

**ADVANCING THE IDENTIFICATION AND TREATMENT
OF OFFENDERS WITH HIGH LEVELS OF PSYCHOPATHIC
TRAITS IN THE UK**

by

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degree of DOCTOR OF PHILOSOPHY**

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Abstract

This thesis aims to advance the assessment of psychopathy and treatment of offenders with high levels of psychopathic traits within the UK prison service.

Following an introduction to set this work in context, Part I provides a review that investigates how assessments of psychopathy inform the risk, need and responsivity needs of individuals. This is a framework that underpins treatment of offending behaviour. Part II explores a potential psychopathy assessment and screening measure for the UK prison service. Specifically, Chapter two assesses the reliability and validity of the Hare Self-Report Psychopathy scale (Hare SRP).

Part III investigates the impact of an innovative treatment programme for violent offenders with high levels of psychopathic traits; the Chromis programme. Chapter three outlines the nature of the Chromis programme. Chapter four explores participants' experiences of treatment using Interpretive Phenomenological Analysis. Chapter five focuses on changes in anger and aggression across five participants, looking at self-reported change and observed behaviour. Chapter six reports on changes across four key areas using a multiple-case study methodology of five case studies.

Finally there is an overview and discussion of the findings, their implications, and limitations and suggested future research.

In memory of my Granddad who inspired me to keep studying

Professor Arthur James Cain FRS

25th July 1921 – 20th August 1999

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Statement of Authorship

Following on from the acknowledgements, this section clarifies the contributions made by other people to the various chapters in this thesis.

Chapters 1 – 6 contain material that has been published¹ or has been submitted for publication². Therefore each chapter has its own introduction and discussion. Repetition of material has been avoided where possible. To clarify, I am the senior author and my supervisors Dr Louise Dixon and Dr Leigh Harkins are named authors for the papers that they supervised. Alice Bennett is a named author on two papers as she assisted with interviews, and second coded interview data and some file data. Rachel Atkinson is the named author on one paper as she contributed some of the content information and gave feedback during the write up phase.

¹ Chapter 1 - Tew, J., Harkins, L., & Dixon, L. (2013). What works in reducing violent re-offending in psychopathic offenders. In L. A. Craig, L. Dixon & T. A. Gannon (Eds.), *What Works in Offender Rehabilitation: An Evidence-Based Approach to Assessment and Treatment*. (pp. 129-141). Chichester: Wiley-Blackwell.

Chapter 2 - Tew, J., Dixon, L., & Harkins, L. (2014). Assessing the reliability and validity of the Self-Report Psychopathy Scales in a UK offender population. *The Journal of Forensic Psychiatry and Psychology*. Advanced online publication DOI: 10.1080/14789949.2014.981565

Chapter 3 - Tew, J., & Atkinson, R. (2013). The Chromis programme: from conception to evaluation, *Psychology, Crime & Law*, 19, 415-431. DOI:10.1080/1068316X.2013.758967

Chapter 4 - Tew, J., Bennett, A., & Dixon, L. (2015). The Chromis experience: An interpretive phenomenological analysis of participants' experiences of the Chromis programme. *International Journal of Offender Therapy and Comparative Criminology*, DOI: 10.1177/0306624X15586037

Chapter 5 - Tew, J., Dixon, L., Harkins, L., & Bennett, A. (2012). Investigating changes in anger and aggression in offenders with high levels of psychopathic traits attending the Chromis violence reduction programme. *Criminal Behaviour and Mental Health*, 22(3), 191, DOI: 10.1002/cbm.1832

² Chapter 6 – Tew, J., Bennett, A., & Dixon, L. (2015). A multiple case study investigation into the Chromis programme. Manuscript submitted for publication.

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INTRODUCTION

This thesis contributes to a field that attracts much attention from both academic literature and popular culture, that of psychopathy. Individuals to whom this concept is related are often demonised and condemned to a metaphorical scrap heap as far as rehabilitation and the capacity for change is concerned. While fiction writers may have clung to the idea of the ‘psychopathic monster’, the academic community has thankfully moved on. In the late nineties ‘psychopaths’ were often screened out of treatment based on the notion that it would simply help them be more psychopathic and more successful criminals. While research efforts are fraught with problems there has become an increasing understanding that the situation may not be as straight forward as this.

A great deal has been written about psychopathy and related subjects and in this sense it is not possible or helpful to try and cover all information regarding the concept here. This introduction aims to set the context for this thesis while trying not to duplicate information from its chapters. It will first outline some of the thinking regarding the concept of psychopathy and its relevance for the UK prison service. It will then outline the aims of the thesis.

The Concept of Psychopathy

Hare described psychopathy as “the single most important clinical construct in the criminal justice system” (Hare, 1998, p. 99); a sentiment that has continued to be echoed in more recent times, (Vien & Beech, 2006; Vitacco, Lishner & Neumann, 2012). Psychopathy has been found to significantly link to risk of offending (Singh & Fazel, 2010), with higher levels of psychopathy being associated with higher levels of risk for offending. However, there is growing evidence of the differing relationships between aspects of psychopathy and

risk (Edens, 2006; Hare & Neumann, 2006; Kahn, Byrd & Pardini, 2013; Kennealy, Skeem, Walters & Camp, 2010; Langton, Hogue, Daffern, Mannion & Howells, 2011; Leistico, Salekin, DeCoster, & Rogers, 2008; Screenivasan, Walker, Weinberger, Kirkish & Garrick, 2008; Walsh & Kosson, 2008; Walters, Knight, Grann & Dahle, 2008). This, alongside their own research, has led Camp, Skeem, Barchard, Lilienfeld and Poythress (2013) to caution against making broad generalisations about the relationship between psychopathy and violence.

In addition to offending behaviour, high levels of psychopathic traits have also been related to more problematic institutional behaviour (Buffington-Vollum, Edens, Johnson & Johnson, 2002; Gacono, Meloy, Speth & Roske, 1997; Hicks, Rogers & Cashel, 2000). For example, Gacono, Meloy, Speth and Roske (1997) found that certain psychopathic traits related to escape behaviour, such as being more glib and grandiose, more likely to lie and manipulate, and have greater deficits in empathy, remorse and affect in comparison to those who did not escape.

Psychopathy also impacts on the treatment of individuals. Some early studies concluded that treatment may actually raise the risk of those with high levels of psychopathic traits (Rice, Harris & Cormier, 1992). This finding has had a significant impact on policy and practice. It spread the idea that treatment did not just fail to have an effect on those with high levels of psychopathic traits it actually made them worse, meaning that these individuals should be identified and excluded from interventions. While several studies have since questioned the idea that those with high levels of psychopathic traits are 'untreatable', psychopathy has been identified as a relevant factor in the therapeutic climate of treatment groups (Harkins, Beech & Thornton, 2013), the ability to complete treatment (Olver, Stockdale & Wormith,

2011), and to benefit from treatment (Salkin, Worley & Grimes, 2010; Thornton & Blud, 2007). As with risk however, it has been suggested that the relationship between psychopathy and treatment response is variable. Individuals with different traits may benefit from different treatment approaches (Donahue, McClure & Moon, 2013; Thornton & Blud, 2007) and for at least a subset of individuals with high levels of psychopathic traits, the wrong components of an intervention may exacerbate their behaviour (Reidy, Kearns & DeGue, 2013).

Given the apparent importance of psychopathy to the criminal justice system it is striking that there is ongoing debate in the literature regarding the nature of the disorder. Skeem, Polaschek, Patrick and Lilienfeld (2011) actually describe defining psychopathy as one of the most fundamental questions for psychological science. There are currently no agreed diagnostic criteria for psychopathy. This means that those considered to have high levels of psychopathic traits form a heterogeneous group with some differences in their presentation, needs and difficulties. Despite this, it has been noted that there is actually considerable agreement between debaters regarding the concept (Albert, Brigante & Chase, 1959).

Although work looking at psychopathy can be traced back much earlier (Kiehl & Hoffman, 2011; Skeem, Polaschek, Patrick & Lilienfeld, 2011), Cleckley (1988) is often cited as being the first person to systematically study the concept. He collated information on a number of his patients who he noticed as similar in presentation, and engendering conflicting views amongst professionals regarding their diagnosis and appropriate treatment. He examined the personalities and behaviours of these individuals and identified sixteen traits that they had in common and which he felt made up 'psychopathy'. While Cleckley acknowledged that these traits were not universal, he did note that many of them were often present in individuals, for example being superficially charming.

Across authors and decades psychopathy continues to be typically described in terms of a collection of cognitive, emotional, interpersonal and behavioural characteristics that impact on an individual's relationships and every day functioning (Kiehl & Hoffman, 2011). These characteristic deficits are generally found in the presence of intact general intellectual functioning (Ermer, Kahn, Salovey & Kiehl, 2012). Individuals described as psychopathic are experienced as being superficially charming, lacking in empathy, insincere and manipulative, and having shallow emotional affect and poor insight. Behaviourally they can be impulsive, sensation seeking, irresponsible and often law breaking (Cooke & Michie, 1999; Hare, 2003).

Given the nature of the traits that make up the disorder and the potential for differences across individuals, many researchers and practitioners consider that the traits and disorder fall on a continuum rather than representing a discrete taxon (Edens, Marcus, Lilienfeld & Poythress, 2006; Guay, Ruscio, Knight & Hare, 2007; Walters, Duncan & Mitchell-Perez, 2007). This is in line with developments within the wider psychiatric practice regarding a move away from discrete diagnosis and a focus more on individual traits (Anckarsäter, 2010).

One point of note is that while this thesis focuses on the concept of psychopathy within adult male offenders, this is not to say that this is the only group for whom this is an issue.

Psychopathy has also been found to be relevant to female offenders (Forouzan & Cooke, 2005; Kreis & Cooke, 2012) and young offenders (Forth, Kosson & Hare, 2003; Johnstone & Cooke, 2004). Adult male offenders form the majority group of UK prisoners and as such, focusing on assessment and treatment within this group has the potential to have the greatest impact, and possibly help inform work with other smaller populations.

The Assessment of Psychopathy

There are a number of tools to assess psychopathy including self-report measures (Lilienfeld & Fowler, 2006) and the Comprehensive Assessment of Psychopathic Personality (CAPP; Cooke, Hart, Logan & Michie, 2004). The Psychopathy Checklist Revised (PCL-R; Hare, 2003) is one assessment of psychopathy, but it has considerable research supporting its validity and reliability (Hare, 2003). As such it has been considered a strong assessment of the disorder for many years (Kiehl & Hoffman, 2011). The PCL-R uses extensive collateral information and an in depth interview to review 20 items believed by the authors to capture the characteristics that make up psychopathy. There has been some debate in the literature regarding the factor structure of the PCL-R (Cooke & Michie, 2001; Hare, 1991, 2003). Hare (1991) identified a two factor model in which the PCL-R items split into one factor relating to interpersonal and affective features and a second factor relating to socially deviant features. In contrast to this, Cooke and Michie (2001) outlined a three factor model where the higher order concept of psychopathy is made up of a factor of interpersonal items (arrogant and deceitful interpersonal style), a factor of affective items (deficient affective experience) and a factor with items relating to impulsive and irresponsible behavioural style. Cooke and colleagues considered anti-social behaviour to be a product of psychopathy rather than contributing to the make-up of the disorder (Cooke, Michie, Hart & Clark, 2004; Skeem & Cooke, 2010). Following on from the work of Cooke and his colleagues, Hare (2003) developed a two factor four facet model. The factors reflect those in their original two factor model, where Factor 1 is characterized by selfishness, callousness and remorseless use of others, and Factor 2 is characterized by a chronic unstable and anti-social lifestyle and social deviance. However, in this model, Factor 1 divides into two facets; Facet 1 containing the interpersonal items and Facet 2 containing the affective items. Factor 2 also divides into two further facets; Facet 3 containing the lifestyle items and Facet 4 containing the anti-social

items. There continues to be debate in the literature regarding the most appropriate factor structure of the PCL-R with support being found for both the three factor and two factor, four facet models in some studies (Vitacco, Neumann & Jackson, 2005; Weaver, Meyer, Van Nort & Tristan, 2006).

While the PCL-R is currently the most popular assessment of psychopathic traits within the National Offender Management Service (NOMS), this is not to say that it is without criticism. For example, research often reports high levels of inter-rater agreement in PCL-R scores (Hare, 2003). However, studies looking at PCL-R assessments completed in clinical practice as opposed to research, have found lower levels of agreement than expected between evaluators on the same side in legal proceedings (Boccaccini, Turner & Murrie, 2008) and evidence of partisan alliance influencing PCL-R scores (Murrie, Boccaccini, Johnson & Janke, 2008). This has led to the suggestion that the strong predictive validity of the PCL-R found in some research studies may not be representative of what is happening in the field (Murrie, Boccaccini, Caperton & Rufino, 2012). Despite criticisms of the PCL-R it has been noted that it would currently be hard to justify using another measure to assess psychopathy (Edens & Petrila, 2006).

The Prevalence of Psychopathy

The proclaimed importance of the concept of psychopathy for the criminal justice system should not be confused with its prevalence in offender populations. Of course, it should be remembered that to consider prevalence one has to make use of cut-off scores and diagnostic criteria, something that has already been identified as being problematic for psychopathy.

