, and irresponsible (Factor 3) traits. The three factors can be subdivided into 10 scales, described as dishonest charm, grandiosity, lying, and manipulation (together forming Factor 1); callousness, unemotionality, and remorselessness (together forming Factor 2);

impulsivity, thrill-seeking, and irresponsibility (together forming Factor 3). The instrument is intended to assess psychopathic personality dimensionally, thereby avoiding the diagnostic assumptions implicit in a dichotomous categorization (psychopath/non-psychopath) in young individuals.

*Questionnaire for the assessment of emotion regulation in children and juveniles (Fragebogen zur Erfassung der Emotionsregulation bei Kindern und Jugendlichen, FEEL-KJ)*

The German questionnaire FEEL-KJ (Grob & Smolenski, 2005) was used to assess the functionality of emotion regulation strategies. This self-report instrument investigates the extent to which emotion-regulation strategies are applied successfully in reducing negative emotional affective states and increasing subjective well-being. The emotion regulation strategies in this questionnaire are exclusively conceptualized according to this characteristic – based on prior evidence showing their effectiveness in decreasing a negative emotional state (Grob & Smolenski, 2005; Gross, 2002). For this, the FEEL-KJ comprises 60 items referring to three emotional states (anxiety, sadness, and anger). Thirty items explore the use of seven emotion regulation strategies that have been shown to be functional, or adaptive, in regulating negative emotions (problem-oriented behavior, distraction, elevation of mood, acceptance, forgetting, and redefining cognitive problem-solving) and five strategies that have been shown to be non-functional, or maladaptive (giving up, aggressive behavior, withdrawal, self-derogation, and perseveration). Three other emotion regulation strategies (social support, expression, and emotional control) could not exclusively be directed to their function. Participants are asked to rate the frequency with which emotion regulation strategies are used to regulate the emotional state. All items are evaluated on four-point Likert scales (ranging from fully disagree to fully agree).

***Procedure***

The tests were embedded in the diagnostic process. The data were gathered anonymously. Participants were tested in small groups consisting of two to four individuals. The composition of the groups was random. It was stressed that participation was voluntary and that refusal would not result in adverse consequences during their stay in prison. None of the individuals who were invited to participate in the study refused participation. As sufficient reading skills and intellectual capacity are essential for obtaining reliable data, a minimum of 70 IQ points was taken as the cut-off value for inclusion in the assessment. Verbal intelligence scores were measured by means of the German *Mehrfachwahl-Wortschatz Intelligenztest* (Lehrl, 1999) which measures intelligence independently of age and education level. IQ scores

in the current sample ranged from 70 to 124 (mean = 85.9, SD = 7.7). All participants were fully debriefed afterward.

### *Statistical analyses and results*

#### *Sample description*

Seventy-four male young offenders who were imprisoned after conviction (mean length of sentence = 17.34 months, SD = 19.42 months) and 57 male young offenders on remand agreed to participate in the current study. Their mean age was 18.8 (SD = 1.87, range: 14–24) years. Nearly eighty percent (78.8%) of the participants were German and the remaining 21.2% were of other nationalities, mainly Turkish, Lebanese, and Albanian. Sixty-one percent of the offenders had no school leaving qualifications and none of the participants had attained the 'Abitur', the German university entrance qualification. The most common grounds for their arrest or conviction included robbery (around 20%), theft (24%), and violence against other people (around 20%).

Independent sample *t*-tests indicated that emotional symptoms and conduct problems were more common in the current sample than in a community sample of 12,000 children drawn from British Child Benefit Records (Meltzer, Gatward, Goodman, & Ford, 2000). The differences were highly significant on every scale ( $3.7 < t < 5.9$ ;  $p < .001$  for all). The three factors of the YPI were significantly intercorrelated (Factors 1 & 2:  $r = .43$ ; Factors 1 & 3:  $r = .38$ , Factors 3 & 2:  $r = .42$ ;  $p < .001$  for all). YPI scores ranged from 14 to 117 (mean = 61.0, SD = 20.2) for YPI total scores, from 1 to 47 for Factor 1 (mean = 17.1, SD = 10.7), from 1 to 36 for Factor 2 (mean = 17.36, SD = 6.8) and from 2 to 45 for Factor 3 (mean = 26.60, SD = 8.3).

#### *Correlational analyses*

To illuminate the relationship between each psychopathy factor of the YPI, the variables SDQ emotional symptoms (ESS), and emotion regulation, zero-order correlations were conducted between these variables and the three factors of the YPI. The results are shown in Table 1.

To gain further inside into this relationship a zero order correlation was also conducted for the YPI factors for each of the three FEEL emotions (anxiety, anger, and sadness) separately (Table 2).

#### *Regression*

To assess the predictive value of the YPI factors for the three dependent variables (emotional symptoms, maladaptive emotion regulation strategies,



Table 1. Zero order correlation between YPI factors, SDQ, and FEEL-KJ (N=104).

YPI	Emotional symptoms (SDQ)	Maladaptive emotion regulation (FEEL-KJ)	Adaptive emotion regulation (FEEL-KJ)	Conduct problems (SDQ)
Total	—	.35**	—	.62**
Factor 1	—	.27**	—	.53**
Factor 2	-.22*	—	—	.41**
Factor 3	—	.38**	—	.50**

Note: The YPI Factors measure: grandiosity/manipulation (Factor 1), callousness/unemotionality (Factor 2) and impulsivity/irresponsibility (Factor 3).

\*The correlation is significant at the .05 level.

\*\*The correlation is significant at the .01 level. (All tests two-tailed).

Table 2. Zero-order correlation between: YPI factors and FEEL separately (N=104).

YPI	Maladaptive anxiety	Maladaptive anger	Maladaptive sadness	Adaptive anxiety	Adaptive anger	Adaptive sadness
Total	.27**	.40**	—	—	—	—
Factor 1	.26**	.33**	—	—	—	—
Factor 2	—	.24**	—	—	—	—
Factor 3	.23*	.35**	.33**	—	—	—

Note: The YPI factors measure: grandiosity/manipulation (Factor 1), callousness/unemotionality (Factor 2) and impulsivity/irresponsibility (Factor 3).

\*The correlation is significant at the .05 level.

\*\*The correlation is significant at the .01 level. (All tests one-tailed).

and adaptive emotion regulation strategies) regression analyses were conducted. SDQ conduct problems were analyzed as fourth dependent variable. As mentioned above, the three YPI factors were significantly correlated. Therefore, hierarchical regression was applied to assess the unique contribution of each of the three factors on each dependent variable. For this, two factors of the YPI were regressed on the dependent variable (step 1). As a second step, the third YPI factor was added to the model (step 2). The results are presented in Table 3. The incremental variance attributable to the factor added in step 2, above that accounted for by the other two factors, is indicated by  $\Delta R^2$  in this table.

Adaptive emotion regulation strategies were not predicted with significance by any of the YPI factors. Results of this analysis were therefore not included in Table 3. In general, the explained variance indicated by  $R^2$  tended to be low. When looking at the isolated influence of the YPI factors (step 2) emotional symptoms were found to be (negatively)

Table 3. Hierarchical regression analyses: YPI factors, emotional symptoms, Maladaptive emotion regulation, and conduct problems.

Variable	Step	YPI factor	B	SD	Beta	Significance	
Symptoms	1	Factor 2	-.10	.03	-.31	.00	$R^2 = .09$
		Factor 3	.05	.03	.22	.04	
	2	Factor 1	.02	.02	.12	.29	$\Delta R^2 = .01$
		Factor 1	.01	.02	.01	.10	$R^2 = .01$
	2	Factor 3	.02	.03	.08	.45	
		Factor 2	-.11	.03	-.35	.00**	$\Delta R^2 = .09$
Maladaptive emotion regulation	1	Factor 1	.03	.02	.16	.13	$R^2 = .07$
		Factor 2	-.09	.03	-.29	.01	
	2	Factor 3	.05	.03	.19	.09	$\Delta R^2 = .03$
		Factor 2	-.06	.23	-.03	.79	$R^2 = .14$
	2	Factor 3	.73	.19	.39	.01	
		Factor 1	.26	.15	.18	.09	$\Delta R^2 = .03$
	1	Factor 1	.22	.14	.15	.13	$R^2 = .16$
		Factor 3	.60	.18	.32	.01	
	2	Factor 2	-.20	.24	-.09	.42	$\Delta R^2 = .01$
		Factor 1	.38	.15	.26	.01	$R^2 = .08$
	2	Factor 2	.05	.24	.02	.84	
		Factor 3	.65	.19	.35	.01**	$\Delta R^2 = .09$
Conduct problems	1	Factor 2	.07	.03	.24	.01	$R^2 = .30$
		Factor 3	.09	.02	.40	.01	
	2	Factor 1	.07	.02	.37	.01**	$\Delta R^2 = .10$
		Factor 1	.07	.02	.40	.01	$R^2 = .39$
	2	Factor 3	.08	.02	.34	.01	
		Factor 2	.04	.03	.12	.18	$\Delta R^2 = .01$
	1	Factor 1	.08	.02	.44	.01	$R^2 = .32$
		Factor 2	.06	.03	.22	.02	
	2	Factor 3	.07	.02	.31	.01**	$\Delta R^2 = .08$

Note: The YPI factors measure: grandiosity/manipulation (Factor 1), callous-ness/unemotionality (Factor 2) and impulsivity/irresponsibility (Factor 3). The row presenting 'Step 1' indicates the result for the regression model including two of the three YPI factors. The row named 'Step 2' shows results for the regression model after addition of the third YPI factor.  $\Delta R^2$  indicates the incremental validity of the YPI factor that was added in step 2.

\*The correlation is significant at the .05 level.

\*\*The correlation is significant at the .01 level. (All tests one-tailed).

significantly predicted only by Factor 2 (callous, unemotional), which resembles the results of the correlational analyses. Factor 1 (grandiose, manipulative) and Factor 3 (impulsive, irresponsible) were related to maladaptive emotion regulation in the correlation. In the regression analyses, only Factor 3 (impulsive, irresponsible) made a significant unique contribution to the regression model. Furthermore, the correlational relatedness of all three factors to conduct problems could be specified by regression analyses: only Factor 1 and 3 predicted incremental variance of conduct problems.

One-way analysis of variance (ANOVA)

To examine group differences within the factors of the YPI with respect to emotional symptoms and emotion regulation, a one-way ANOVA was carried out. Participants were divided into three equal sized groups – low, middle, and high scorers – according to their total scores on the YPI. The analyses were conducted for each factor of the YPI separately. The results are shown in Table 4. They revealed no significant differences for adaptive emotion-regulation. Furthermore, results indicated no significant group differences for emotional problems on factor level although differences were significant for total YPI scores. For maladaptive emotion-regulation the groups differed significantly in total YPI score and in their scores for Factors 1 (grandiose, manipulative) and 3 (impulsive, irresponsible) but not in their Factor 2 (callous, unemotional) scores.