This said, it has been suggested that equivalent levels of psychopathy in North American and UK samples may be associated with different scores on the PCL-R. Cooke and Michie

(1999) compared psychopathy across North American and Scottish populations. They found that a PCL-R score of 30 in North America was equivalent to a score of 25 in Scotland. However, in a later study, Cooke, Michie, Hart and Clark (2005), looked at a UK sample and identified that an adjustment of 2 points was maybe more appropriate between UK and US scores. This would mean that a PCL-R score of 30 in the US would be roughly equivalent to a score of 28 in the UK.

Looking specifically at the prevalence of psychopathy in England and Wales, Cooke and Michie (1999) found 8% of their sample of 307 Scottish prisoners, exceeded their recommended cut-off score of 25. In 2005 Cooke, Michie, Hart and Clark found 7% of a sample of 1316 UK prisoners scored 28 or more, their then recommended cut-off score in the UK. This sample had a reported mean PCL-R total score of 16.1 (SD = 8.3). This was very similar to the mean score of 16.5 (SD = 7.8), found in a representative sample of 728 prisoners from within the English prison system by Hare and colleagues (Hare, Clark, Grann & Thornton, 2000). Hare, Clark, Grann and Thornton (2000) found that 13% of this sample scored 25 or more on the PCL-R, with 4.5% having a score of 30 or more. They identified that scores were lower than those reported for North American samples but were more in line with the samples reported by Cooke and colleagues. More recently, Coid et al. (2009) found 7.7% of offenders, in a sample of 496 prisoners in England and Wales, scored 30 or above on the PCL-R. The sample had a mean PCL-R score of 15 (SD = 9.1).

Cut-off scores are rarely used for individuals in clinical practice within the UK prison service. That said, they did form part of the suitability criteria for two treatment units that used to form part of the Dangerous and Severe Personality Disorder (DSPD) service (Howells, Krishnan & Daffern, 2007), and that now sit within the Offender Personality

Disorder Pathway (Joseph & Benefield, 2010, 2012). These units require individuals to have a PCL-R score of 30, a PCL-R score between 25 and 29 combined with at least one personality disorder other than antisocial as measured by the International Personality Disorder Examination (IPDE; Loranger, 1999), or two or more personality disorders.

It is also the case that the cut-off scores can be useful at the group level. As Edens points out; “Identifying a particular class of individuals on the basis of even an arbitrarily defined score may be useful for applied decision making.” (Edens, 2006, p. 63). Where resources need to be appropriately targeted, cut-off scores can help to identify those with higher levels of traits and therefore those who are likely to be higher levels of risk or to require a particular treatment approach. They are also often used in research to compare ‘psychopath’ and ‘non-psychopath’ groups on various outcomes.

Reducing risk in those with high levels of psychopathic traits

It has been suggested that the pessimistic view of the effectiveness of treatment with those with high levels of psychopathic traits has been fuelled by the lack of success of inappropriately applied interventions (Vien & Beech, 2006). In line with this, the focus in research has shifted from understanding whether those with high levels of psychopathic traits are able to benefit from treatment to trying to identify what treatment approaches are effective with this population (Salekin, 2002; Thornton & Blud, 2007). There is a prevailing view that risk can be reduced in those with high levels of psychopathic traits via interventions specifically tailored for this population (Olver & Wong, 2009; Reidy et al., 2013). An idea that was in fact suggested by Cleckley (1988), who proposed special units for managing the individuals he identified as psychopaths, and highlighted that even if a ‘cure’ could not be found for them then there may be positives in maintaining them at a

better level of adjustment, despite a continued need for support and restriction. A number of interventions and approaches specifically for working with those with high levels of psychopathic traits have been proposed. These include treatment guidelines proposed by Wong and Hare (2009); the Violence Reduction Programme as outlined by Wong and Gordon, (2013); its predecessor the ABC programme as reviewed in Olver, Lewis and Wong (2013); the High-Risk Personality Programme (HRPP) (Wilson & Tamatea, 2013); a two component model proposed by Wong, Gordon, Gu, Lewis and Olver, (2012); and the National Institute for Health and Clinical Excellence (NICE) guidelines on treating anti-social personality disorder (NICE, 2010), which comment specifically on treatment for offenders who meet the criteria for DSPD services. Finally, there are also high risk special treatment units in New Zealand (Polascheck & Kilgour, 2013). These are not specifically for individuals with high levels of psychopathic traits, but many of the groups concerned do have high levels.

Reviewing these approaches it is clear that they have a number of similarities including; changeable factors linked to criminal behaviour being targeted in treatment, core personality traits being viewed as a responsivity issue, working collaboratively with individuals to identify treatment targets, treatment appealing to what motivates the individual, strengths as well as treatment targets being considered, treatment being targeted at the appropriate stage of change for the individual, cognitive-behavioural approaches being used, treatment being individualised yet structured, and treatment having phases of treatment that relate to developing motivation, learning skills and generalising skills. Staff outside of treatment being important agents of change and problematic behaviour being viewed as treatment targets, rather than an obstacle to treatment, are further similarities across these approaches.

These treatment approaches are being found to be effective when used in these interventions and models. For example, Wong et al., (2012) have research findings that support their two component approach with individuals who they describe as being similar to those admitted to the UK DSPD service as described by Kirkpatrick et al. (2010). Also, there is research showing that there were higher levels of successful reintegration into lower security facilities, lower rates of institutional offences relative to pre-treatment rates, lower levels of court adjudicated violence and non-violent recidivism, and reoffending being less violent than matched controls as a result of the approach taken by the Violence Reduction Programme (VRP) and its predecessor the Aggressive Behavior Control (ABC) programme (Olver, Lewis & Wong, 2013; Wong & Gordon, 2013). Reviewing the High-Risk Personality Programme (HRPP) Wilson and Tamatea, (2013) found that Violence Risk Scale (VRS; Wong & Gordon, 2000) scores across all dynamic factors reduced over treatment. There was no violent misconduct reported during treatment and fewer incidents post treatment than there were pre-treatment. Staff reported positive changes in behaviour that continued to participant's new units, 80% reduced their security rating, with some progressing to minimum security conditions for the first time and 40% went on to do further group therapy. There was also some evidence in reduced frequency and / or severity of offending post treatment.

In line with these developments in the literature it is no longer the case in the UK that individuals with high levels of psychopathic traits are automatically excluded from treatment; instead offenders are considered for interventions relevant to their criminogenic needs on an individual bases. In addition to this, Interventions Services within NOMS has developed the Chromis programme. This is a programme that is specifically designed to reduce the risk of violence in individuals who are at high risk of this and whose level or

combination of psychopathic traits disrupts their ability to engage in treatment and change. The development, structure and principles behind the programme are touched on in the introductions of chapters four, five and six and described in more detail by Tew and Atkinson (2013; see appendix D).

Summary and a way forward

Given the relevance of psychopathy to key areas of criminal justice practice, effectively identifying those with higher levels of psychopathic traits appears to be an extremely important task. As Skeem and colleagues summarise, “An increasing number of studies suggest that psychopathic individuals are not uniquely ‘hopeless’ cases who should be disqualified from treatment, but instead are general ‘high-risk’ cases who need to be targeted for intensive treatment to maximize public safety. (Skeem, Polaschek, Patrick & Lilienfeld, 2011, p. 96). However, relationships between psychopathy, risk and treatment do not appear to be straightforward. As such, within this group, understanding an individual’s level and combination of traits also appears to be necessary to fully understand their needs and difficulties and target appropriate resources effectively. Understanding an individual is also critical for the development of appropriate and effective interventions to prevent re-offending (Craig, Beech & Cortoni, 2013). Effective treatment planning is guided by the principles of risk, need and responsivity (Andrews & Bonta, 2003) and meta-analyses of treatment outcome research has found that greater adherence to these principles leads to greater reductions in recidivism (Olver, et al., 2011). An assessment of individual psychopathic traits may provide information to help inform assessment of these areas (Loving, 2002).

The PCL-R remains the assessment of choice within NOMS. There is a training programme in place for suitably qualified staff and there are guidelines for the application of the assessment. The PCL-R therefore provides a suitable assessment to understand the level and nature of someone's psychopathic traits and target appropriate treatment. However, while completing PCL-R assessments on all individuals would ensure that those with high levels of psychopathic traits could be identified, this is not practical to achieve. Large populations and inadequate records being available both impact on the feasibility of completing PCL-R assessments. Given the resources required to complete a PCL-R assessment Loving (2002) suggests screening for psychopathy to target assessment resources towards the group at greatest risk of offending and treatment disruptive behaviour.

It is noted that a Psychopathy Checklist Screening version (PCL:SV; Hart, Cox & Hare, 1995) has been developed. This is made up of 12 of the 20 items that make up the PCL-R. While this is designed to identify individuals for further assessment with the PCL-R, given that it still requires a review of an individual's records and an interview in order to complete it, clinicians rarely use it. There is limited time saved in scoring 12 items following a review of an individual's information relative to scoring the full 20 items, particularly given that a full PCL-R is then recommended for individuals who score highly on the PCL:SV. It would therefore be beneficial to identify if alternative processes for screening for psychopathy could be effective.

Effective risk management needs to flow from assessment (Douglas, Cox & Webster, 1999). There is little point investing in effectively identifying and understanding those with high levels of psychopathic traits if suitable treatment and management approaches are not available for this group. The specific intervention developed for this group in the UK is the

Chromis programme. While Chromis was based on sound theory, following a review of all of the evidence available at the time, there are no studies investigating the impact of the programme on participants. An understanding of the effectiveness of Chromis is needed to inform its ongoing delivery and development.

Evaluating the effectiveness of Chromis is a challenging task for a number of reasons. The gold standard for the evaluation of offending behaviour programmes is considered to be randomised control trials or quasi-experimental designs (Harper & Chitty, 2005) but it is not currently possible to complete such studies on Chromis. This said, other methods are needed to get a full understanding of treatment effectiveness (Friendship, Falshaw & Beech, 2003; Hollin, 2008), particularly where treatment for those with high levels of psychopathic traits is concerned. As Reidy et al. (2013, p. 534) state “Given the dearth of research available on treatment for psychopathy and impact on violence, valuable information can and must be gained from a variety of research methodologies.” For a new and highly responsive intervention, for a heterogeneous group, a case study methodology is a valuable approach for drawing lessons regarding the impact of treatment (Radley & Chamberlain, 2012). In summary, as suggested by Salkin, Worley and Grimes (2010), the best way to advance this area is to consider differing assessments of psychopathy and further investigate how individuals with high levels of psychopathic traits can benefit from treatment.

Aims

This thesis aims to address this gap and further the identification and treatment of individuals with high levels of psychopathic traits within the UK. Specifically, this body of work will address the following three objectives:

1. To understand how assessments of psychopathy can inform treatment planning for offenders.
2. To investigate the utility of a self-report measure in identifying individuals with high levels of psychopathic traits for further assessment.
3. To investigate the effectiveness of the Chromis programme in working with individuals with high levels of psychopathic traits.

Structure of the thesis

The above three aims provide the framework for the structure of this thesis which is presented in three parts. Part I brings together relevant literature to consider how the assessment of psychopathy can inform the risk, need and responsivity principles, which underpin the successful treatment of offending behaviour. Part II considers the assessment of psychopathy within the UK, with particular focus on a self-report assessment measure, and Part III focuses on the evaluation of the Chromis programme; a programme specifically developed for individuals with high levels of psychopathic traits. Findings across the three parts will then be summarised and discussed in terms of their implications for clinical practice.

Ethical considerations

The British Psychological Society's code of human research ethics (The British Psychological Society, 2010) and the Health and Care Professions Council's codes of ethical practice (Health & Care Professions Council, 2012) were adhered to throughout the design and implementation of all of the research. Ethical approval was obtained from the University of Birmingham's Science, Technology, Engineering and Mathematics Ethics Committee and from the National Offender Management Service National Research Committee. Copies of these approvals are provided in Appendix A

PART I

THE VALUE OF A PSYCHOPATHY ASSESSMENT FOR TREATMENT

PLANNING

PART I: THE VALUE OF A PSYCHOPATHY ASSESSMENT FOR TREATMENT

PLANNING

Chapter One Rationale: What works in reducing violent re-offending in psychopathic offenders.

Wong and Burt (2007) state that understanding the risk, need and responsivity factors of those with high levels of psychopathic traits is essential for effective treatment and management and for assessing any changes in risk. This chapter reviews the literature to investigate how the most commonly used psychopathy assessment, the PCL-R, can be used to help to inform each of these areas for an individual. This chapter was informed by a systematic review of the literature (see appendix A for details).

The following chapter was published as:

Tew, J., Harkins, L., & Dixon, L. (2013). What works in reducing violent re-offending in psychopathic offenders. In L. A. Craig, L. Dixon & T. A. Gannon (Eds.), *What Works in Offender Rehabilitation: An Evidence-Based Approach to Assessment and Treatment*. (pp. 129-141). Chichester: Wiley-Blackwell.

CHAPTER 1

7

What Works in Reducing Violent Re-offending in Psychopathic Offenders

Jenny Tew, Leigh Harkins and Louise Dixon

University of Birmingham, UK

Introduction

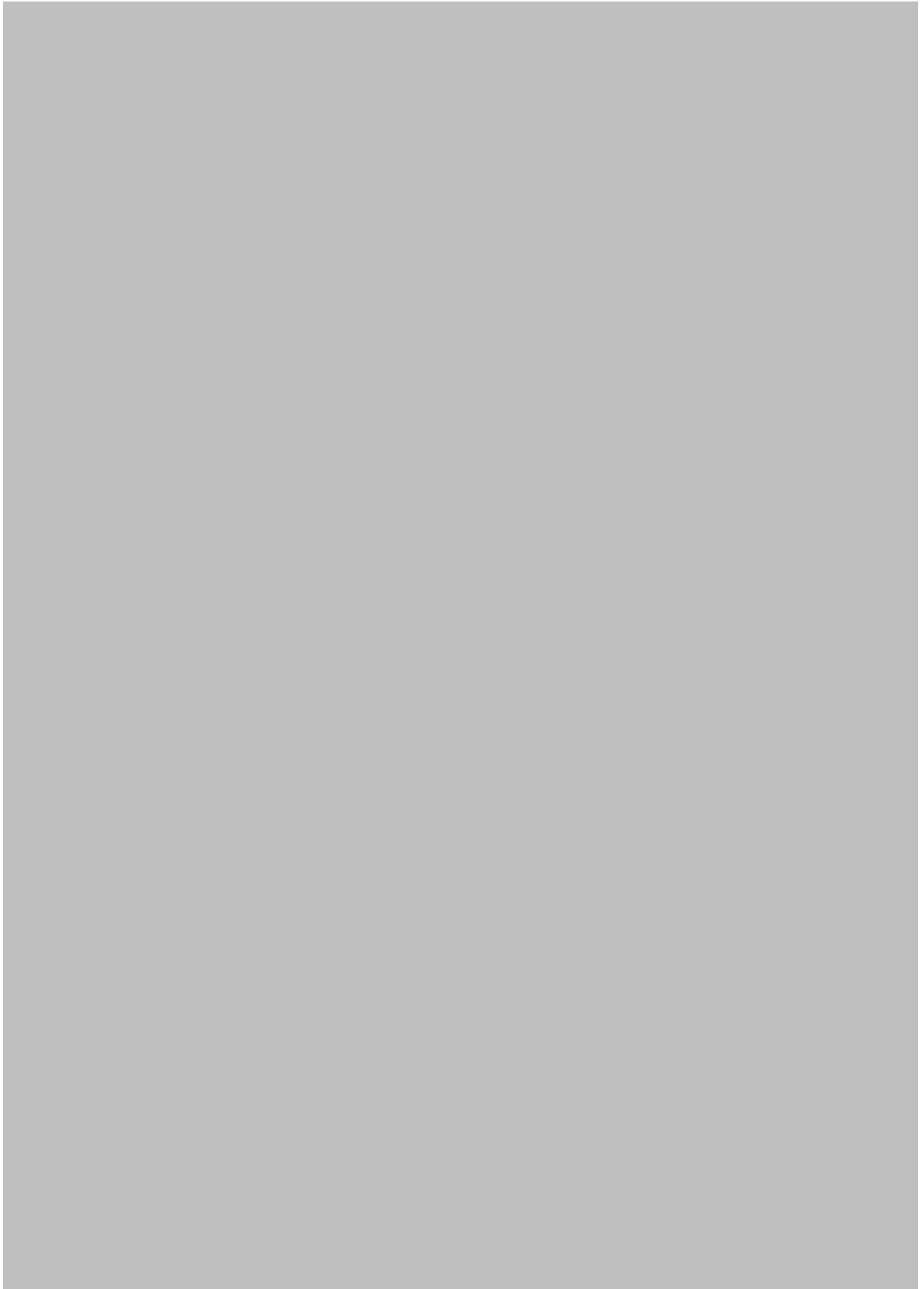
Psychopathy is recognized as a significant issue for the criminal justice system as it negatively impacts re-offending (Dolan and Doyle, 2000; Salekin, Rogers and Sewell, 1996), compliance with institutional rules and regimes (Dolan and Davies, 2005), inpatient interpersonal aggression in secure settings (Langton *et al.*, 2011) and responses to treatment (Ogloff, Wong and Greenwood, 1990).

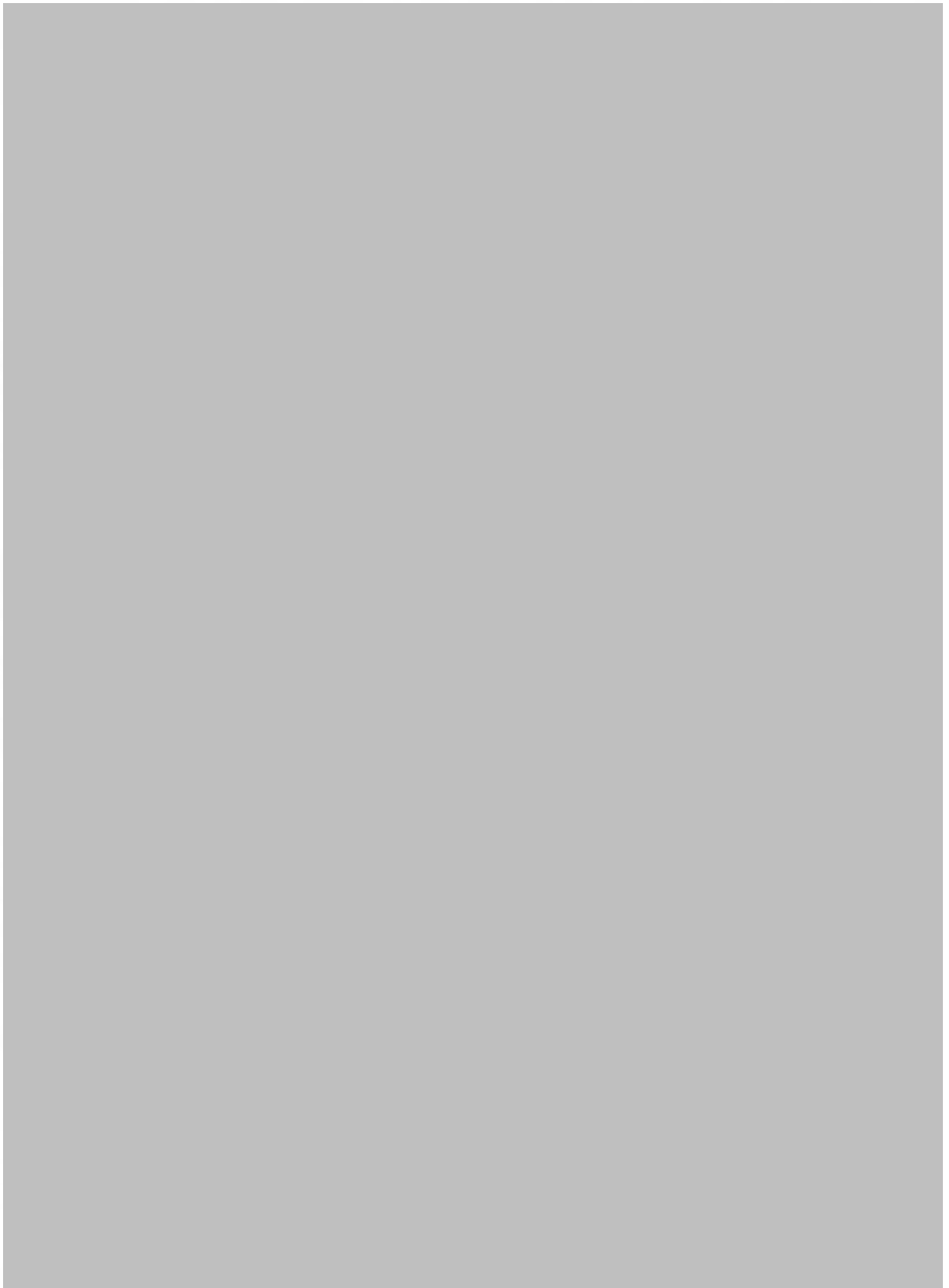
As identified by Bonta and Wormith (see Chapter 4), best practice in treatment planning for offenders is guided by the principles of risk, need and responsivity (RNR) (Andrews and Bonta, 2003). These principles have been shown to be greatly impacted by psychopathy (e.g., Abracen, Looman and Langton, 2008; Harkins and Beech, 2007; Langton, 2007; Looman, Dickie and Abracen, 2005), thus affecting the likelihood that treatment will be successful for individuals with high levels of psychopathic traits.

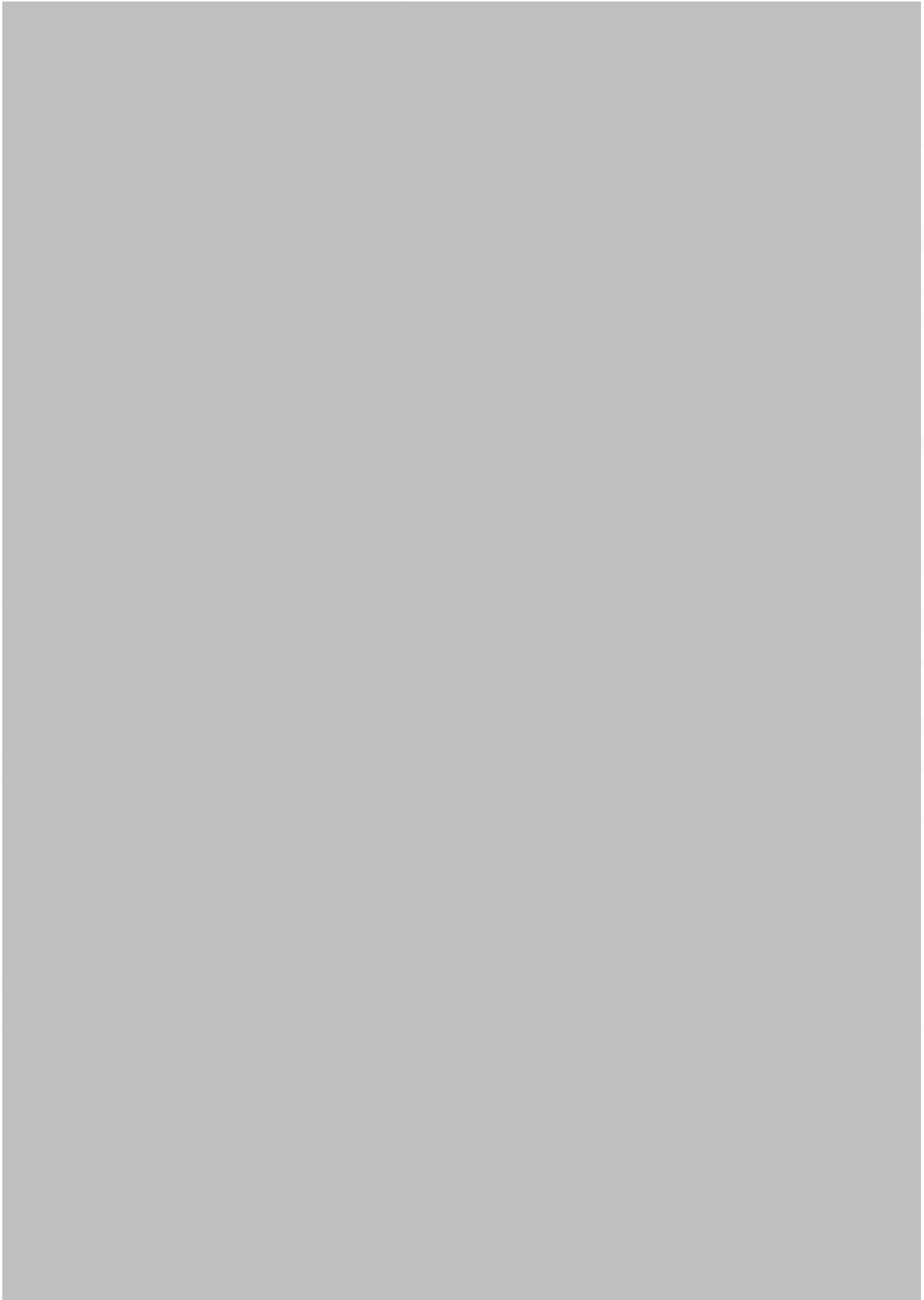
The aim of this chapter is to provide an overview of how the most commonly used measure to assess psychopathy, the Psychopathy Checklist-Revised (PCL-R; Hare, 2003), can be used to inform the assessment and treatment of offenders with high levels of psychopathic traits. We consider the concept and measurement of psychopathy before moving on to review the empirical literature considering the efficacy of treatment with offenders with high levels of psychopathic traits. We will then discuss the specific assessment and treatment needs of this group within the RNR framework. Finally we consider possible directions for future research and practice.