Independent sample *t*-tests (Scheffé correction) were carried out for each factor of the YPI. This was intended to illuminate trend-significant relationships between the variables. The analyses indicated the following significant group differences. Maladaptive emotion regulation: YPI Factor 1 low-high scorer (mean difference = -10.89; *p* < .01) and moderate-high scorer (mean difference = -13.43; *p* < .01); YPI Factor 3 (impulsive, irresponsible) low-moderate scorer (mean difference = -9.62; *p* < .05) and low-high scorer (mean difference = -13.85; *p* < .01). The results of multiple comparisons are graphically displayed in Figures 1, 2, and 3.

**Discussion**

The present study sought to investigate the relationship between emotional symptoms, the quality of emotion regulation and psychopathic personality

Table 4. One-way ANOVA for the three YPI factors in three equal sized groups with low, moderate, and high scorers.

YPI		<i>F</i>	<i>P</i>
Factor 1	Maladaptive emotion regulation	7.71	.00**
	Emotional symptoms	.34	–
Factor 2	Maladaptive emotion regulation	2.12	–
	Emotional symptoms	2.06	–
Factor 3	Maladaptive emotion regulation	8.28	.00**
	Emotional symptoms	1.17	–
Total	Maladaptive emotion regulation	7.86	.00**
	Emotional symptoms	4.61	.01*

Note: The YPI factors measure: grandiosity/manipulation (Factor 1), callous-ness/unemotionality (Factor 2) and impulsivity/irresponsibility (Factor 3).

The Degrees of Freedom are 103 for each calculation.

\*The correlation is significant at the .05 level.

\*\*The correlation is significant at the .01 level. (All tests one-tailed).

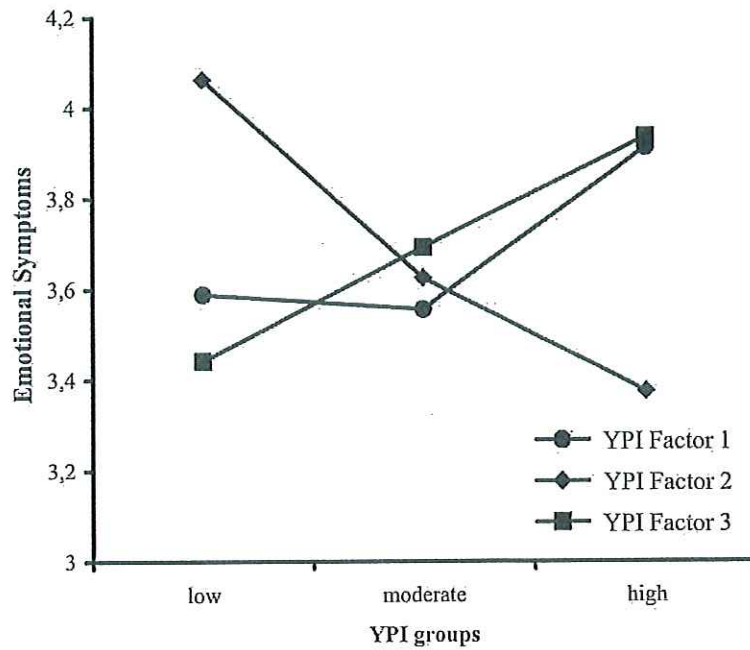


Figure 1. Multiple comparisons: emotional symptoms in the three YPI groups (low, moderate, and high YPI total scores) for each YPI factor.

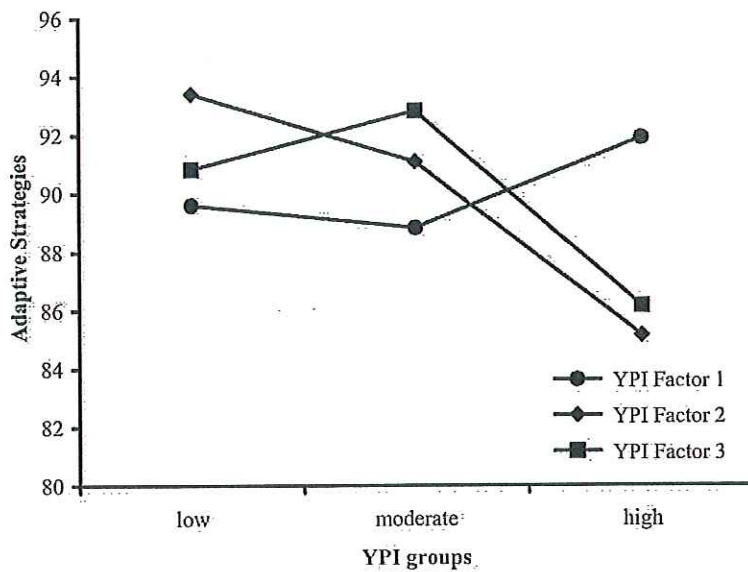


Figure 2. Multiple comparisons: adaptive emotion regulation strategies in the three YPI groups (low, moderate, and high YPI total scores) for each YPI factor.

traits. In part the results confirmed the hypotheses. However, the divergence of the results for each of the three YPI factors also highlighted the need for a differentiated view of psychopathy.

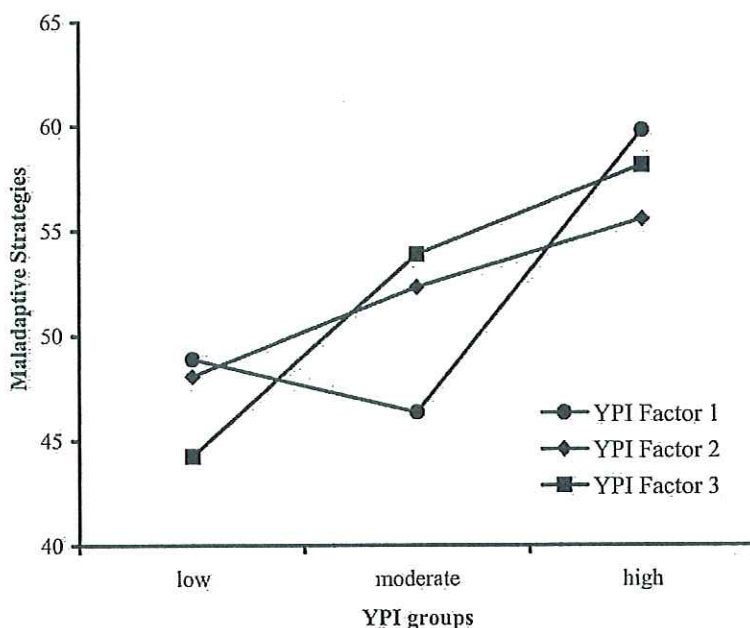


Figure 3. Multiple comparisons: maladaptive emotion regulation in the three YPI groups (low, moderate, and high YPI total scores) for each YPI factor.

### *Psychopathy and emotional symptoms*

Emotional symptoms are thought to reflect the subjective experience of negative emotions. High levels of emotional symptoms have been associated with a number of psychological disorders including conduct disorder (Eisenberg & Morris, 2002; Kopp, 1989). In the current sample, however, total psychopathy scores were highly positively correlated with conduct problems but generally unrelated to emotional symptoms. Hence, the prior empirically founded correlation between conduct problems and emotional symptoms does not seem to be generally true for individuals with psychopathic traits. Results for psychopathy and emotional symptoms could be specified when each of the three psychopathy factors was analyzed separately.

The first factor of the YPI describing grandiose and manipulative personality traits was not correlated with emotional symptoms but was correlated with SDQ conduct problems. However, group comparisons showed that individuals with high scores on this psychopathy factor tended to experience more emotional symptoms than low scorers. This was not in line with our predictions but may be explained by the tendency of grandiose individuals to feel easily insulted and mortified when criticized or questioned. This tendency, reported in the literature as being a characteristic of grandiose and narcissistic personalities, could in turn lead to the subjective experience of negative emotions. For example (Miller, Widiger, & Campbell, 2010) recently referred to 'grandiose and vulnerable variants'

(Miller et al., 2010, pp. 3–4) of these personality types. This may also result in a lower level of social functioning in this group, indicated by high levels of conduct problems.

In contrast, callous unemotional personality traits (Factor 2) seemed to be related to low emotional symptoms, which confirms the hypothesis and is in line with the literature. This factor of psychopathy has often been associated with affective detachment which in turn is associated with low self-reported general affect and emotional symptoms in particular (Blair, Colledge, Murray, & Mitchell, 2001; Herpertz & Sass, 2000; Sutton, Vitale, & Newman, 2002). This was especially prominent in earlier studies when the variance of the other two psychopathy factors was removed (Hall et al., 2004). It has been suggested that the low levels of emotional symptoms may result from inadequate processing and integration of stimuli provoking these negative affects (Cappadocia et al., 2009). The second factor was also not associated with conduct problems, although it is usually associated with severe and persistent antisocial behavior (Hall et al., 2004; Hildebrand, De Ruiter, & Nijman, 2004; Woodworth & Porter, 2002). This result could be due to the fact that the main features of conduct problems reflect impulsive and reactive behavior deviancy and irresponsible behavior which are covered mainly by the third factor of the YPI, whereas the second factor relates to planned and directed aspects of antisociality.

Impulsive and irresponsible personality traits (Factor 3) were significantly positively related to both emotional symptoms and conduct problems. This was found both in regression analysis and in the trends of mean comparisons and matches with the expectations for this factor which were based on prior empirical findings (Garnefski & Kraaij, 2007). This component of psychopathy has consistently been found to share a number of features of conduct disorder and has been associated with low social functioning, low adjustment and low self-reported well being, all of which have been found to be associated with emotional symptoms (Hall et al., 2004; Verona, Patrick, & Joiner, 2001; Vincent, Vitacco, Grisso, & Corrado, 2003).

### *Psychopathy and emotion regulation*

As another goal, the current study aimed to examine the effectiveness of the emotion regulating strategies in reducing negative emotions in individuals with psychopathic traits. The total psychopathy score was related to maladaptive emotion regulation and unrelated to adaptive regulation strategies. These results support other studies' findings of maladaptive emotion regulation in young individuals with conduct problems (Eisenberg, Fabes et al., 2000). However, as mentioned above, the total psychopathy score was not related to emotional symptoms but strongly related to the SDQ conduct problems score. Hence, the relationship between maladaptive

emotion regulation and emotional symptoms does not seem to hold for the population of psychopathic individuals. Again, it was possible to examine these results in more detail by applying the three-fold model of the YPI and assessing each factor independently of the other two.