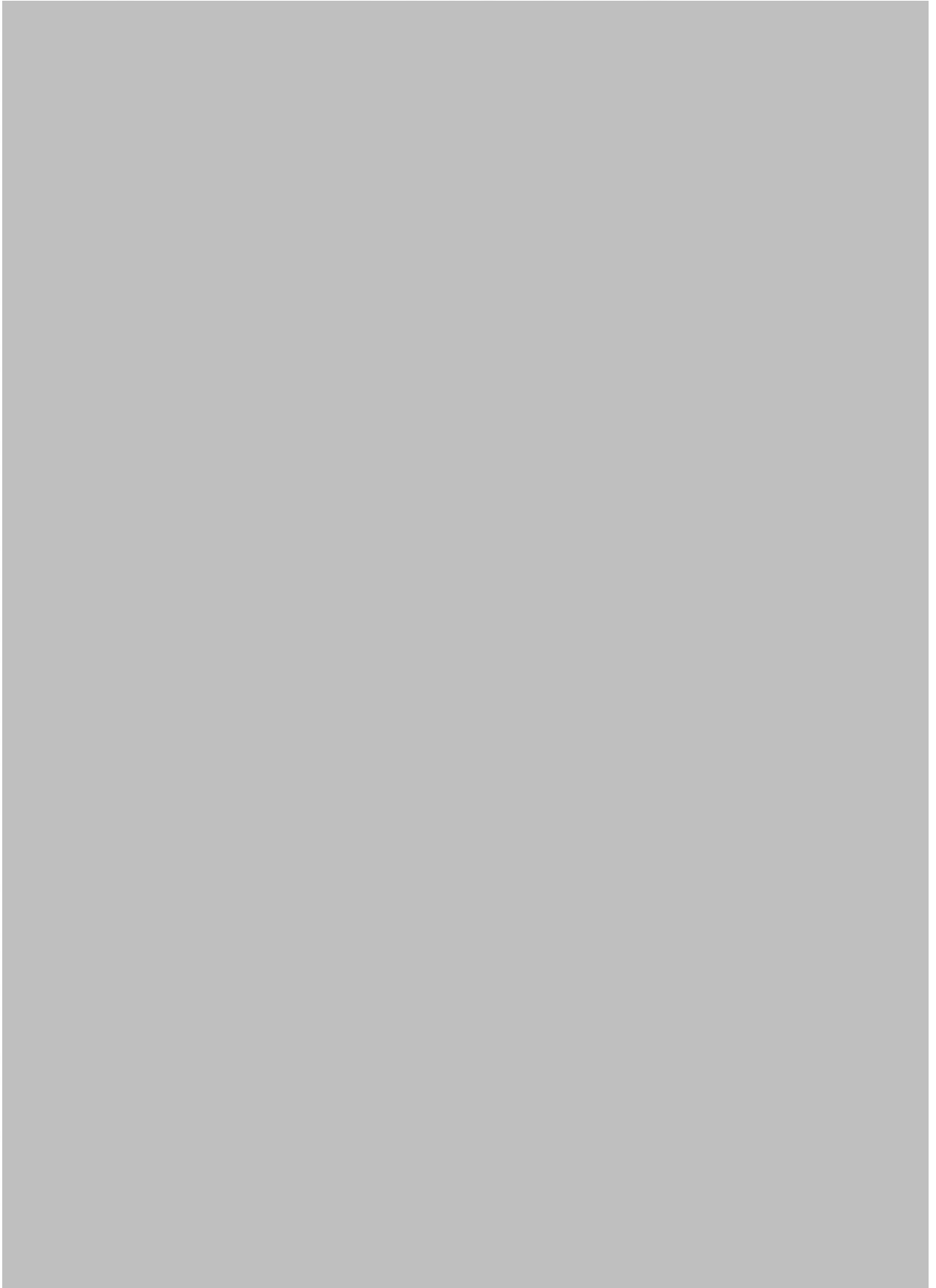


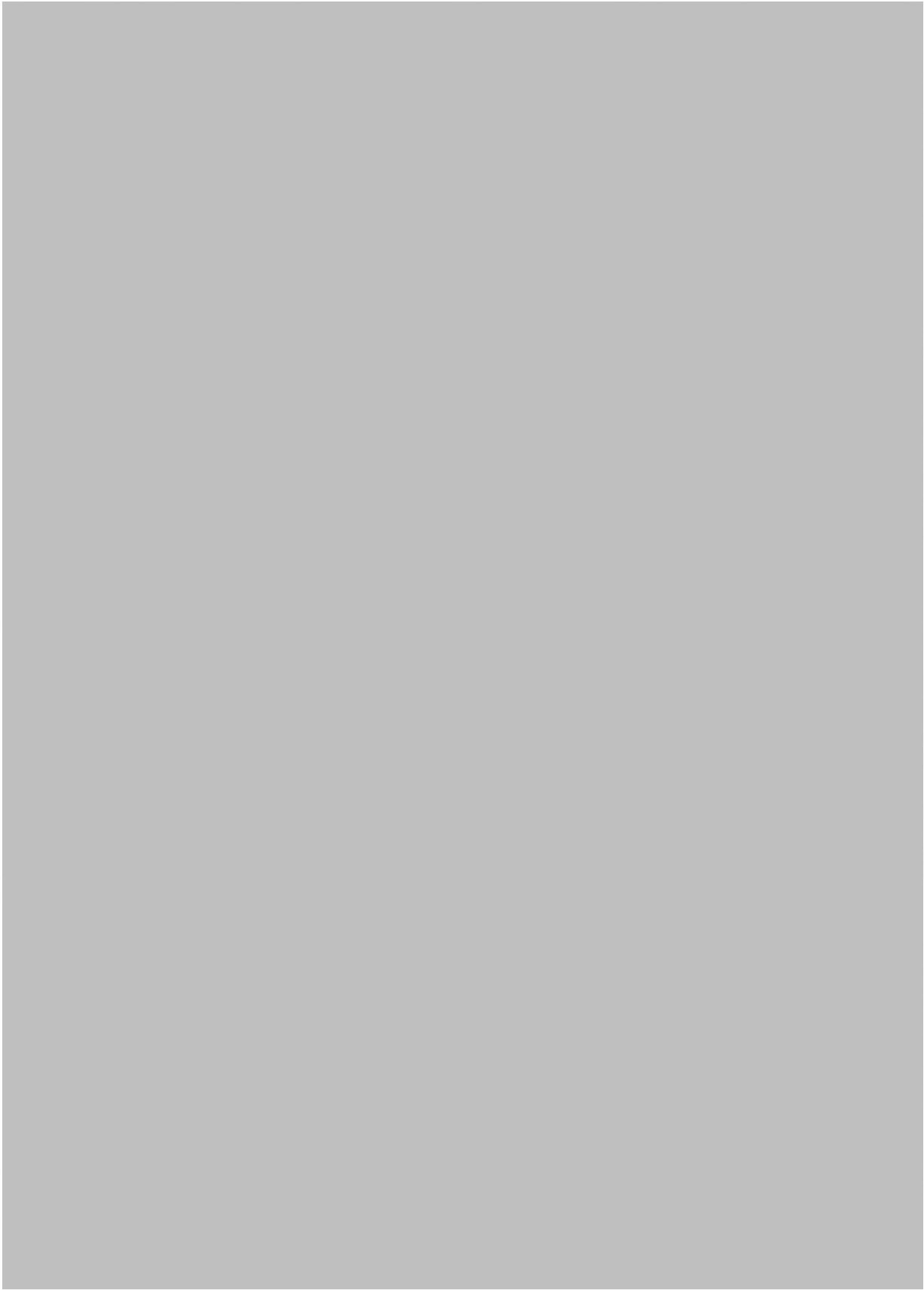


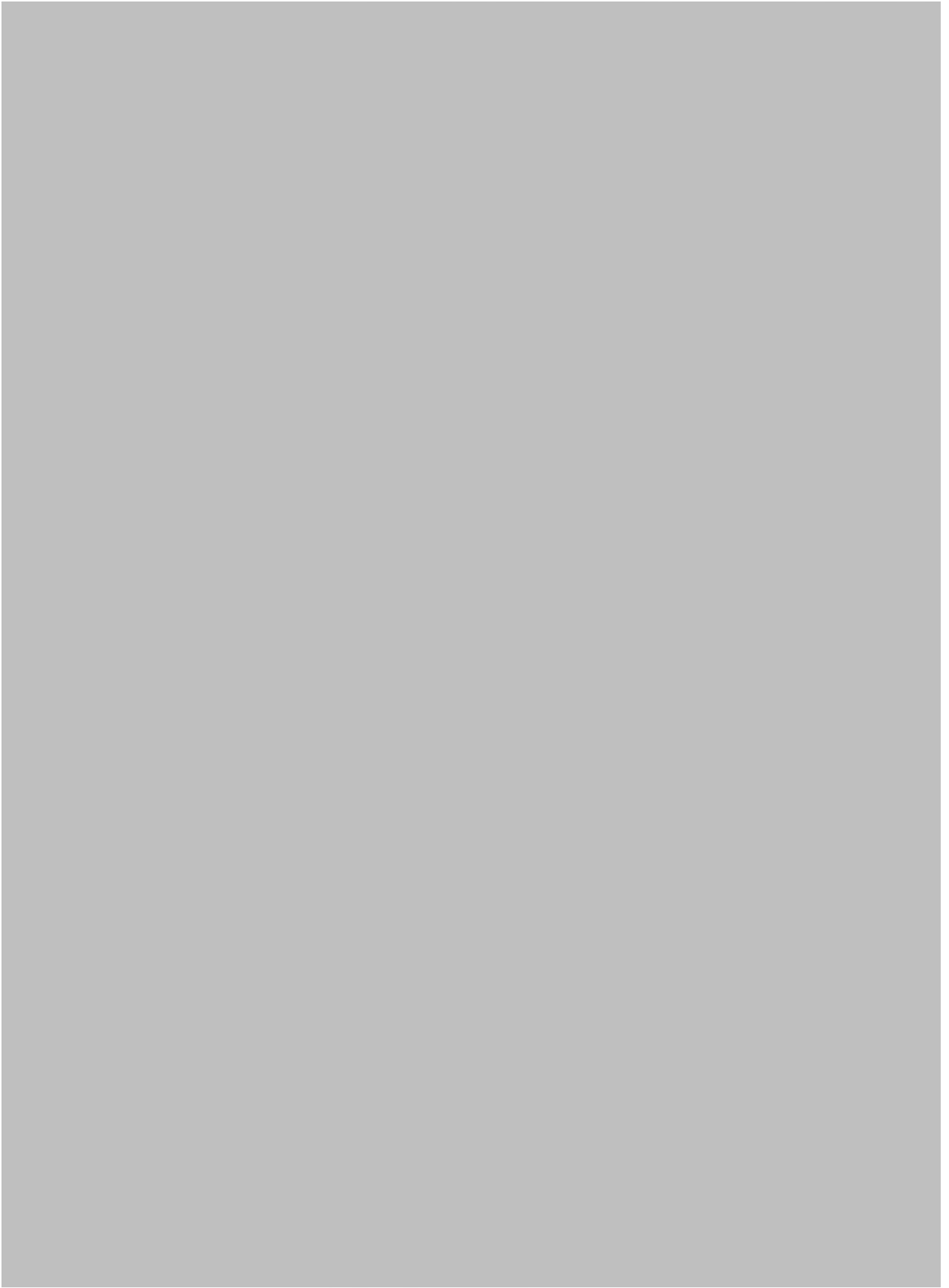




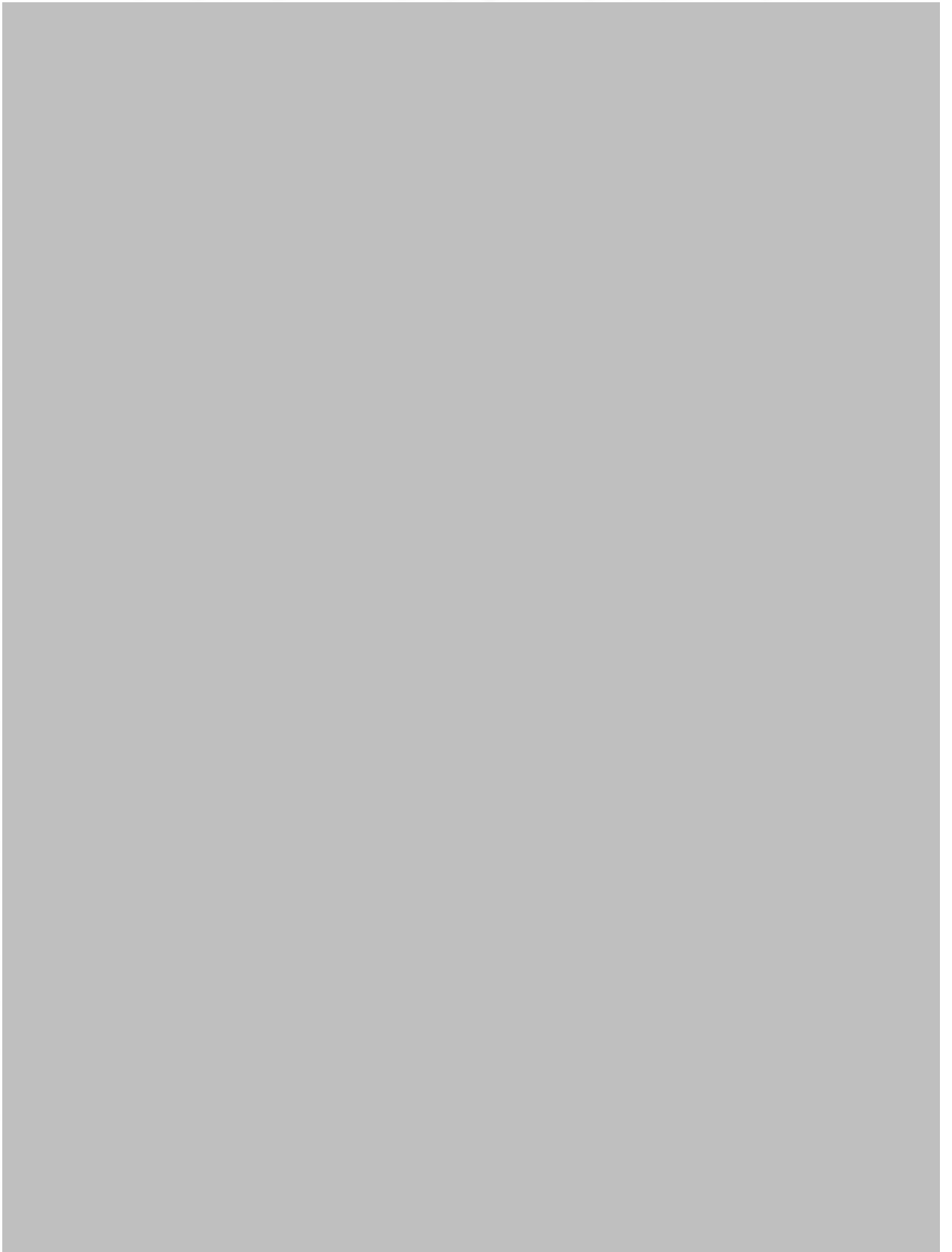


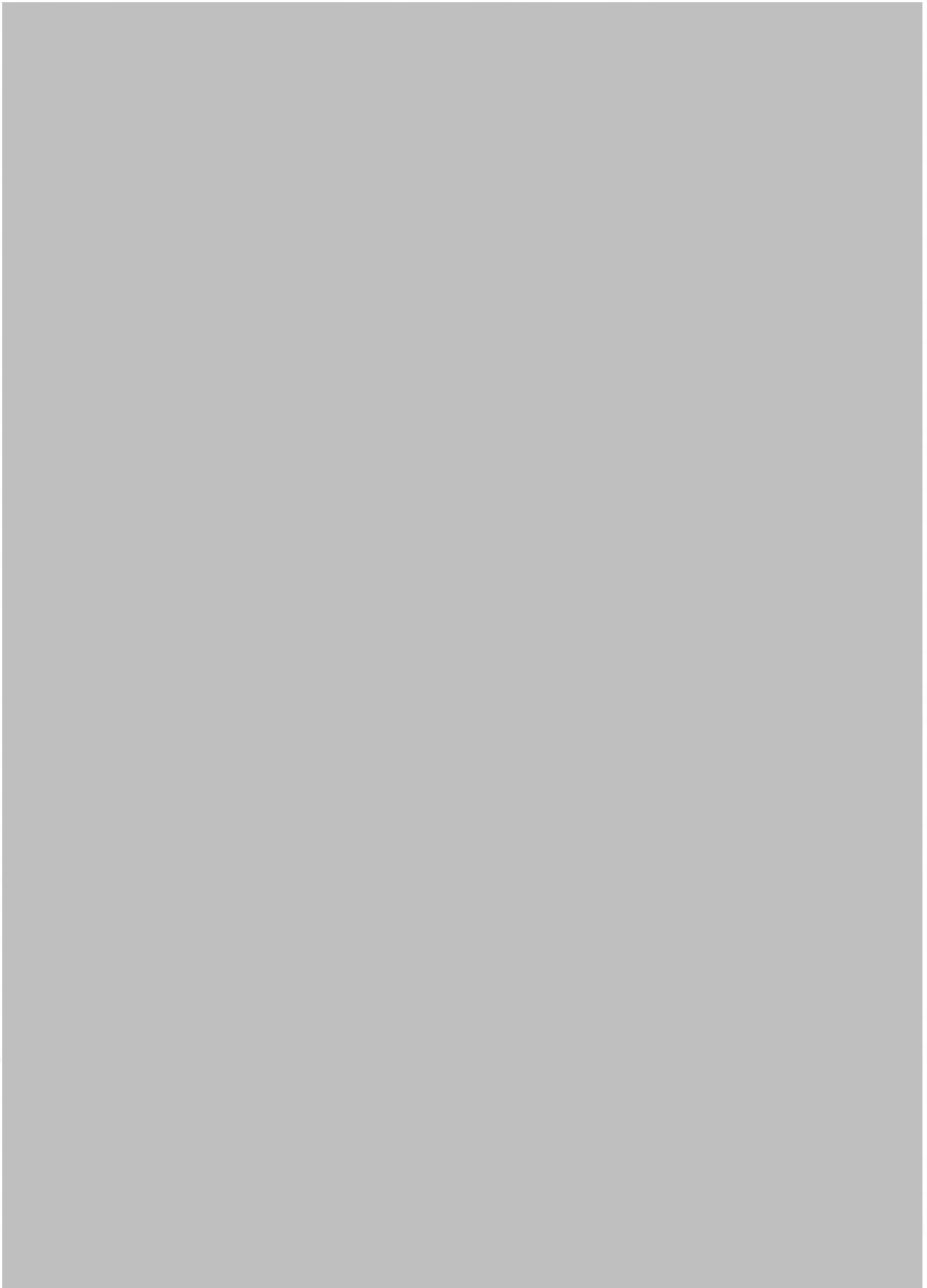














PART II

**IDENTIFICATION OF INDIVIDUALS WITH HIGH LEVELS OF PSYCHOPATHIC
TRAITS IN THE UK PRISON POPULATION**

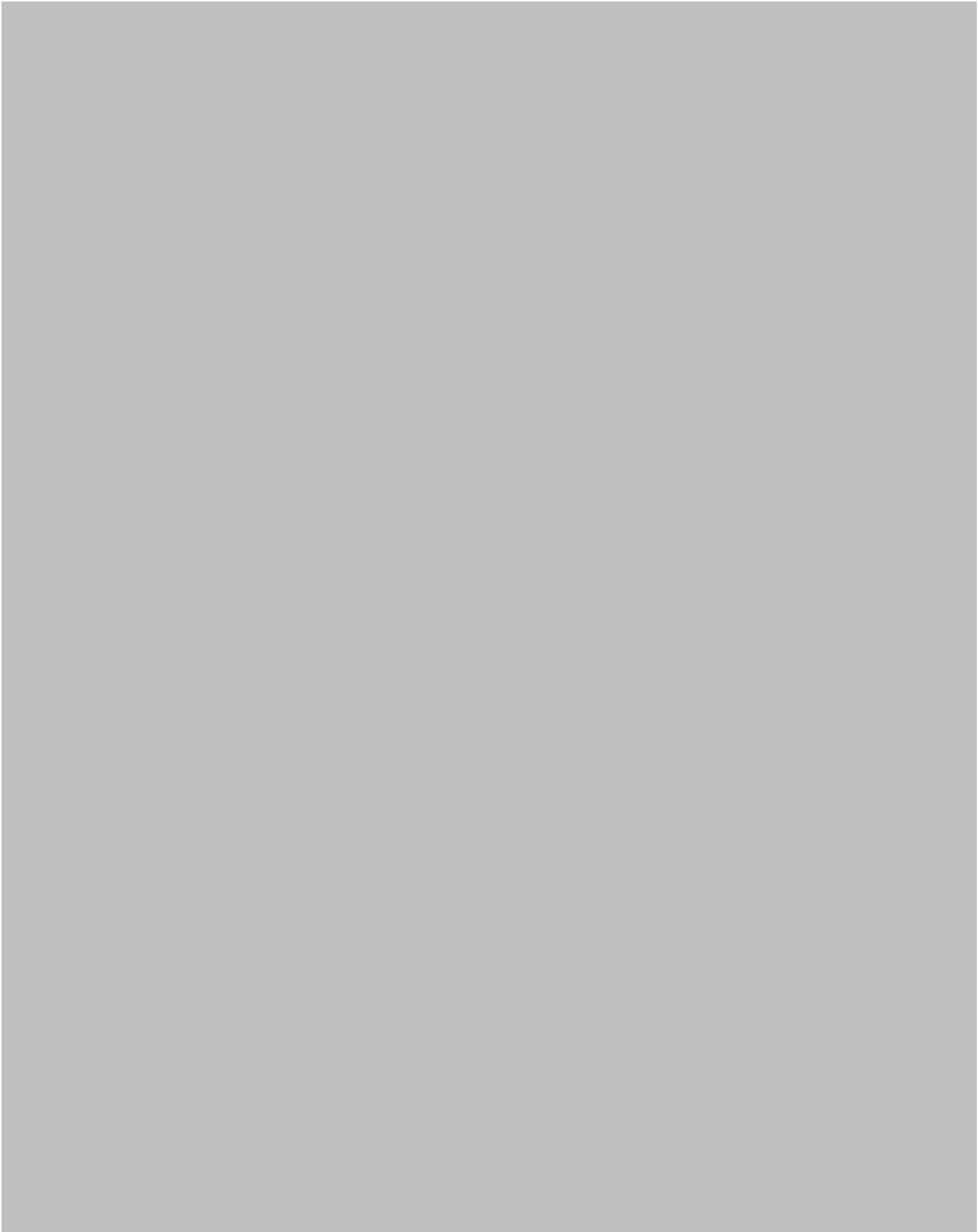
PART II: IDENTIFICATION OF INDIVIDUALS WITH HIGH LEVELS OF PSYCHOPATHIC TRAITS IN THE UK PRISON POPULATION

Chapter Two Rationale: Assessing the reliability and validity of the Self-Report Psychopathy Scales in a UK offender population

This chapter considers the effectiveness of the Self-Report Psychopathy scale (SRP; Paulhus, Neumann, & Hare, in press) in assessing psychopathy within the UK prison population. This is an updated self-report measure of psychopathy, developed specifically to reflect the authors' factor structure of the PCL-R.

The following article was published online in 2014 by the Journal of Psychology and Psychiatry, DOI: [10.1080/14789949.2014.981565](https://doi.org/10.1080/14789949.2014.981565)