Individuals with high Factor 1 scores (grandiose, manipulative) claimed to use both maladaptive and adaptive strategies to regulate negative emotional states. It had been hypothesized that this factor would be unrelated to emotion regulation strategies. However, since this factor correlated highly with conduct problems and showed a tendency for elevated emotional symptoms it is not surprising that emotion regulation in this group is often maladaptive. The finding that both adaptive and maladaptive regulation strategies are used is striking as, according to the manual of the FEEL-KJ, the two scales tend to be negatively correlated in normal populations (Grob & Smolenski, 2005). It could mean that regulation strategies work differently in individuals with the grandiose component of psychopathy and that maladaptive emotion regulation is not related to high levels of emotional well-being (D. Horowitz & A. Grob, personal communication, August 17, 2011). It may be suggested, for example, that to investigate emotion regulation in individuals with high Factor 1 scores emotion regulation strategies need to be conceptualized in a different way (e.g. as internalizing and externalizing strategies). It has been suggested that emotion regulation strategies function differently in certain psychopathologies (Kring & Sloan, 2010). This may be an important peculiarity of the manipulative, grandiose factor of psychopathy and may call the usefulness of this self report questionnaire for assessing emotion regulation strategies into question.

Callous, unemotional individuals (Factor 2) showed no tendency to use either of the emotion regulation strategies. Although the comparison of low and high scorers showed a tendency for the use of maladaptive rather than adaptive strategies for regulation this could not be confirmed in regression in terms of significance. This may be seen as supporting the reasons discussed above for the low occurrence of emotional symptoms and conduct problems in this group. Shallow affectivity, emotional detachment, and a tendency to behave in well-planned and goal directed ways are the core features of these individuals. They lead to a low self-reported level of negative emotion and mean that elaborate emotional regulation strategies may not be necessary. In earlier studies, such individuals have been found to show a severe lack of insight when asked to explicitly describe the relevance and impact of their affects and the quality of their regulation and are even known to misclassify the experience of negative emotionality (Hall et al., 2004). The combination between low emotional symptoms, low conduct problems, and no explicit tendency for emotion regulation is different from the correlations found in offenders in general (Eisenberg & Fabes, 1990; Eisenberg & Morris, 2002; Gross, 2002). As suggested above, the affective features of the psychopathic personality may be the ones that characterize the construct and distinguish it

from other profiles found among antisocial offenders (Aguilar, Sroufe, Egeland, & Carlson, 2000; Barry et al., 2000; Edens, Marcus, Lilienfeld, & Poythress, 2006; Poythress & Skeem, 2006).

In contrast, Factor 3 (impulsive, irresponsible) showed a pattern that most closely resembles previous findings for the quality of emotion regulation in antisocial individuals and confirmed the current hypotheses. It was found to significantly predict maladaptive, but not adaptive, regulation strategies and was strongly related to conduct problems. These results, and the finding of high emotional symptoms, are very much in line with the literature. Impulsive and irresponsible features (Factor 3) have consistently been associated with impulsive aggression and a lack of behavioral control (Porter & Woodworth, 2006). Both features may be considered to result from a failure of adaptive emotion regulation and the use of maladaptive strategies. These are not effective in altering the aversive emotional state and thus lead to a high level of emotional symptoms (Eisenberg et al., 2005; Grob & Smolenski, 2005). This relationship has been confirmed in a number of studies and has even been related to neurobiological findings (Cappadocia et al., 2009; Davidson, Putnam, & Larson, 2000).

Clearly, emotion regulation strategies are complex and include an enormous number of processes that may vary with emotional state. The correlates of each of the three emotions addressed by the FEEL KJ questionnaire – anger, sadness, and anxiety – were therefore examined. This analysis confirmed that the three psychopathy factors were not related to adaptive emotion regulation for all three emotions. However, maladaptive emotion regulation in angry states was related to all three factors of psychopathy. It seems obvious that, in a sample of violent offenders, anger may be the most prominent and well-known feeling that is regulated with low functionality. This applies for individuals with and without psychopathic personality traits. Numerous studies have found that offender samples show severe deficits in affective naming and attribution of all basic emotions except the one of anger (Blair et al., 2001; Davidson et al., 2000). It has even been suggested that, due to a neural dysfunction, maladaptive emotion regulation in angry states may even constitute a ‘possible prelude to violence’ (Davidson et al., 2000, p. Title). Grandiose, manipulative (Factor 1), and impulsive, irresponsible (Factor 3) characteristics were also related to maladaptive emotion regulation in anxious states, but callous, unemotional (Factor 2) characteristics were not. Factor 3 (impulsive/irresponsible) was the only factor that was consistently and highly significantly associated with maladaptive regulation of all three emotions. These results are in line with the finding that especially psychopathic individuals with characteristics of callous unemotional psychopathic individuals (Factor 2) show impaired performance in detection, naming, and attribution of stimuli provoking sadness and anxiety but not those provoking anger (Blair et al., 2001;



Blair et al., 2002). The fact that regulating strategies did not seem to be used in states of sadness and anxiety may point to a special deficit in these affects.

### **General discussion**

Our results indicate that the three psychopathy factors addressed by the YPI differ in important ways in their relationships with negative emotions and emotion regulation study. They thus uphold the view that psychopathy should be investigated according to its sub-constructs and demonstrate the external validity of the three-factor model of psychopathy. Since the current study investigated a sample of young offenders it is especially striking that substantial differences were so prominent at this early stage of life. The findings for individuals with grandiose, manipulative psychopathy traits (Factor 1) indicated a tendency for negative emotions, a significantly high incidence of conduct problems but no relationship with maladaptive emotion regulation. It remains to be discussed if this may reflect the influence of manipulation tendencies. Besides this consideration it should be taken into account that the constitution of grandiose, manipulative psychopathic individuals is the least investigated one within the construct of psychopathy and that close examinations are few. Therefore, it may be hypothesized that these individuals exhibit a particular pattern of emotional processing that has an explicit influence on subjective well-being and the regulation of negative emotions. Callous, unemotional psychopathy features (Factor 2) correlated with low negative emotions, low conduct problems, and no tendency for maladaptive emotion regulation. These results crucially differ from earlier results from the general antisocial population and point to an important distinction between emotionality and its regulation in antisocial individuals and callous, unemotional ones. The low occurrence of conduct problems in this group should be further discussed. The results for impulsive, irresponsible traits (Factor 3), defined by a tendency for high negative emotions, high conduct problems and maladaptive emotion regulation, come closest to the characteristics of the description of the general population of antisocial individuals (Eisenberg & Morris, 2002). This is in line with previous findings and implies the relevance of a clear distinction between these traits of psychopathy and common antisociality (Cooke & Michie, 2001).

### **Limitations and future implications**

The following general remarks have to be considered when discussing the current results. With reference to the entire sample the implementation of the FEEL-KJ revealed that these young men stated not to be familiar with the emotional states in question, or with the idea of regulating them. The associations that came up during the assessment were sometimes plain and

their descriptions tended to lack affective words. This has been described as one primary feature of psychopathic individuals (Cleckley, 1988), but was not restricted to these individuals in the current sample. This may have influenced the current analysis. Future investigations should therefore focus on customizing the assessment of emotion regulation to the special challenges of the incarcerated population. It would also be interesting to test differences between the group of offenders and clinically depressed or anxious people to gain a deeper insight into the processes of emotion regulation in different groups.

Methodological limitations of the study concern the assessment of negative emotions, psychopathy, and emotion regulation by self-report, which always carries several risks. Firstly, assessing emotion regulation via self-report implies that only conscious (or cognitive) components of emotion regulation are being accessed. This means that all conclusions from these results can only refer to the conscious components of emotion regulation. It has been emphasized that emotion regulation is highly complex and includes many levels and multiple processes (4). Self report is therefore a useful method for accessing the cognitive component but cannot give a complete picture of emotion regulation. To make the assessment more coherent, future research should therefore include external or behavioral measures of emotion regulation. Secondly, the FEEL-KJ's focus on adaptive and maladaptive emotion regulation strategies represents just one of many ways in which emotion regulation can be assessed. A number of other conceptualizations have also been proposed (Gross, 1998, 2002). Their suitability for assessing emotion regulation and yielding differentiated results needs to be considered with regard to psychopathy.

Under consideration of these limitations the current findings may have important implications for the development of prevention and intervention methods. It has been stated that around 75% of all psychological disorders are associated with dysfunctions in emotions or emotion regulation (Kring & Sloan, 2010). This also seems apply for psychopathy. The details of these dysfunctions may vary depending on the disorder, or – as in the current study – may even vary between the manifestations of one disorder. Therefore, the relevance of affective experience and the improvement of emotion regulation skills should generally be considered a crucial part of therapeutic interventions (Kring & Sloan, 2010) and should be tailored to the peculiarities of each specific manifestation. With reference to young incarcerated individuals it should be kept in mind that maladaptive emotion regulation is thought to contribute to the development of violent and aggressive behavior (Hall et al., 2004). It should also be remembered that subjective well-being has been shown to be helpful in preventing recidivism (Weiner & Goldstein, 2003) and that emotional detachment has been consistently associated with re-offending (Patrick & Zempolich, 1998). It is therefore recommended that intramural treatment programs, especially

those targeting offenders with psychopathic personality traits, include tailored training in affectivity and emotion regulation.

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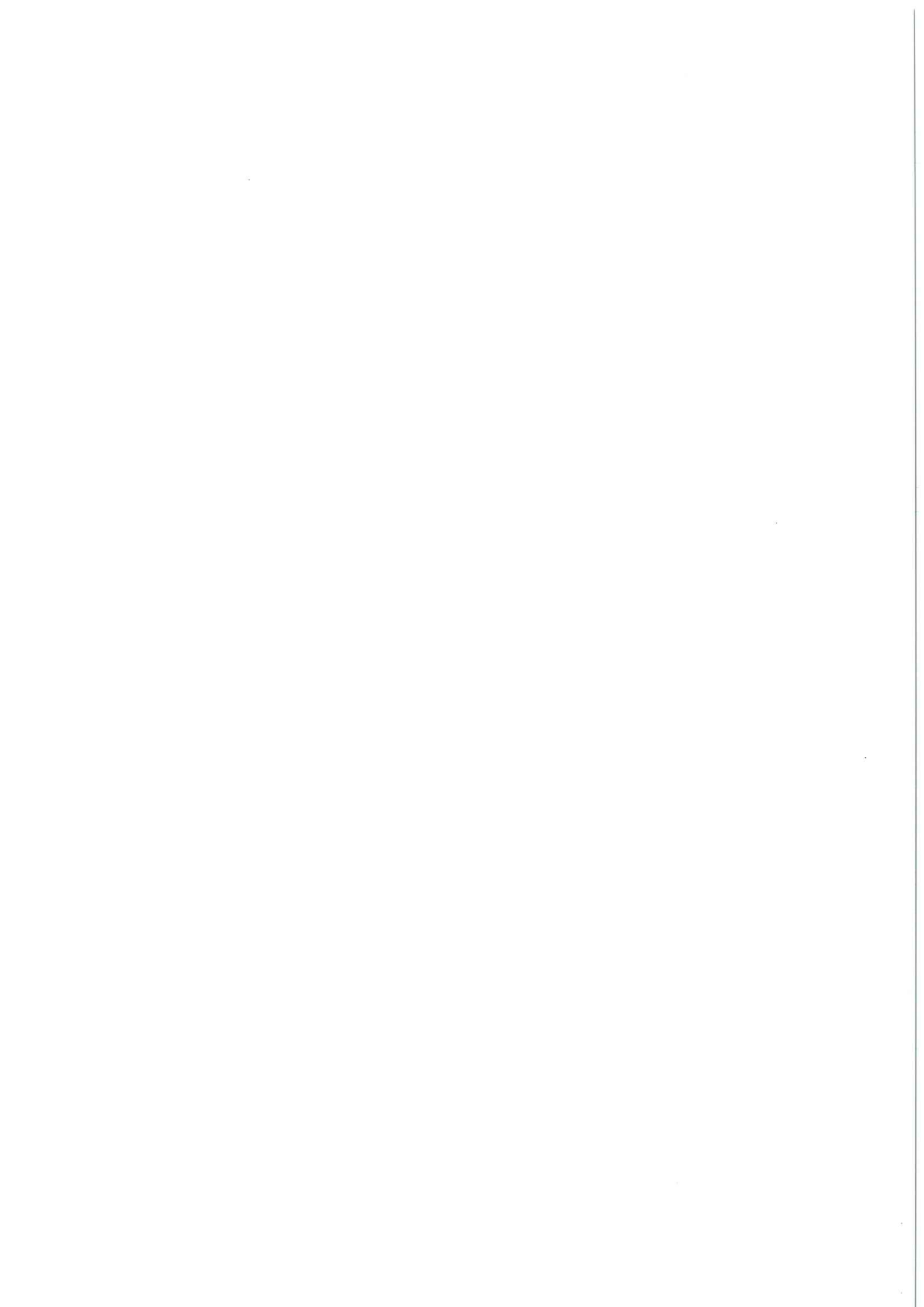
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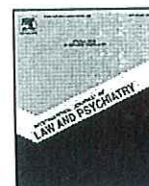




### 2.3 Study 3: Psychopathy, Intelligence and Offence History

Another factor that has been found to be consistently associated with antisocial and criminal behavior is low cognitive functioning, specifically low intelligence scores. Low intelligence has suggested as presenting a high risk, not only correlating with the occurrence of antisociality but also with a higher frequency of these behavior deviancies (Rushton & Templer, 2009; Salekin et al., 2004). Psychopathy has long been associated with high intelligence scores and increased cognitive functioning in early clinical reports (Cleckley, 1941; Hare, 1991). Therefore, it has often been considered striking that psychopathy is associated with persistent and highly frequent antisocial and criminal behavior (Cornell et al., 1996; Skeem et al., 2003), especially since criminal psychopathic individuals tend to show higher tendencies for problematic and disruptive behavior even after incarceration when compared to non-psychopathic offenders (Hildebrand et al., 2004). More recent research on psychopathy has suggested that this may be explained by the fact that the link between psychopathy and high intelligence scores cannot be confirmed empirically. It has been shown that psychopathic traits tend to be related to impairments in several domains of cognitive functioning, and intelligence measures could not consistently confirm higher scores for all psychopathic individuals (Fisher & Blair, 1998; Kiehl, 2006). A number of studies have been conducted to shed further light on the relationship between psychopathy, intelligence and crime, but the results still tend to be inconclusive (Forth, Hart, & Hare, 1990; Harpur, Hare, & Hakistan, 1989; Vitacco, 2005; Vitacco, Michael, Neumann, & Wodushek, 2008; Walsh et al., 2004). Study 3 in the present series therefore focused on the assessment of intelligence in antisocial psychopathic individuals and included an assessment of offence history to look at the implications for the occurrence of antisocial behavior in a sample of incarcerated violent offenders.





## Psychopathy, intelligence and conviction history

Hanna Heinzen <sup>a,\*</sup>, Denis Köhler <sup>b</sup>, Nils Godt <sup>a</sup>, Friedemann Geiger <sup>c</sup>, Christian Huchzermeier <sup>a</sup>

<sup>a</sup> Zentrum für Integrative Psychiatrie und Psychotherapie, Niemmannsweg 147, 24105 Kiel, Germany

<sup>b</sup> SRH Hochschule Heidelberg, Fakultät für Sozial- und Verhaltenswissenschaften, Ludwig-Guttman Str. 6, 69123 Heidelberg, Germany

<sup>c</sup> University Medical Center Schleswig-Holstein, Department of Pediatrics, Kiel, Germany

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### ABSTRACT

The current study examined the relationship between psychopathy, intelligence and two variables describing the conviction history (length of conviction and number of prior convictions). It was hypothesized that psychopathy factors (interpersonal and antisocial factors assuming a 2-factor model or interpersonal, affective, lifestyle and antisocial factors assuming a 4-factor model) would be related in different ways to IQ scores, length of conviction and number of prior convictions. Psychopathy and IQ were assessed using the PCL:SV and the CFT 20-R respectively. Results indicated no association between interpersonal psychopathy features (Factor 1, two-factor model), IQ and the number of prior convictions but a positive association between Factor 1 and the length of conviction. Antisocial features (Factor 2, two-factor model) were negatively related to IQ and the length of conviction and positively related to the number of prior convictions. Results were further differentiated for the four-factor model of psychopathy. The relationship between IQ and psychopathy features was further assessed by statistically isolating the effects of the two factors of psychopathy. It was found that individuals scoring high on interpersonal features of psychopathy are more intelligent than those scoring high on antisocial features, but less intelligent than those scoring low on both psychopathy features. The results underpin the importance of allocating psychopathic individuals to subgroups on the basis of personality characteristics and criminological features. These subgroups may identify different types of offenders and may be highly valuable for defining treatment needs and risk of future violence.

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## 1. Introduction

### 1.1. Psychopathy and Crime Features

Although psychopathic individuals are not necessarily criminal, they are at greater risk for behavioral deviancies (Vitacco, Michael, Neumann, & Woduschek, 2008). The nature of these deviancies seems to depend specifically on the way the psychopathic personality traits are expressed in the individual. For example, interpersonal features of psychopathy—superficial charm and manipulation, lack of empathy and callousness (Cleckley, 1941; Hervé, Ling, & Hare, 2000)—have often been found to be associated with planned and instrumental violence with severe consequences (Blair, Mitchell, & Blair, 2008). Psychopathic individuals seem to use manipulative skills and well-established superficial charm to fulfill their goals and desires (Toole, Smith, & Hare, 2008).

According to the two-factor model of psychopathy (Hare, 1991; Harpur, Hare, & Hakistan, 1989) the phenomena of psychopathy are based upon interpersonal and affective features (Factor 1) and behavioral features (Factor 2). This division was later further refined to give

a better fit, resulting in the four-factor model (Hare, 2003) made up of interpersonal, affective, lifestyle and antisocial factors (Factors 1, 2, 3 and 4 respectively). Because of the well-planned character of their offences the likelihood of arrest and conviction seems to be low in individuals in whom the first factor of psychopathy is strongly expressed (Lilienfeld, Purcell, & Jones-Alexander, 1997; Porter & Porter, 2007). However, manifestations of psychopathy involving impulsive behavior, antisociality and lack of behavioral control, the second factor according to Hare (1991), have been found to be related to reactive and impulsive violence and to high rates of recidivism and incarceration (Cornell et al., 1996; Huchzermeier et al., 2006; Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003). In accordance with these findings, prisoners manifesting impulsive and antisocial behavior seem to significantly outnumber those with interpersonal features of psychopathy in inmate populations (Köhler, Heinzen, Hinrichs, & Huchzermeier, 2009; Lilienfeld et al., 1997; Scholz & Schmidt, 2003). The high prevalence of impulsive features may be ascribed to the association with behavioral deviancies and to the high risk of being caught (Köhler et al., 2009; Scholz & Schmidt, 2003).

### 1.2. Psychopathy and intelligence

Criminal behavior has been shown to be inversely related to intelligence (Rushton & Templer, 2009; Walsh, Swogger, & Kosson, 2004).

\* Corresponding author.

E-mail addresses: h.heinzen@zip-kiel.de (H. Heinzen), denis.koehler@fh-heidelberg.de (D. Köhler), n.godt@zip-kiel.de (N. Godt), f.geiger@uk-sh.de (F. Geiger), c.huchzermeier@zip-kiel.de (C. Huchzermeier).

This association seems to be highly robust and holds across age, gender and ethnicity (Rushton & Templer, 2009). In particular, more detailed consideration of these results indicates that this relationship holds true for offences resulting from impulsive and reactive behavior but not for highly-planned instrumental offences (Salekin, Neumann, Leistico, & Zalot, 2004; Vitacco et al., 2008). It has therefore been suggested that 'intellectual deficits may be primarily related to impulsivity and not antisocial behavior per se' (Vitacco et al., 2008). In line with these findings and in accordance with clinical descriptions of psychopathic personality (Cleckley, 1941; Fowler, Lilienfeld, & Patrick, 2009) individuals with interpersonal psychopathic features should possess high levels of intellectual ability that enable them to thoroughly plan their actions and be especially skilled in engaging in manipulative social interactions. Individuals with behavioral psychopathic personality features, however, should possess characteristics resembling those of prototypical antisocial delinquents who tend to have low intelligence scores and offend impulsively in a non-planned manner. Despite the theoretical consistency of these assumptions examinations of the relationship between psychopathic personality traits and intelligence in incarcerated offenders have so far delivered mixed and sometimes even controversial results: dividing psychopathic personality traits into two factors Harpur et al. (1989) found no significant correlations between the presence of Factor 1 traits and IQ and only a weak negative correlation between the presence of Factor 2 traits and intelligence scores. Forth, Hart, and Hare (1990) did not find any significant relationship between the variables in a later investigation. However Salekin et al. (2004) reported a positive association between interpersonal features of psychopathy and IQ and a negative association between behavioral features of psychopathy and IQ. Studies that assumed a four-factor model to underlie the construct of psychopathy (interpersonal, affective, lifestyle, antisocial features; (Hare, 2003) claimed to deliver more specific results by investigating the construct more closely. Vitacco, Neumann, and Jackson (2005) found positive correlations between IQ and the interpersonal and affective factors and negative correlations between IQ and the lifestyle and antisocial factors. These results were replicated by Neumann and Hare (2007). Further studies hypothesized that the relationship between intelligence and psychopathy might be more complex than a straightforward correlation and tested interaction effects between intelligence and psychopathy. The results, however, were mixed (Walsh et al., 2004). All these studies used incarcerated samples. It has been suggested that the large amount of common variance between the two factors significantly influences the statistical analysis of the relationship between psychopathy and intelligence and that the predictive value of one factor therefore needs to be isolated from that of the other (Andershed, Kerr, & Stattin, 2002).