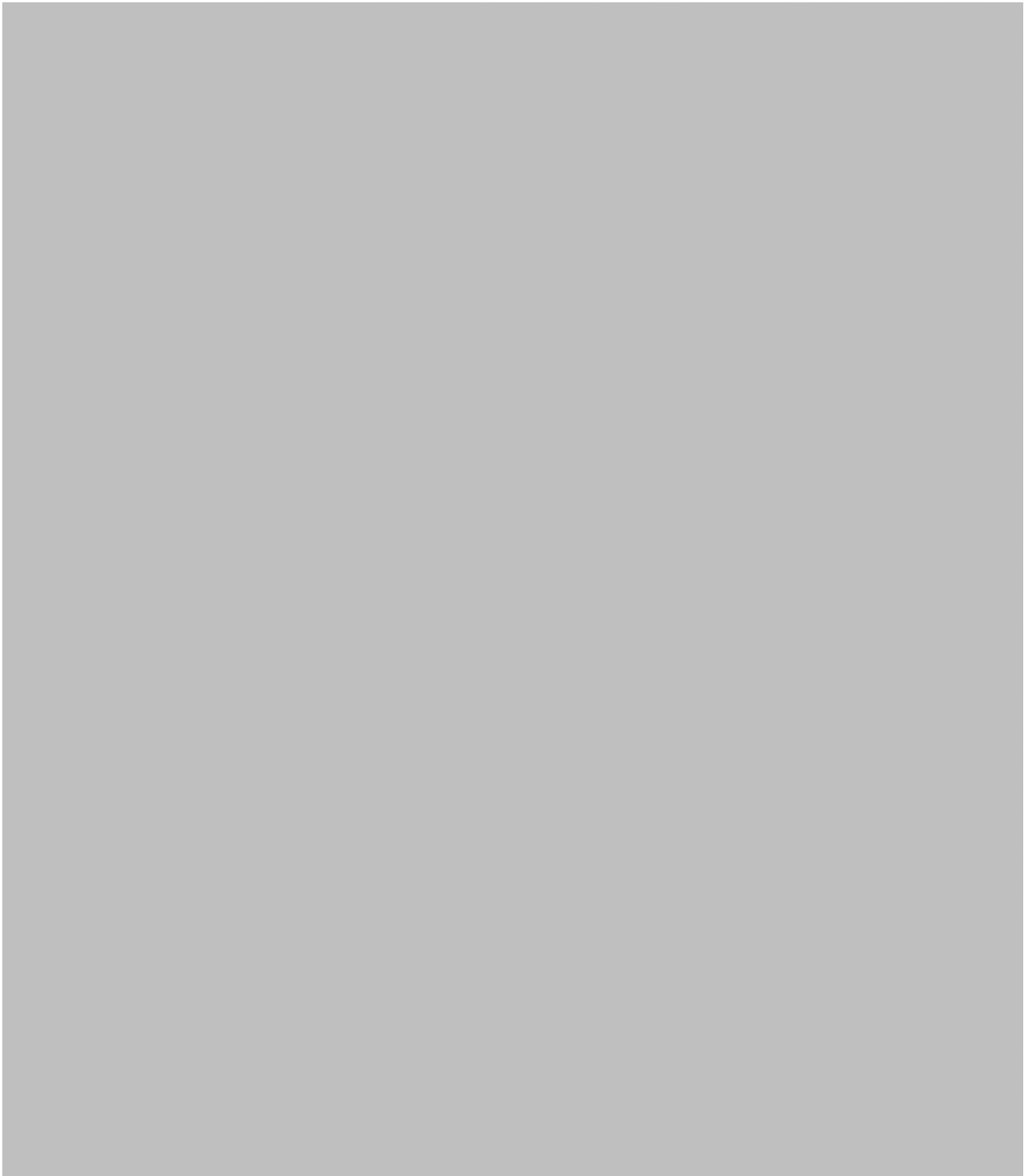
CHAPTER 2









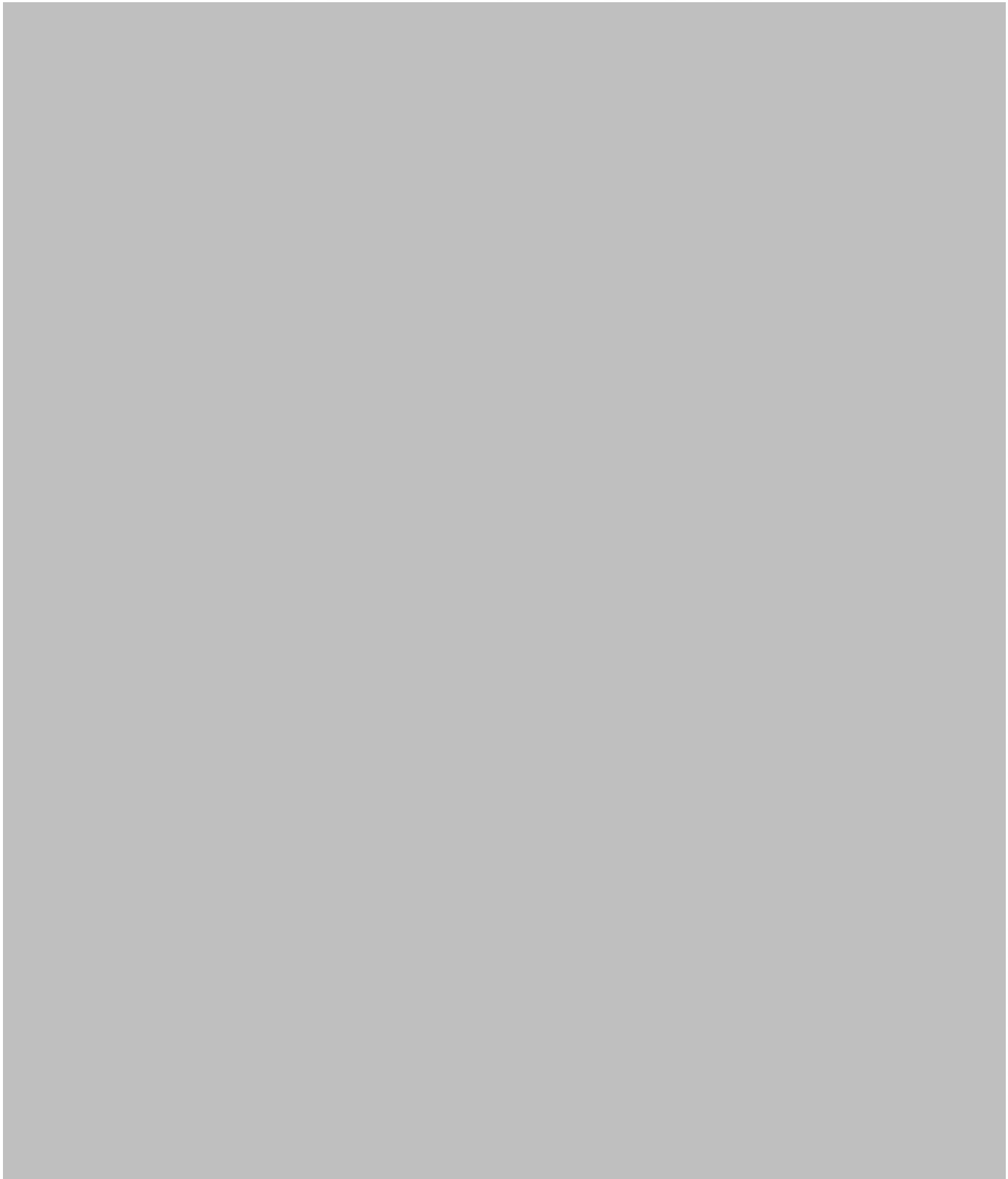


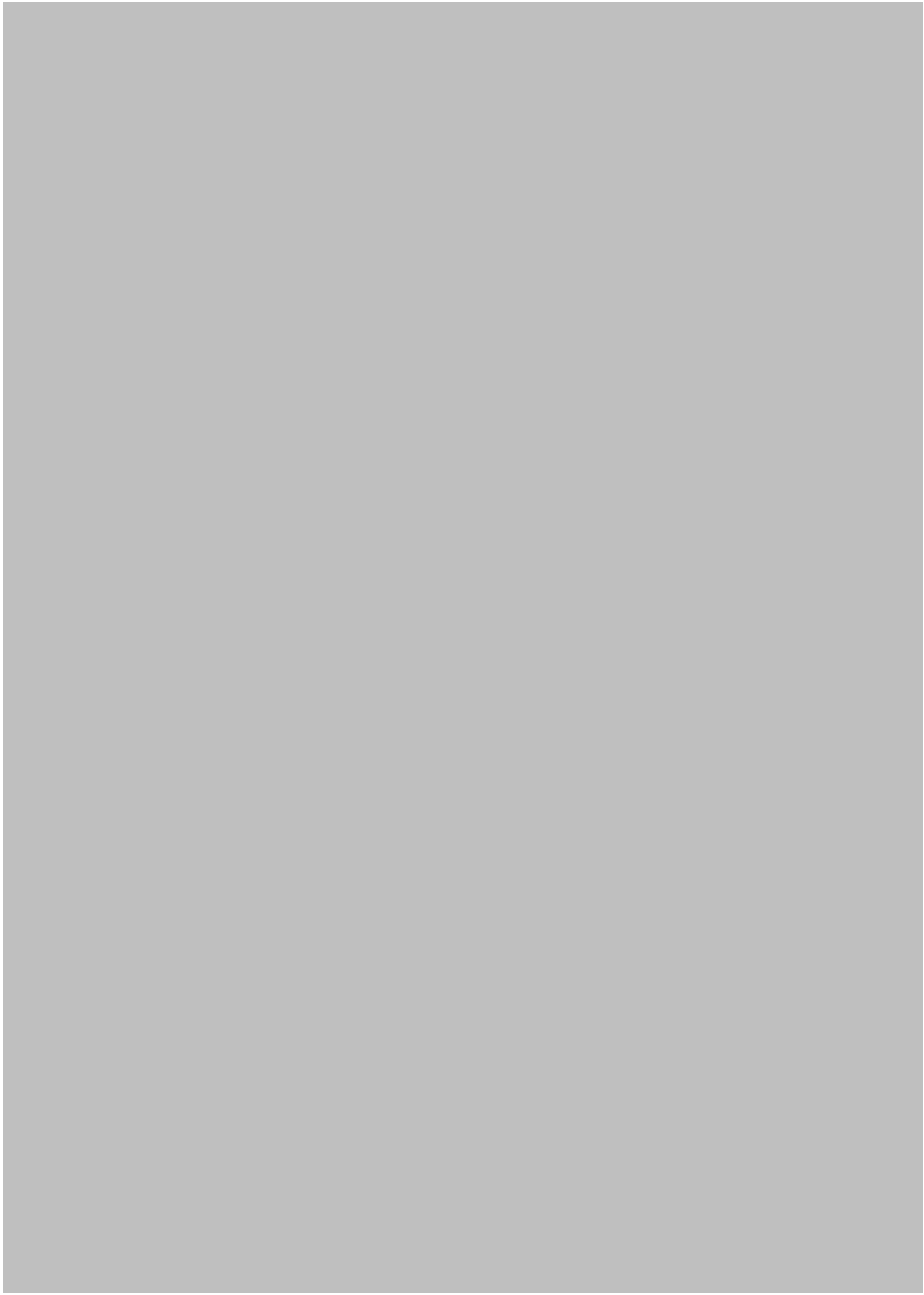
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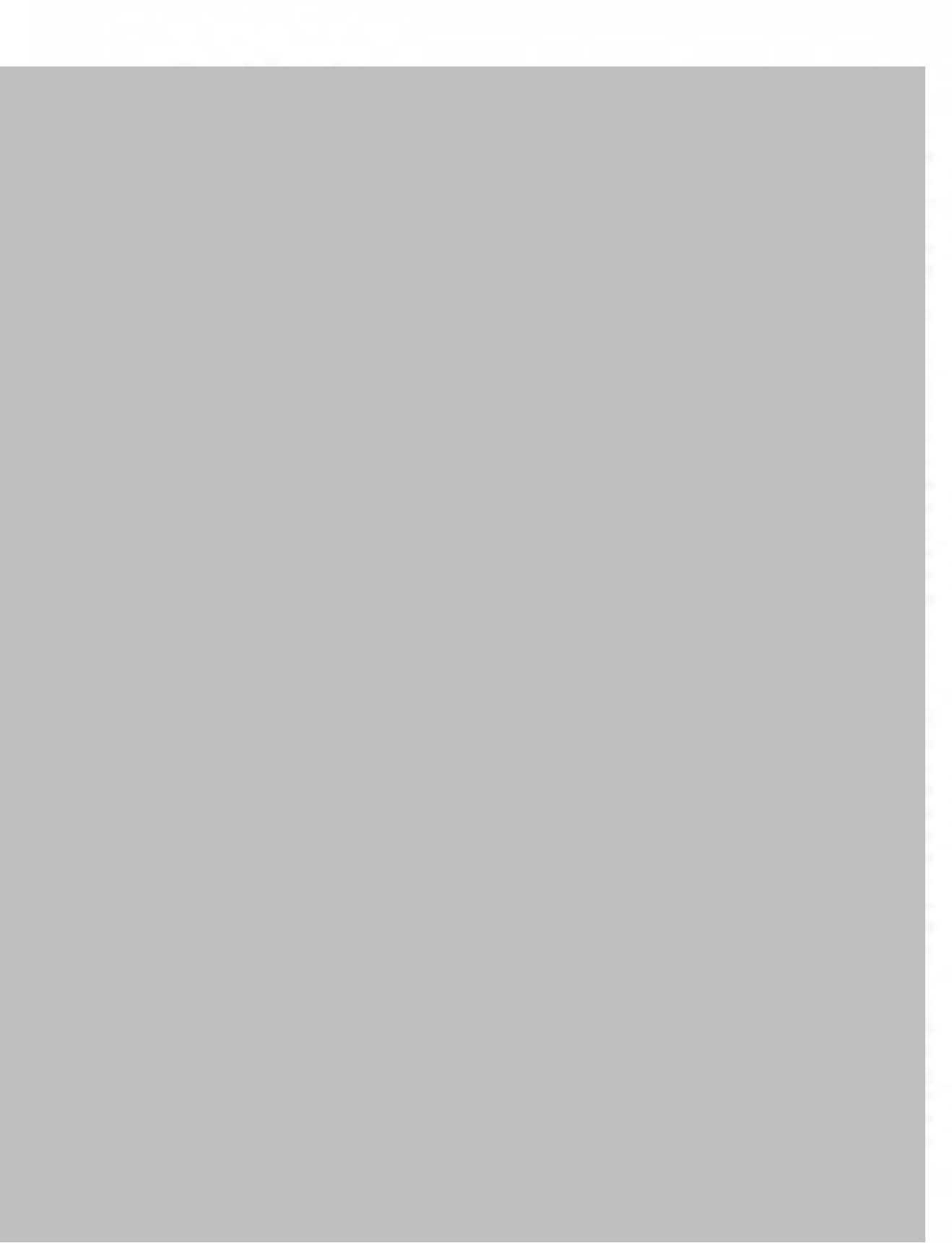