## 2. The current study

The current study sought to shed further light on the relationship between psychopathic personality traits, intelligence and two parameters of conviction history: the length of conviction and the number of prior convictions. It was assumed that the inconclusiveness of results from previous studies of psychopathic personality traits and intelligence resulted primarily from the specific properties of the incarcerated population where psychopathy features are assumed to be less stereotypical than in the community. In addition, it was thought that the common variance within the factors of psychopathy and the greater prevalence of impulsive and antisocial than of interpersonal features of psychopathy in criminal populations could have influenced statistical calculations. As a result it would be difficult to consider interpersonal aspects of psychopathy in isolation in incarcerated samples. The present study therefore set out to further investigate the occurrence of psychopathic traits in the incarcerated population. This was done by assessing the relationship between psychopathic personality traits and intelligence while statistically

isolating the effect of each factor of the two-factor model of psychopathy. The following predictions were tested.

### 2.1. Psychopathy and Length of Conviction (LoC) and Number of Convictions (Wörmer et al.)

- High scores for the behavioral factor of psychopathy (Factor 2) were expected to be associated with short LoC and high NoC. Impulsivity and antisocial behavior have generally been associated with spontaneous and reactive offending and hence with more frequent but shorter incarceration periods (Cornell et al., 1996).
- High scores for psychopathy Factor 1 (interpersonal) were expected to be associated with low NoC and long LoC because this group would tend to commit well-planned serious offences.

### 2.2. Psychopathy and IQ

- It was expected that individuals exhibiting a high incidence of behavioral psychopathic features (Factor 2) would have lower intelligence scores than all other participants and that this would hold irrespective of their scores on the first factors. The inability to control impulses and the manifestation of dysfunctional behavior strategies has consistently been associated with low IQ scores (Cleckley, 1941; Harpur et al., 1989) and was expected not to be influenced by scores on the first factor.
- It was expected that individuals with low psychopathy scores on both factors would exhibit higher intelligence scores than participants with high scores on either of the two factors. Inmates with high psychopathy scores have always been considered a more problematic subgroup of incarcerated offenders than their non-psychopathic counterparts (Moffitt, 1993). It was assumed that this would also be reflected in intelligence scores with non-psychopathic offenders achieving higher IQ scores than psychopathic individuals.
- Individuals with high scores on the interpersonal factor (Factor 1) but low scores on the behavioral factor (Factor 2) of psychopathy were expected to be more intelligent than those with high scores on the behavioral factor (Factor 2). On the other hand, these individuals were expected to be less intelligent than non-psychopathic individuals. It was supposed that incarcerated individuals achieving high scores for the interpersonal aspects of psychopathy would not conform to the prototype of the 'successful psychopath' of above-average intelligence but would still constitute a specific subgroup of the prison population and would achieve higher IQ scores than those with high Factor 2 scores, probably using their social skills mainly for manipulation and deception

## 3. Methods

### 3.1. Participants

313 violent male offenders in a prison in Northern Germany participated in the current study. Participants were recruited from among those offenders who were assigned to undergo intramural psychotherapy. According to the standard procedure in place this includes all offenders who have been imprisoned for one or more violent offences. Tests were carried out during the diagnostic procedure preceding the actual treatment. The men were informed about the anonymous use of the data for research purposes and gave their written consent. 75.7% of the men were German and had German as their mother tongue. The men were aged between 19 and 59 (mean = 28.6; SD = 6.7) years and had been convicted for violent offences. 24% had no school leaving qualification. 73.8% of participants met criteria for at least one personality disorder. The three most prominent personality disorders were Antisocial (55%), Borderline (26.8%) and Narcissistic (20.9%). The average length of the

sentence being served was 35.2 (minimum=5, maximum=132, SD=21) months. All men invited to participate were advised that participation would be voluntary. None of them refused to participate. The study was approved by the university's ethics committee.

### 3.2. Procedure

Participants were tested at various points during their sentence, but never during the first days after referral. Information about length of conviction and number of convictions was taken from the official records. The intelligence measure was obtained during one single session that took place in the therapeutic area of the prison. The prisoners' therapists provided ratings of psychopathic personality traits. Three different therapists were involved. All three had undergone special training on the assessment of psychopathy.

### 3.3. Measures

#### 3.3.1. Psychopathy

Psychopathic traits were measured using the Psychopathy Checklist: Screening Version (Hart, David, & Hare, 1995) which is derived from the Psychopathy Checklist (Hare, 2003). The PCL:SV consists of 12 items rated by an external rater from evaluation of file records and a semi-structured interview. Total scores range from 0 to 12 and can be summed to reflect two factors (interpersonal and behavioral) or four factors (interpersonal, affective, antisocial, lifestyle). Each item is rated on a three-point Likert scale (0 = not present, 1 = possibly present, 2 = definitely present). In the current study PCL:SV scores were rated by three different raters. The scores were found to be highly reliable, both between raters (Cronbach's  $\alpha = .81$ ) and within raters (Rater 1: Cronbach's  $\alpha$  between .75 and .84). *Intelligence*: Intelligence scores were obtained using the Culture Fair Test-Revised (CFT 20-R; (Weiss & Weiss, 2006). The test emphasizes the fluid component of intelligence according to Cattell (1963). Fluid intelligence is thought to reflect a person's actual intellectual capacity, which is innate rather than learned, and is therefore not affected by environmental influences (Cattell, 1963). The test thus seeks to exclude biases resulting from differences in education, language, culture and socialization (Weiss & Weiss, 2006). The test consists of four subtests (series, classifications, matrices and conditions), which are combined to give one total IQ score. *Number of prior convictions*: The number of prior convictions was taken from each individual's records and included all prior offences that had resulted in legal consequences. *Length of conviction*: The length of conviction referred to the sentence being served for the current offence and was taken from legal records. It was assumed that longer convictions indicated more severe offences. In the German legal system violent offences are evaluated according to their severity and convictions are supposed to be set accordingly (Glaser, 1983).

## 4. Statistical analysis and results

All analyses were performed using SPSS 17 for Windows.

### 4.1. Descriptives

In both the two-factor and four-factor applications of the PCL:SV all factors were significantly intercorrelated (Factors 1 and 3  $r = .33$ ;  $P < 0.01$ ; Factors 1 and 2  $r = .43$ ;  $P < 0.01$ ; Factors 2 and 3  $r = .30$ ;  $P < 0.01$ ; Factors 3 and 4  $r = .52$ ,  $P < 0.01$ ). PCL:SV total scores in the current sample ranged between 0 and 23 (mean = 13.1, SD = 4.8). Scores on both factors of the two-factor solution (interpersonal and behavioral) were distributed between 0 and 12 (PCL:SV Factor 1: mean = 5.8; SD = 3.1; PCL:SV Factor 2: mean = 7.3; SD = 2.9). Scores on the four factors ranged from 0 to 6 (PCL:SV Factor 1: mean = 2.4,

SD = 1.8; PCL:SV Factor 2: mean = 3.4, SD = 1.8; PCL:SV Factor 3: mean = 3.6, SD = 1.6; PCL:SV Factor 4: mean = 3.7, SD = 1.8).

Total IQ scores in the current sample ranged from 71 to 139 (mean = 101; SD = 13.8). The minimum number of prior convictions was 0 and the maximum was 25 (mean = 7.5, SD = 5.6). The average length of conviction was 35.2 months (minimum = 5, maximum = 132, SD = 21).

### 4.2. Correlational analysis

To assess the relationship between psychopathy, intelligence, the number of prior convictions and the length of conviction partial correlations were calculated. Partial correlations take into account one factor while controlling for the influence of the other. This was done to control for the common variance between factors when assessing the relationship between the respective variables. Results are presented in Table 1 separately for the two-factor and four-factor applications of the PCL:SV. IQ scores were not related to Factor 1 of the two-factor application nor to Factors 1 and 2 of the four-factor application, but were significantly negatively correlated with Factor 2 of the two-factor application and with Factors 3 and 4 of the four-factor application. Using a two-factor model, psychopathy was related to conviction history in the predicted direction. The four-factor application made it possible to examine these results in more detail.

With reference to prior findings of high incidence of impulsive and antisocial features in a prison population (Lilienfeld et al., 1997) it was expected that high scores on Factor 1 of psychopathy (interpersonal) would be associated with high scores on Factor 2 (behavioral) in the current sample and thus confound correlational results. To look exclusively at the effect of Factor 1 in comparison to Factor 2 participants were separated according to their PCL:SV scores for Factors 1 and 2 into low and high scoring groups (below and above the median respectively, Factor 1: Median = 6, Factor 2: Median = 7). This produced four groups reflecting the extent to which each of the two psychopathic traits was expressed: the 'non-psychopathy' group (Factor 1 and Factor 2 low), the 'interpersonal group' (Factor 1 high, Factor 2 low), the 'antisocial group' (Factor 1 low and Factor 2 high) and the 'psychopathy group' (Factor 1 high and Factor 2 high). Descriptions of the four groups are given in Table 2.

### 4.3. ANOVA and contrast analyses

A one-way between-subjects ANOVA was conducted to compare the IQ scores of the four groups (non-psychopathic, interpersonal,

**Table 1**  
Partial correlations between PCL:SV scores (two- and four-factor models of psychopathy), CFT-20 IQ Score, LoC and NoC ( $N = 313$ ). Two-tailed significance.

Control variables	PCL:SV	CFT-20 IQ Score	LoC	NoC
Behavioral (Factor 2)	Interpersonal (Factor 1)	n.s.	.16**	n.s.
Interpersonal (Factor 1)	Behavioral (Factor 2)	-.22**	-.13*	.40**
Affective, lifestyle and antisocial (Factors 2, 3 and 4)	Interpersonal (Factor 1)	n.s.	.19**	n.s.
Interpersonal, lifestyle and antisocial (Factors 1, 3 and 4)	Affective (Factor 2)	n.s.	n.s.	n.s.
Interpersonal, affective and antisocial (Factors 1, 2 and 4)	Lifestyle (Factor 3)	-.18**	-.12*	n.s.
Interpersonal, affective and lifestyle (Factors 1, 2 and 3)	Antisocial (Factor 4)	n.s.	n.s.	.39**

Note. LoC=length of conviction in months. NoC=number of prior convictions from criminal record.

\*  $P < 0.05$ .

\*\*  $P < 0.01$ .

antisocial, psychopathic). Results indicated a significant effect (see Table 3).

To test the hypothesis we sought specifically to compare the intelligence scores of individuals who scored highly on the interpersonal factor of psychopathy to those of individuals scoring highly on the behavioral factor. Contrast tests were conducted to compare mean IQ scores between the four psychopathy groups. Because the current hypothesis was directed, contrast analysis was tested one-tailed. Results indicated a main effect for Factor 2 of the PCL:SV ('antisocial' and 'psychopathy' group mean IQ = 99.9, SD = 14.1; 'interpersonal' and 'non-psychopathy' group mean IQ = 104.6, SD = 12.9, mean difference:  $P < 0.01$ ). Furthermore, it was found that individuals in the 'non-psychopathy' group generally obtained higher IQ results than those who scored highly on either of the two psychopathy factors ('interpersonal', 'antisocial' and 'psychopathy' group mean IQ = 99.9, SD = 14.1; non-psychopathy group mean IQ = 104.6, SD = 12.9; mean difference:  $P < 0.01$ ). Finally, contrast analyses indicated that IQ in the 'interpersonal' group was non-significantly lower than in the 'non-psychopathy' group ('interpersonal' group mean IQ = 102.7, SD = 14.1; 'non-psychopathy' group mean IQ = 104.6, SD = 12.9; mean difference:  $P = 0.21$ ) but significantly higher than in the two groups that contained antisocial high scorers ('interpersonal' group mean IQ = 102.7, SD = 14.1; 'antisocial' and 'psychopathy' group mean IQ = 98.9, SD = 14.0,  $P < 0.05$ ).

## 5. Discussion

The current study investigated the relationship between psychopathic personality traits, intelligence and the offender-related variables length of conviction (LoC) and number of prior convictions (Wörner et al., 2004).

### 5.1. Psychopathy and intelligence

In line with the hypothesis and prior findings (Cleckley, 1941; Fowler et al., 2009), behavioral features of psychopathy (Factor 2) were associated with low IQ. This was primarily true for the lifestyle factor of the four-factor model, which comprises the concept of impulsivity and stimulation seeking (Hare, 2003). This provides support for the view (Cornell et al., 1996; Skeem et al., 2003; Vitacco et al., 2008) that the association between antisocial behavior and intelligence is due primarily to impulsivity and poor behavioral control rather than to antisociality in general.

Interpersonal features of psychopathy (Factor 1) and IQ scores, however, showed no correlational association. While it contrasts with Cleckley's assumption (Cleckley, 1941) that psychopathic individuals possess above-average intelligence, this lack of association replicated a number of earlier results (Harpur et al., 1989; Salekin et al., 2004; Vitacco, 2005). When the participants were grouped

**Table 2**  
IQ, LoC and NoC for the four psychopathy groups as defined by PCL:SV scores corresponding to Factors 1 (interpersonal) and 2 (behavioral) of psychopathy. ( $N = 313$ ).

Psychopathy group	N	Percent	Mean IQ	Mean LoC	Mean NoC
Psychopathic (high F1, high F2)	76	24.3	99.7 (14.9)	36.9 (20.1)	9.4 (5.2)
Non-psychopathic (low F1, low F2)	110	35.1	104.6 (12.9)	34.8 (23.8)	6.0 (4.9)
Antisocial (low F1, high F2)	76	24.3	98.1 (13.0)	31.8 (17.3)	9.6 (6.3)
Interpersonal (high F1, low F2)	51	16.3	102.7 (14.3)	39.0 (21.0)	5.4 (4.5)
Total	313	100.0	101.5 (13.8)	35.2 (21.0)	7.6 (5.6)

Note. F1 and F2 refer to PCL:SV scores for Factors 1 and 2 respectively. LoC = length of conviction in months, NoC = number of prior convictions from criminal record.

**Table 3**

One-way ANOVA for the four psychopathy groups and IQ, Length of Conviction (LoC) and Number of Convictions (Wörner et al.) ( $N = 313$ ). One-tailed significance.

Factor dominance	Sum of squares		F	P
	Between groups	Within groups		
IQ	2266.9	57503.2	4.06	.01**

Note. LoC = length of conviction in months. NoC = number of prior convictions from criminal record.

\*\*  $p < 0.01$ .

according to psychopathy scores, and the low- and high-scoring groups were differentiated according to their specific manifestation of psychopathic personality traits, a clearer picture emerged that confirmed the hypothesis of the current study. Individuals with high scores for psychopathy Factor 2 (behavioral) exhibited the lowest IQ scores of all participants. This result seemed to be independent of their scores on Factor 1. Hence the occurrence of behavioral psychopathic features was related to low IQ scores. Those with high Factor 1 scores and low Factor 2 scores were not significantly less intelligent than the non-psychopathic group, though they showed a tendency in this direction. However, they were generally more intelligent than Factor 2 high-scorers. In accordance with the current hypothesis, individuals with low scores on both factors of the PCL:SV constituted the most intelligent group of participants. Their IQs exceeded the IQs of Factor 2 high scorers significantly and were also non-significantly higher than those of Factor 1 high scorers. This suggests that individuals exhibiting interpersonal features of psychopathy constitute a group of intelligent offenders within the psychopathic population but are still less intelligent, on average, than individuals scoring low on both psychopathy factors. This finding might explain the lack of a correlational association between interpersonal psychopathy features and IQ scores but still confirms the assumption of the interpersonal psychopath representing an intelligent 'variant' of the incarcerated psychopath.

### 5.2. Psychopathy and conviction history

In accordance with our hypothesis, the length of conviction (LoC) was positively related to interpersonal features of psychopathy (Factor 1) but negatively related to behavioral features (Factor 2). These results were teased apart by applying a four-factor model of psychopathy. This gave a significant positive result for the interpersonal factor (Factor 1) and a negative result for the lifestyle factor (Factor 3) of the PCL:SV. This result indicates that superficial, grandiose and deceitful features of psychopathy, but not unemotional ones, relate to longer conviction time and to more severe offences (Glaser, 1983). This result is striking considering the assumption that lack of empathy and remorse, features that are captured by the unemotionality factor of psychopathy, might be specifically predictive for a severe outcome of an offence.

In accordance with the hypothesis, a higher score on behavioral features of psychopathy was accompanied by a larger number of prior convictions, indicating a higher risk of recidivism for this psychopathic sub-group. In terms of the four-factor model the antisocial domain was most strongly related to NoC. These results may be attributable to the finding that antisocial personality features are usually associated with an early onset of delinquent behavior which in turn contributes to the development of antisocial behavior (Hare, 1991; Moffitt, 1993) and may result in a higher number of prior convictions.

### 5.3. General conclusion

The current results emphasize that psychopathy represents an important construct within the prison population. They suggest that the features of psychopathy relate differently to specific parameters of

criminal behavior: low intelligence scores, longer conviction times and a higher number of convictions. Although the stereotypical picture of the psychopath was not mirrored by our results, it seems that separating the psychopathy construct into different factors may be valuable for describing different offender types within the incarcerated population: Psychopathic offenders with primarily behavioral features of psychopathy seem to constitute a subgroup with low intelligence and a high risk of recidivism. Individuals exhibiting interpersonal features of psychopathy tend to have higher IQ scores than the other psychopathy group and to have been convicted less often but for longer. Non-psychopathic offenders tend to be the most intelligent group, which has been associated with lower recidivism risk and more positive legal prognosis. This typology might be especially valuable for prognostic examination as well as for therapeutic intervention. Specifically, incarcerated psychopathic individuals may not reflect the stereotyped image of the criminal psychopath but they nevertheless constitute a high-risk group of offenders and therefore require special attention in the prison environment (Hildebrand, Ruiters, & Nijman, 2004; Porter & Porter, 2007; Porter, Woodworth, Earle, Drugge, & Boer, 2003).

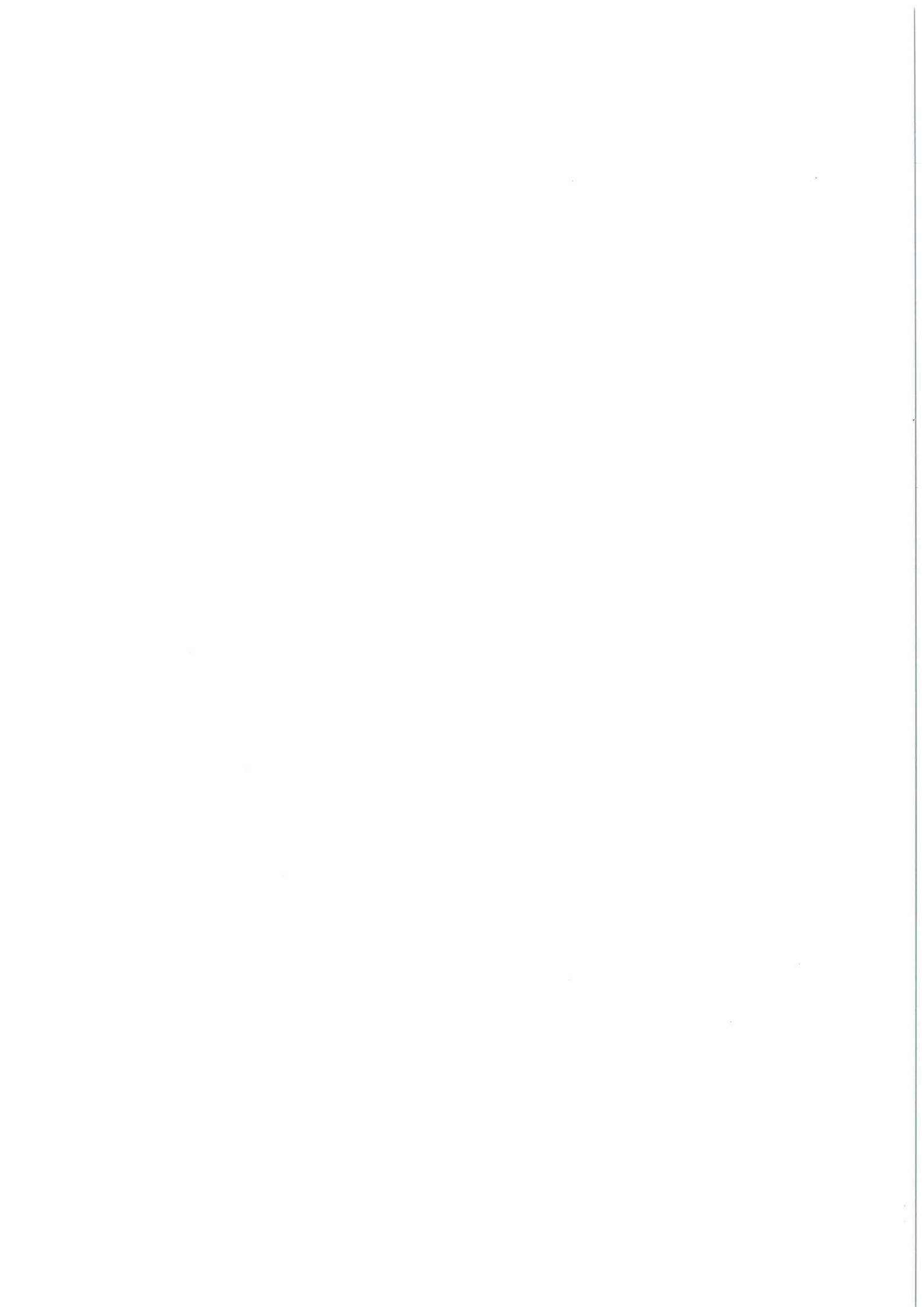
## 6. Restrictions and future implications