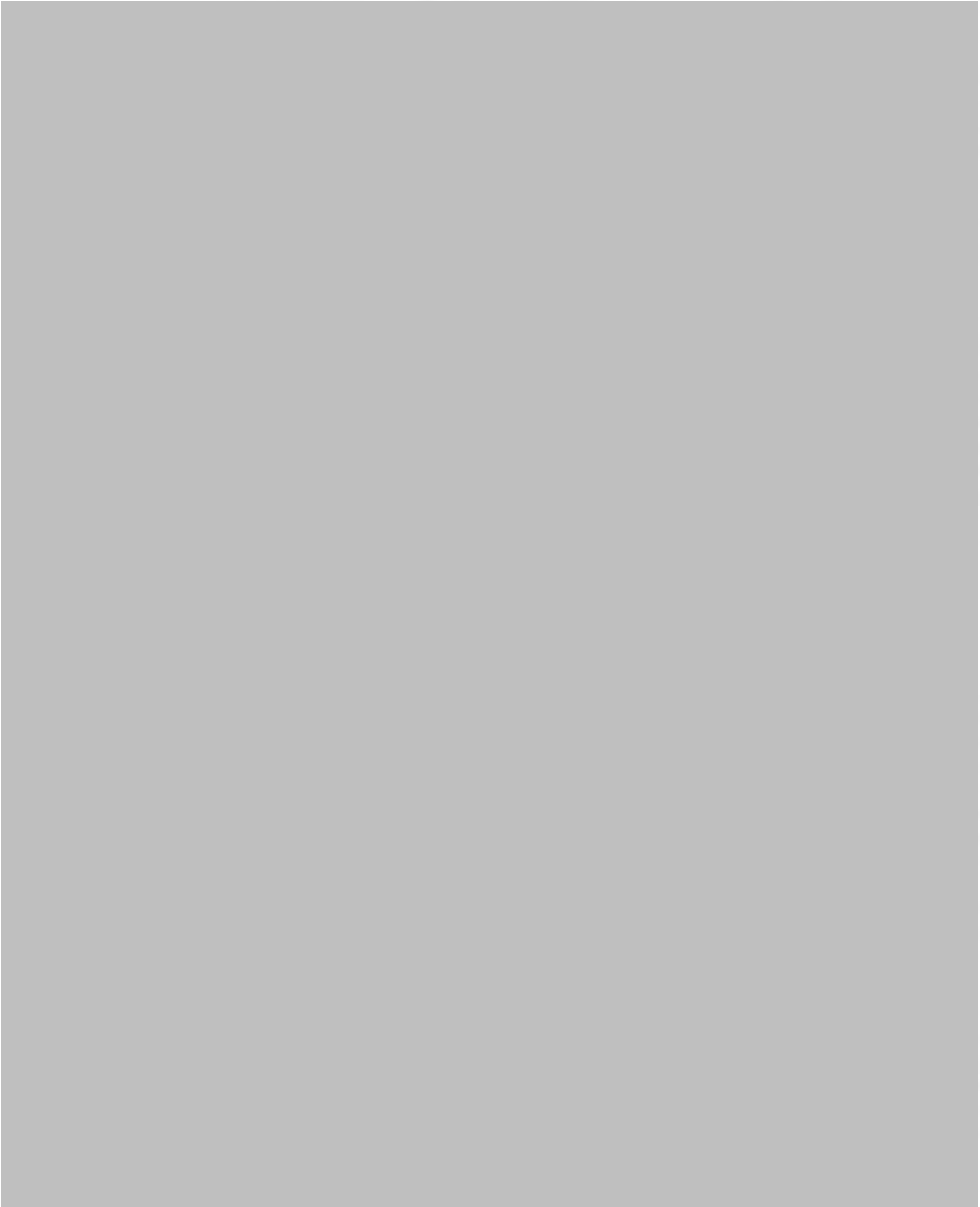


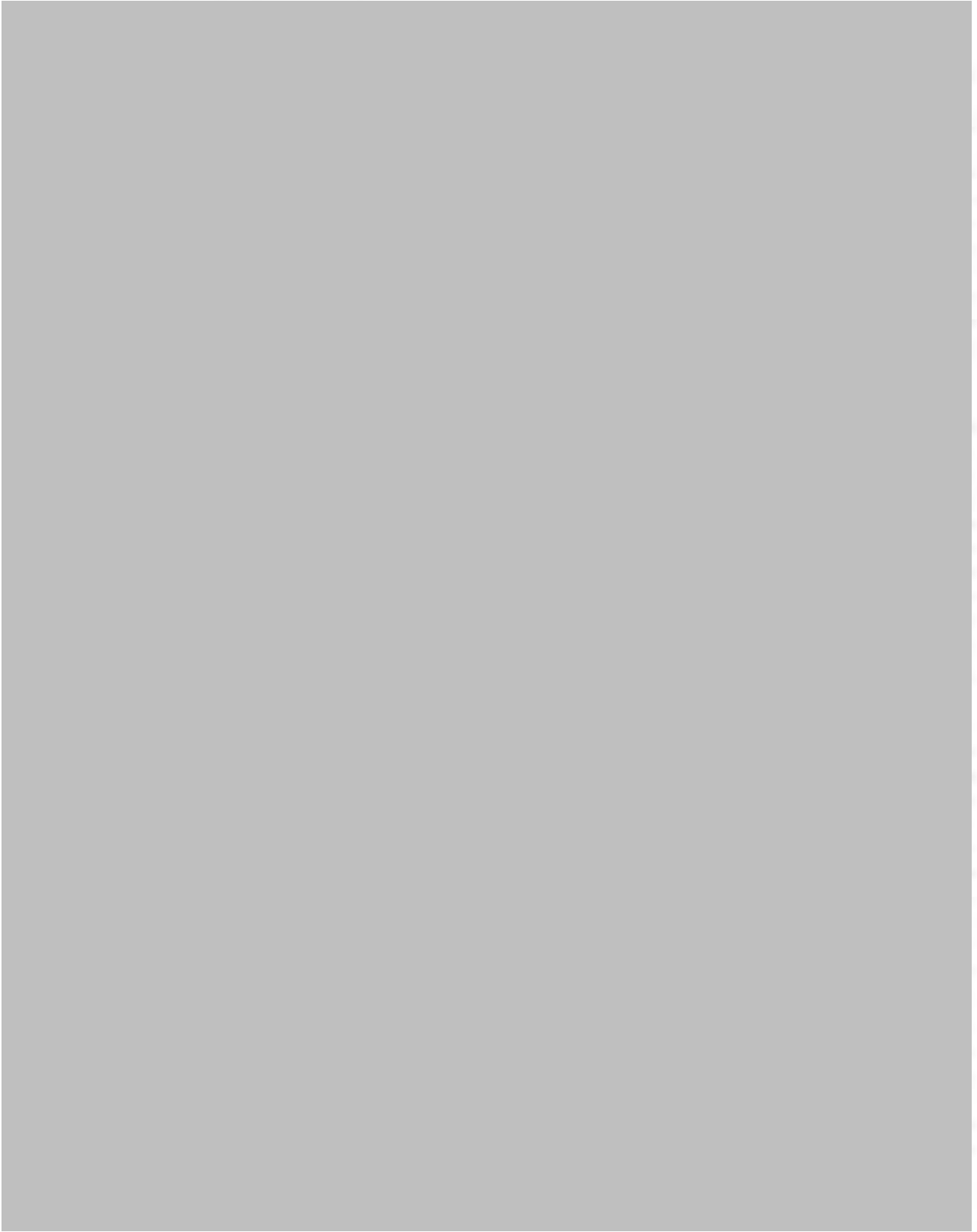






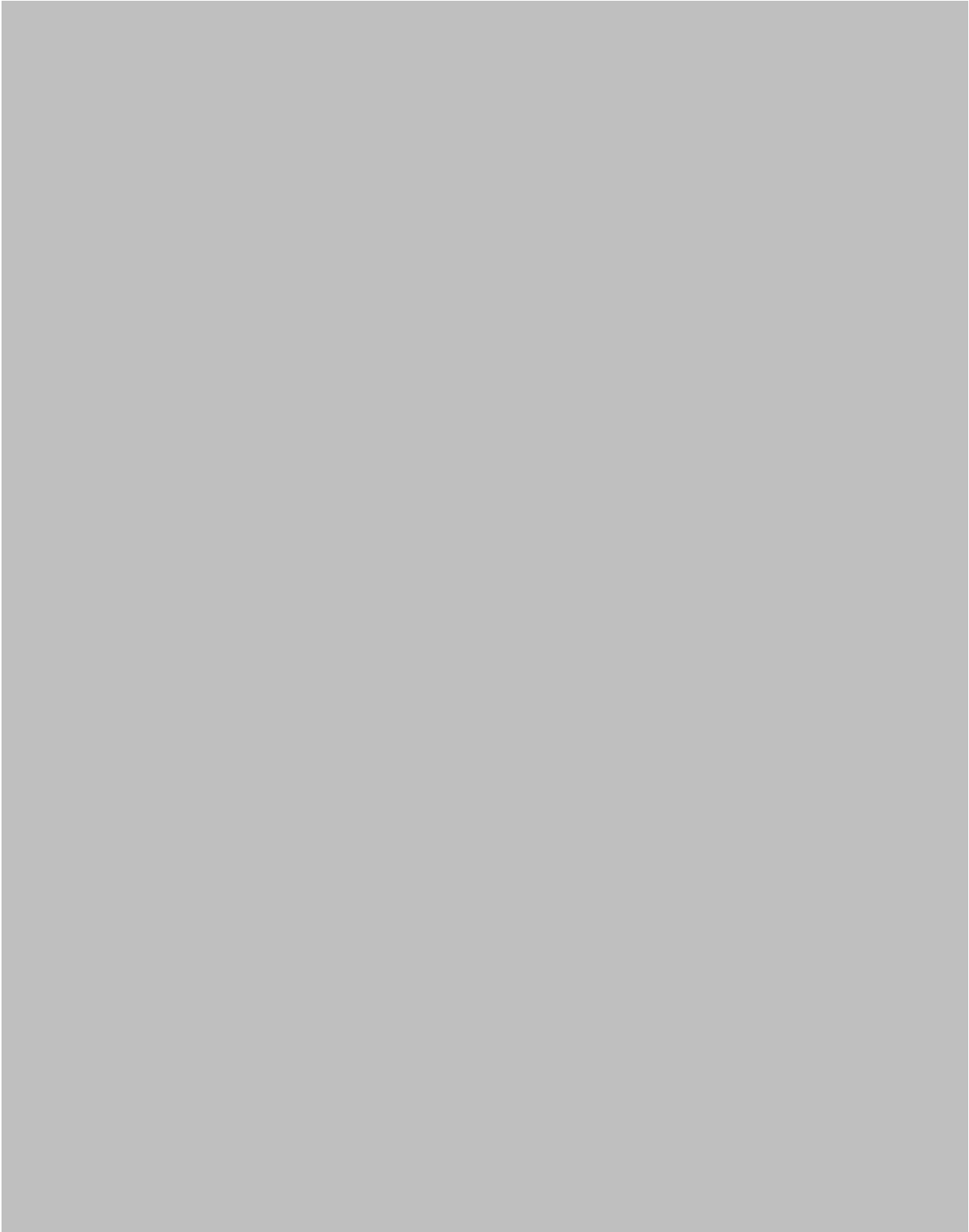


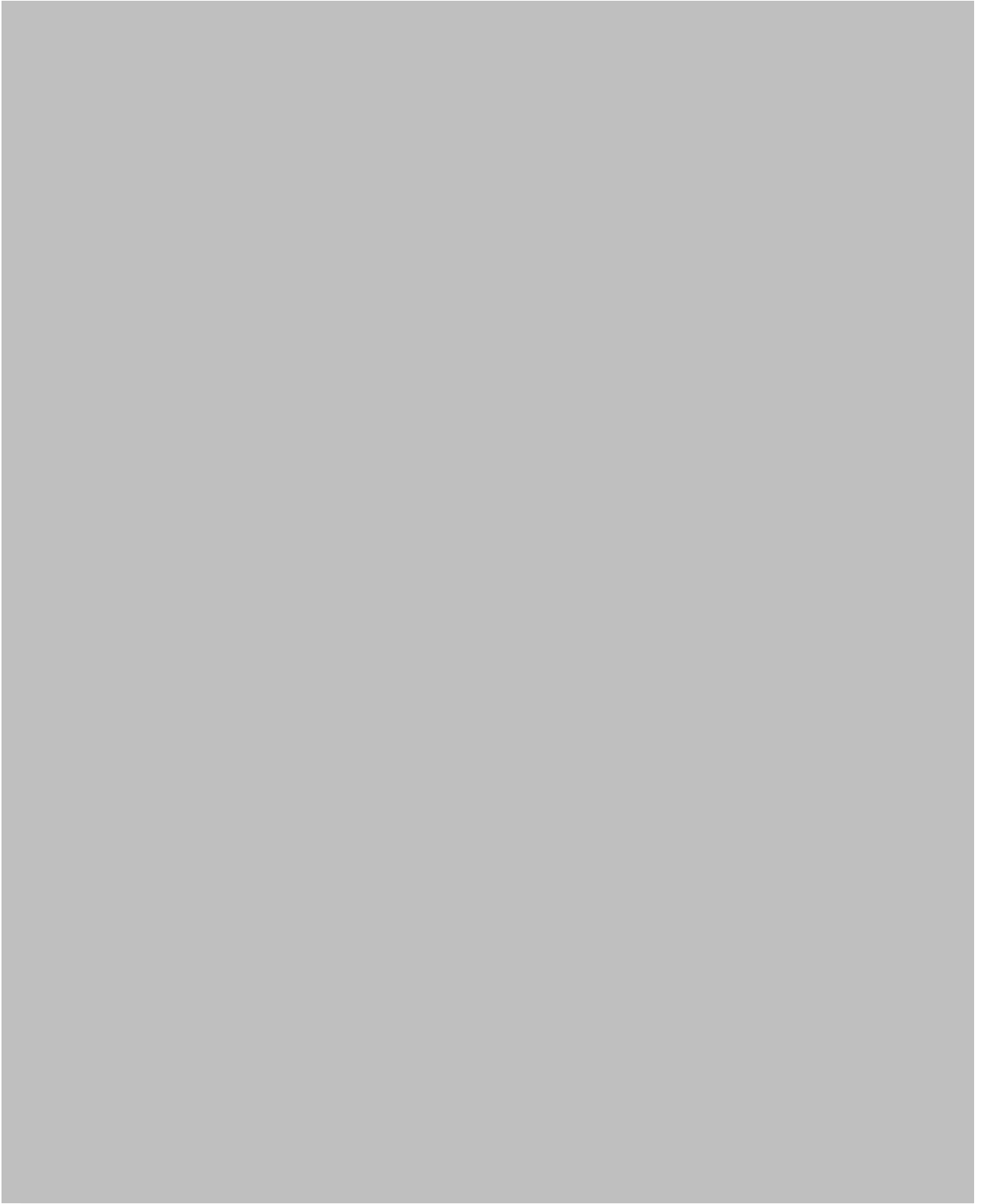














PART III

**TREATING OFFENDERS WITH HIGH LEVELS OF PSYCHOPATHIC TRAITS IN
THE UK**

PART III: TREATING OFFENDERS WITH HIGH LEVELS OF PSYCHOPATHIC TRAITS IN THE UK

This section aims to investigate the effectiveness of the Chromis programme in working with offenders with high levels of psychopathic traits.