The current results were based on an investigation of adult and juvenile incarcerated offenders. Incarcerated offenders usually exhibit high levels of impulsivity and deficits in attention (Köhler et al., 2009; Rushton & Timpler, 2009; Walsh et al., 2004). The CFT-20 intelligence test includes a time limit and therefore presupposes a certain level of attention. This may have confounded the results of intelligence testing for particularly impulsive offenders. Furthermore, the assessment included offenders who had been referred for intramural psychotherapeutic treatment. Although this should apply to all incarcerated inmates with a record of violent offences it is possible that some inmates had not been considered suitable for therapy, for example because of insufficient language skills or aggressive behavior while in prison. These inmates were not included in the study which may have resulted in a sampling bias.

With reference to the concept of psychopathy, group effects were not tested for the four-factor model of psychopathy. Future studies need to address this question and follow up recent promising results for this model. Furthermore, the results should be further investigated in successful psychopathic individuals. The picture of the stereotypical psychopath may not be apparent within the prison population, but may still hold for psychopathic individuals in the community.

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# SUMMARY AND CONCLUSION



### 3 Summary and Conclusion

In carrying out the three studies presented above, the aim was to contribute to knowledge about personality factors relevant for antisocial and criminal behavior by investigating those features in different criminal populations. The first study (*the prevalence of mental disorders in a German sample of male incarcerated juvenile offenders*) investigated the psychological makeup of young incarcerated offenders. The aim of this study was to assess the prevalence of mental disorders, specifically the prevalence of personality disorders and psychopathy, to estimate their relevance as a psychological risk factor in this population. The study sample consisted of young incarcerated offenders, but the findings on psychiatric deviancy resembled the results obtained both for other samples of young offenders and for adult offenders. The overall prevalence of mental disorders in the sample was found to be remarkably high. While Axis I disorders were somewhat less prevalent than in earlier international studies (Fazel & Danesh, 2002; Jacobs & Reinhold, 2004; Kashani, Henrichs, Reid, & Huff, 1982) the prevalence of personality disorders (Axis II) in the sample resembled earlier finding. Such disorders were ten times more frequent than in community samples (Fazel & Danesh, 2002; Teplin et al., 2002). Also in line with previous results (Hare & Neumann, 2005; Huchzermeier, Bruß, Godt, & Aldenhoff, 2006), psychopathic personality traits were found to be a highly prevalent personality feature in young offenders. The sample was also investigated for the presence of offender subgroups which could imply differences in risk relating to personality features. In the study, three clusters of personality disorders were found, reflecting different expressions and combinations of paranoid, borderline, narcissistic, antisocial, conduct disorder<sup>1</sup> as well as personality disorder not otherwise specified (PDNOS). The first cluster presented a group primarily diagnosed with conduct disorder and antisocial personality disorder, though with high levels of comorbidity. The

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<sup>1</sup> Note. According to the DSM-IV, conduct disorder is an Axis I childhood diagnosis and thus not a personality disorder according to diagnostic standards. However, since the diagnosis has often been considered a valid predictor for the diagnosis of antisocial personality disorder in adult life and found to resemble a number of the of the antisocial personality criteria it has been considered relevant for the current cluster investigation of personality disorders and therefore been included in the analyses.

second cluster presented a mixture of the available diagnoses with a less explicit emphasis on antisocial personality disorder. The third cluster showed a more mixed group in which a clinical diagnosis of personality disorder was rare but PDNOS was nevertheless frequent. These subgroups closely resembled those found in a number of previous studies (Hemphill et al., 1994; Mailloux, Forth, & Koner, 1997; Taylor & Lang, 2006), where it was suggested that the different combinations of personality disorders reflected in subgroups could indicate different levels of risk for antisocial and criminal behavior (Andrews & Bonta, 2003). It has even been hypothesized that these groups may give indications about differences between offenders with respect to etiological pathways of antisociality and criminality, the frequency and intensity of this behavior and the prediction of future deviancy (Hemphill & Hare, 2004; O'Neill, Lidz, & Heilbrun, 2003; Plattner et al., 2011). With respect to the implications of these risk factors, the finding that a number of the personality constellations in the offender population cannot be accessed with the available diagnostic tools has initiated a debate in the study of antisocial and criminal behavior. It has been suggested that the diagnostic manuals for the assessment of personality should be improved with respect to their specification of extreme variants of personality traits that are known to be related to antisocial behavior (Kendler et al., in press; Livesley, 2011; Widiger & Costa, 2001). It is assumed that developing more conclusive measures that are based on these ideas will contribute to a more detailed diagnosis and to further refinement of the PDNOS group (Verheul, Bartak, & Widiger, 2007; Widiger, Simonsen, Sirovatka, & Regier, 2006). This in turn, will illuminate important personality qualities relating to antisocial and criminal behavior that may be helpful in tailored assessment and treatment (Livesley, 2011). Since a diagnosis of personality disorder may not be made before the age of 18, the results of Study 1 have to be interpreted with caution. But even under consideration of this limitation, the findings highlight the fact that mental disorders are an important feature of the antisocial and criminal population and therefore have to be considered an important risk factor.

In a broader view of the problem, for example in regard to the question of how to deal effectively with antisocial and criminal behavior, the results make clear that the phenomenon

cannot be considered as either an exclusively legal or an exclusively social one. The challenge of dealing adequately and effectively with antisocial and criminal behavior has to be integrated into the field of psychological and psychiatric care (Bloom, Muesser, & Müller-Isberner, 2000). It has been suggested that the correctional system should be more closely connected to psychiatric services which would include the introduction of disorder-specific treatment according to current therapeutic standards within the correctional setting (Hewitt, Perry, Adams, & Gilbody, 2011). As is underlined by the study presented here, juvenile and adolescent offenders have to be considered an especially important group, firstly because early deviant behavior is considered a highly relevant predictor for later problems in some individuals and secondly because behavior in this age-group is still sensitive to change (Bliesener, 2011; Hewitt et al., 2011). Fortunately, new treatment standards for dealing with antisocial and criminal behavior are being based on empirical evidence and often include the consideration of disorder-specific risk factors. In Germany the implementation of these standards in correctional and psychiatric institutions is still inadequate and will need further sophistication, but the approaches can be seen as a first step in the desired direction (Hax-Schoppenhorst & Schmidt-Quernheim, 2003; Huchzermeier & Aldenhoff, 2002; Müller-Isberner, 1998).

As mentioned above, and found in numerous previous studies (Hare, 1999b; Hervé et al., 2000; Huchzermeier, Bruß, Geiger et al., 2006; Huchzermeier et al., 2007), psychopathic personality traits are highly prevalent in both young and adult antisocial individuals and have been considered an important risk factor for antisocial and criminal behavior. Psychopathic personality traits tend to be manifested differently in different individuals and these patterns of manifestation have been shown to have important implications with respect to their influence on antisocial and criminal behavior. This may also be due to the distinct relatedness of psychopathic traits and other (personality) risk factors (Hare, 1999a; Hare & Neumann, 2005; Vitacco, Neumann, & Jackson, 2005). Studies 2 and 3 (*Emotion-regulation in young incarcerated individuals with psychopathic traits* and *Psychopathy, intelligence and conviction history*) therefore investigated specific aspects about psychopathic personality

traits in the incarcerated population more closely. The two studies examined the relationship between these traits and a number of personality factors that have shown to influence the risk for antisocial and criminal behavior: The level of self-reported negative emotions and the quality of emotion regulation (Study 2) and intelligence scores and offence history (in relation to the length of current conviction and number of prior convictions; Study 3).

In Study 2, it was shown that individuals with grandiose- manipulative features of psychopathy (Cooke & Michie, 2001) reported no elevated negative emotionality and tended to regulate their negative emotions maladaptively. Individuals with callous- unemotional psychopathic traits (Cooke & Michie, 2001) tended to have low negative emotions and no tendency to use either adaptive or maladaptive emotion regulation strategies. In contrast, individuals with irresponsibility- impulsivity traits (Cooke & Michie, 2001) reported a high degree of negative emotions and tended to display maladaptive emotion regulation. These results clearly illustrate that the subjective experience of negative emotions and the regulation of these affects are related in different ways to the factors of criminal psychopathy, suggesting that closer examination of these factors will reveal relevant differences between these personality types. This has several important implications for the theoretical investigation of antisociality and the practical challenges associated with it. First, high negative emotionality and low quality of emotion regulation have been shown to be relevant risk factors for antisocial and criminal behavior (Hicks & Patrick, 2006). Individual differences and relationships to other personality constructs should therefore be considered relevant for the evaluation of future behavioral adaption and risk of recidivism. Second, these factors have been shown to play a central role in the etiology of a wide range of mental disorders, including those that are associated with antisocial behavior (Kring & Sloan, 2010). A more detailed view of the relationship between these variables and different types of personality would therefore aid in the assessment and understanding of these disorders which, in turn, might constitute relevant risk factors themselves. Third, emotional affect and emotion regulation have been reported to influence treatment motivation and treatment responsiveness in general (Hicks & Patrick, 2006; Kring & Sloan, 2010). Hence, a

differentiated assessment of these variables in psychopathic offenders should throw light upon the actual treatability of the different sub-types of psychopathy.

In Study 3, individuals with an emphasis on the interpersonal component of psychopathy (including features such as callousness, low empathy, cold affect; Hare 1991) were found to have committed more serious offences, measured by the length of the current conviction. They achieved intelligence scores that were higher than those of psychopathic individuals with emphasis on the behavioral component of psychopathy (including e.g. antisocial behavior, impulsivity, irresponsibility; Hare 1991), but slightly lower than those of non-psychopathic individuals. The group with emphasis on the behavioral domain of psychopathy (Hare, 1991) had been convicted more frequently in the past and was the least intelligent group within the prison sample. As in Study 2, the results illuminated the differential relationship between the relevant variables and the concept of criminal psychopathy. This is especially important with regard to the high validity of intelligence for describing risk of antisocial and criminal behavior (Cornell et al., 1996; Rushton & Timpler, 2009). With reference to this and under consideration of previous findings it has even been hypothesized that the effects of personality variables such as intelligence are qualitatively different in different personality types. For example, low intelligence has been shown to be a valid risk factor for the onset of antisocial and criminal behavior while high intelligence scores have often been shown to act preventively against it. This is in line with the finding that components covered by the behavioral domain of psychopathy (Hare 1991) correlated with low IQ scores and a high frequency of convictions. The group of offenders with interpersonal psychopathy however achieved higher IQ scores than the group with behavioral features but lower scores than the group without psychopathic traits. The interpersonal group has been shown to be less frequently convicted but to exhibit a high frequency and severity of antisocial and criminal behavior. This supports the inference, drawn in previous studies, that the consequences of antisociality and low intelligence may be different in the subgroups of psychopathy, possibly meaning that the underlying mechanisms and causes for antisociality also differ between these subgroups (Johansson & Kerr, 2005). Hence, when isolating

personality constructs that are known to act as risk factors, it is important to consider personality differences, since these factors may have different behavioral consequences in different individuals (Johansson & Kerr, 2005; Lykken, 1995)

In both studies presented in this work, the differentiated findings for groups of psychopathic offenders only came to light when the influence of each domain of psychopathy was assessed separately and was statistically controlled for the influence of the other factors. A number of previous studies have confirmed this for a wide range of variables (Glaser, 1983; Poythress & Skeem, 2006). Relevant distinctions could be made after applying methods of statistical control with respect to psychopathy and e.g. the predominant aggression style (e.g. impulsive versus instrumental, Porter & Woodworth, 2006), the relatedness to psychiatric disorders (Hill, Neumann, & Rogers, 2004) and substance abuse (Mailloux et al., 1997; Rutherford et al., 2000).

Clearly, the investigation of the occurrence of relevant factors in different populations cannot give any insight into causal relationships. Also, it has to be remembered that the effects of the factors investigated tend to be highly interactive, depending not only on the specific personality make-up of the individual but also on the presence or absence of factors from other categories. Despite these considerations, it seems important that the thorough investigation of relevant personality factors and the detailed description of their specific occurrence in certain groups are essential for a broader understanding of antisocial and criminal behavior (Coie & Dodge, 1998).

### ***3.1 General Conclusion and Future Implications***

In general, the empirical study of psychopathy may be considered an impressive example of the importance of taking a differentiated view of the risk factors for antisocial and criminal behavior and the assessment of their relationship to each other. The results support the idea that only an approach that considers multiple factors and their interrelatedness will be able to yield a comprehensive theory of antisocial and criminal behavior. The present investigations took a bottom-up approach to the phenomenon of antisocial and criminal behavior by



investigating certain risk variables in detail. Their findings provide a basis which future work may be able to build a more general theoretical model on. This kind of bottom-up approach has been found valuable for investigating various psychological phenomena with behavioral contributions and has delivered highly valid information.

It has also been proposed that the relationship between antisocial and criminal behavior and certain risk factors may reflect different developmental pathways of deviant behavior (Lykken, 1995). This has been suggested for the subgroups of psychopathy (Wong & Burt, 2007). For example, interpersonal features of psychopathy have been shown to be highly heritable (Blonigen, Hicks, Krueger, & Patrick, 2005; Frick et al., 2003). In contrast, behavioral features of psychopathy are thought to stem from environmental influences, e.g. problematic families (Hare, 1991; Karpman, 1941a, 1941b). It seems plausible that the existence of these developmental pathways may not only contribute to differences in psychopathic personality traits but may also lead to other individual differences. This might constitute a theoretical basis for the current findings. The existence of such different developmental pathways has recently been suggested for other models as well and greatly fuelled the understanding of antisocial and criminal behavior (Kendler et al., in press). Relating findings to possible pathways of etiology should be considered an important emphasize in future studies.

Going a step beyond finding out what makes an individual antisocial is to find an effective way of dealing with the problem of antisociality to prevent its future occurrence. One of the most widely known examples for this is called the *Risk-Need-Responsivity-Model* (Andrews, Bonta, & Hoge, 1990). The model suggests that effective treatment should be based on a standardized assessment of the individual's risk of re-offending and should be tailored to his criminogenic need. The latter should be assessed on the basis of a thorough evaluation of risk factors. When developed according to such standards and evaluated empirically in detail it has been shown that offender therapy – even for psychopathic offenders - can be effective in reducing recidivism and preventing crime (Cullen & Gendreau, 2001; McGuire, 2002; Palmstierna, 2011; Thornton, 2011). A program providing outpatient

treatment for offenders has recently been launched in Germany (Heinzen & Huchzermeier, accepted).

Hence, to deal effectively with the phenomenon of antisocial and criminal behavior we have to take a differentiated approach to the understanding of antisociality and criminality under consideration of the relevance of risk factors that will help us know 'what works best with whom under what conditions' (McMurrin, 2002, p. 255).

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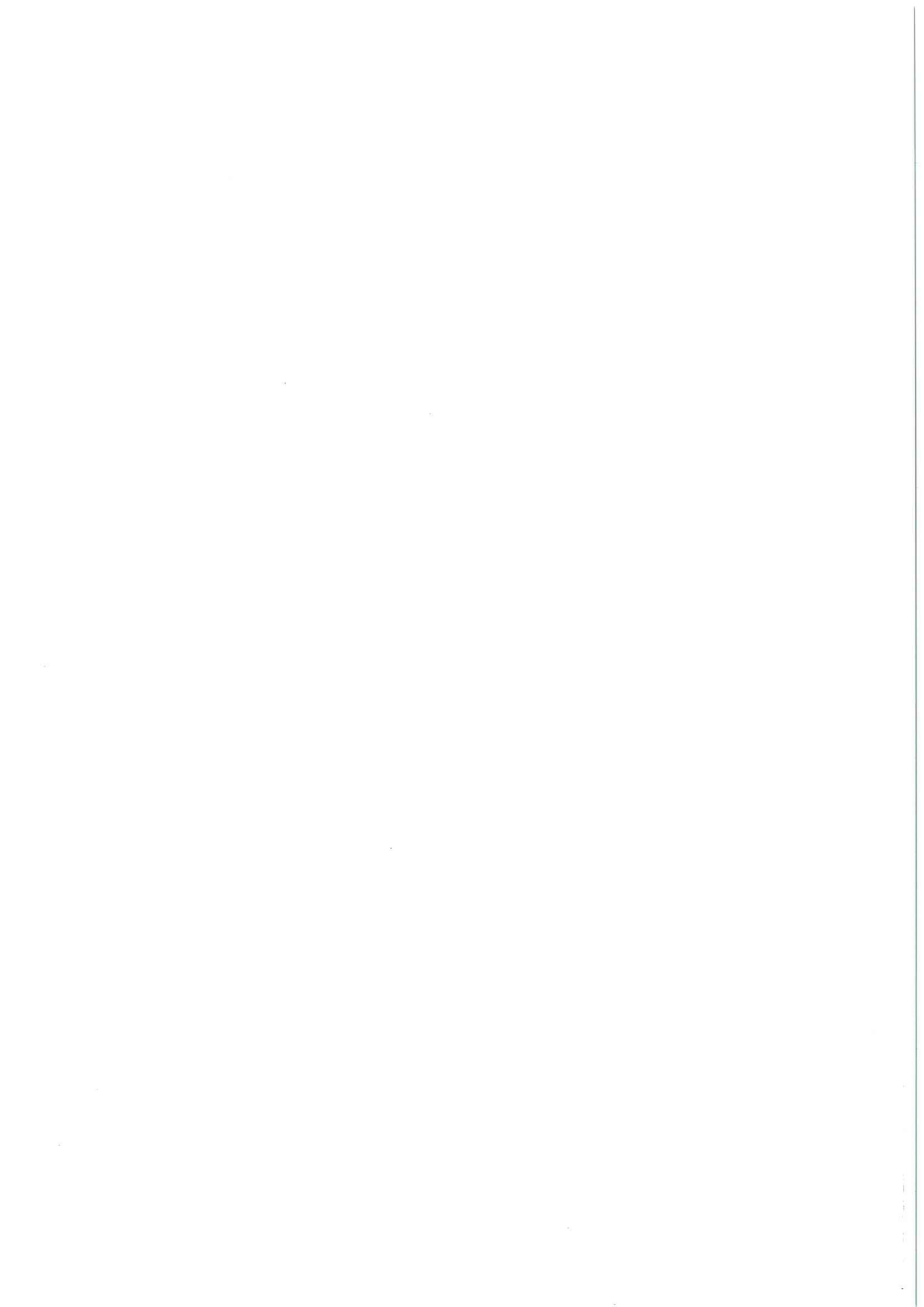
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## Lebenslauf

Hanna Heinzen

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### Persönliche Angaben

Geburtsdatum	8. März 1982
Geburtsort	Aachen, NRW
Nationalität	Deutsch

### Ausbildung

1988 – 1992	Gemeinschaftsgrundschule Breinig, Stolberg
1992 – 2001	Goethe Gymnasium, Stolberg
2001	Abitur
2002 – 2007	Maastricht University, Studium der Psychologie
Januar – Mai 2005	Dalhousie University, Halifax, Canada
2006	Bachelor of Science, Cognitive Psychology
2007	Master of Science, Psychology and Law

### Berufliche Tätigkeiten

Oktober 2007-Oktober 2008	Zentrum für Integrative Psychiatrie Kiel Kinder- und Jugendpsychiatrie Psychotherapie in der Justizvollzugsanstalt Neumünster, Teilanstalt Jugend
Oktober 2007 – Juli 2008	Externe Dozentin an der Universität Hamburg
Seit November 2008	Zentrum für Integrative Psychiatrie, Kiel Klinik für Psychiatrie und Psychotherapie Wissenschaftliche Mitarbeiterin
Seit Mai 2010	Externe Dozentin an der Christian- Albrechts- Universität zu Kiel
Mai 2012	Promotion an der Christian- Albrechts- Universität zu Kiel