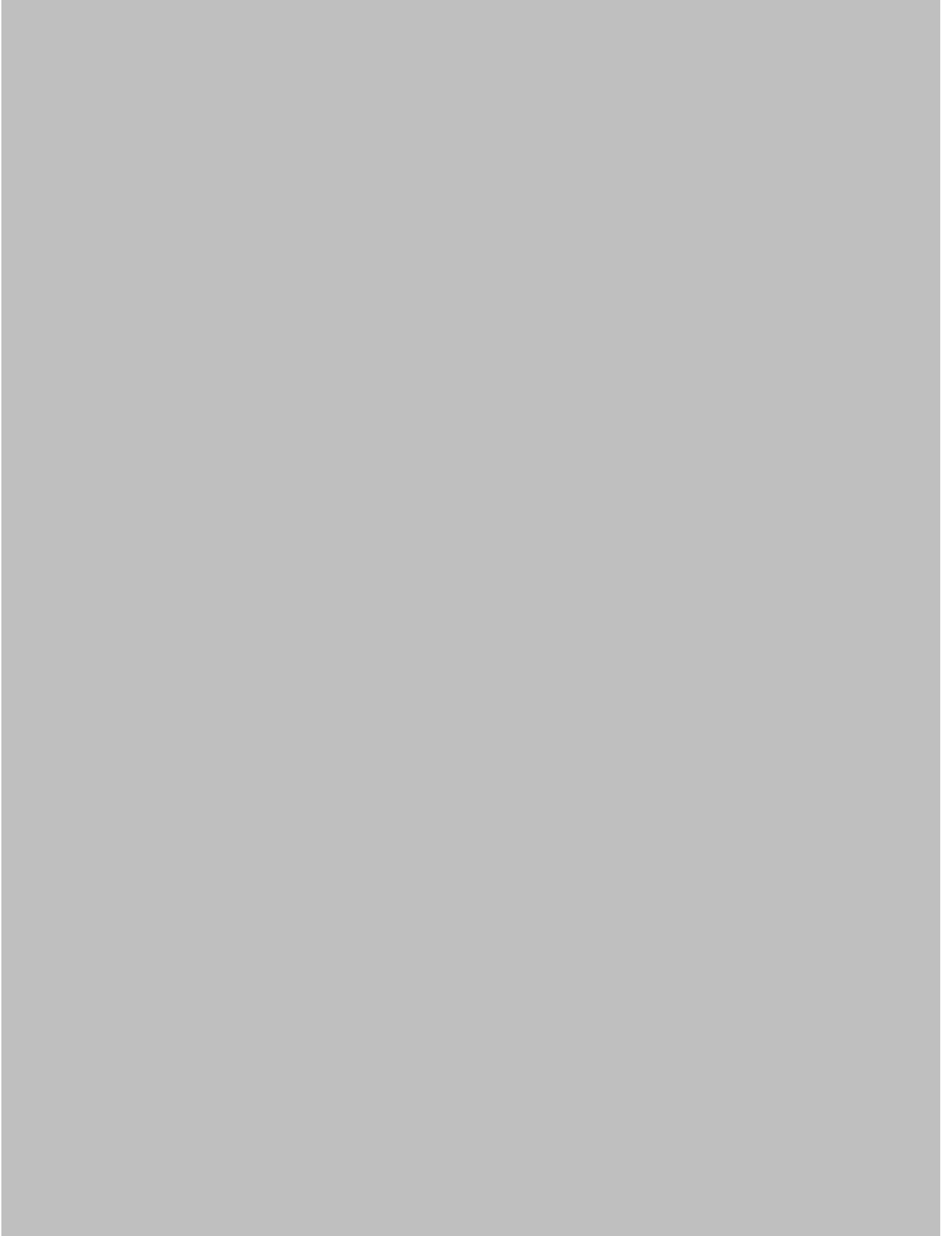
Chapter Three Rationale: The Chromis programme: From conception to evaluation.

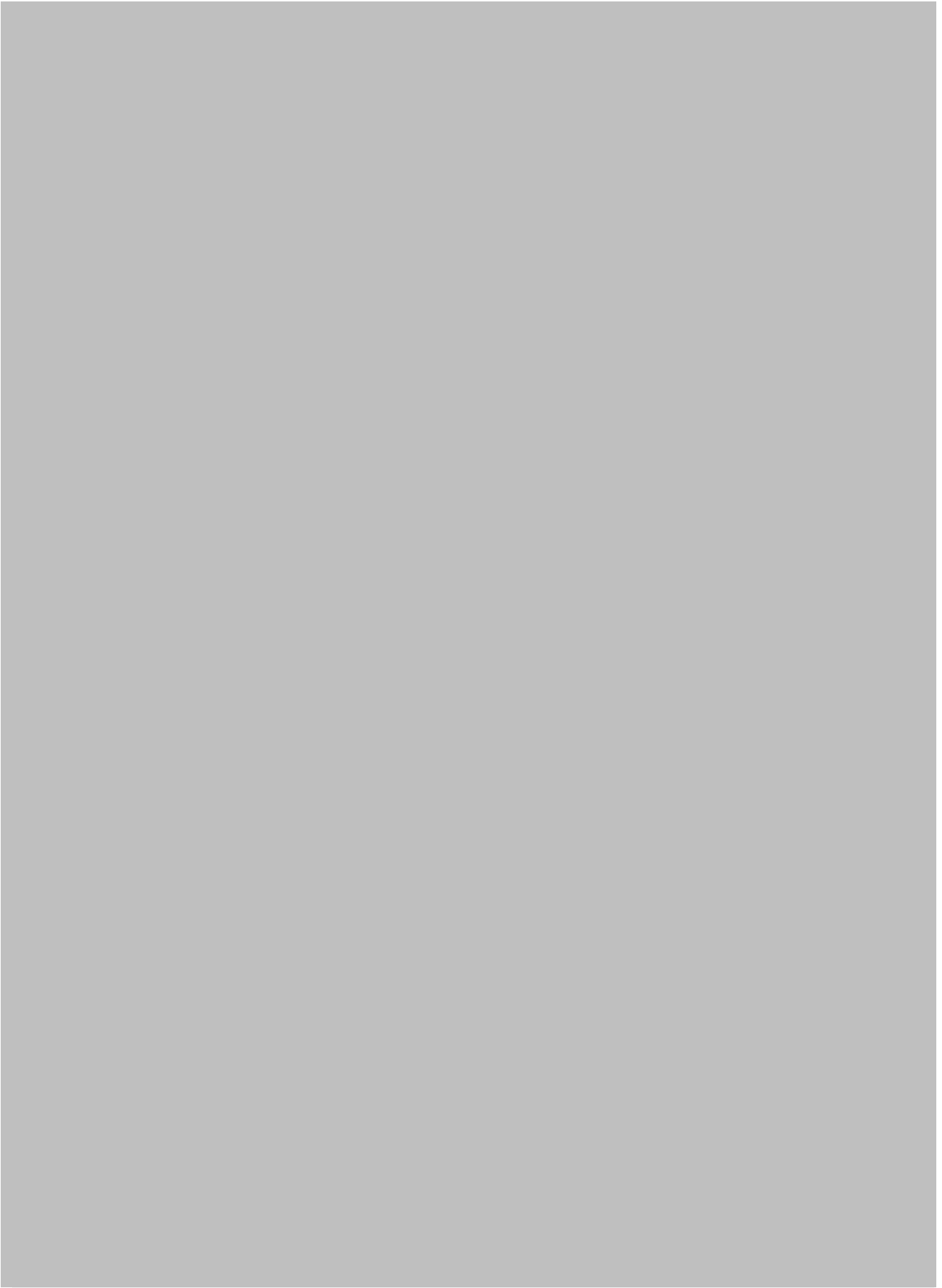
This chapter aims to outline the development, structure and content of the Chromis programme.

The following chapter was published as:

Tew, J., & Atkinson, R. (2013). The Chromis programme: From conception to evaluation. *Psychology, Crime and Law*, 19, 415-431.

CHAPTER 3

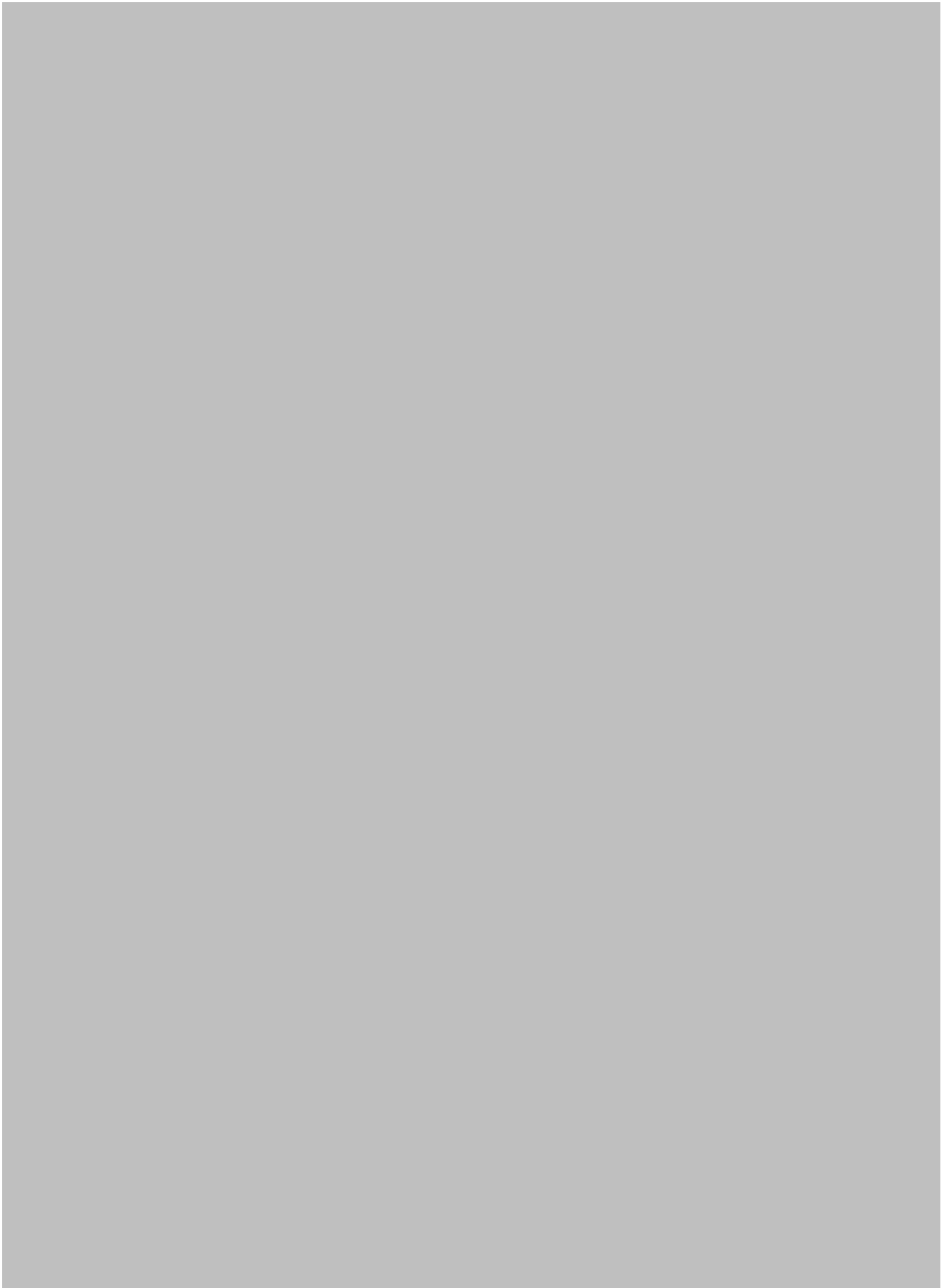


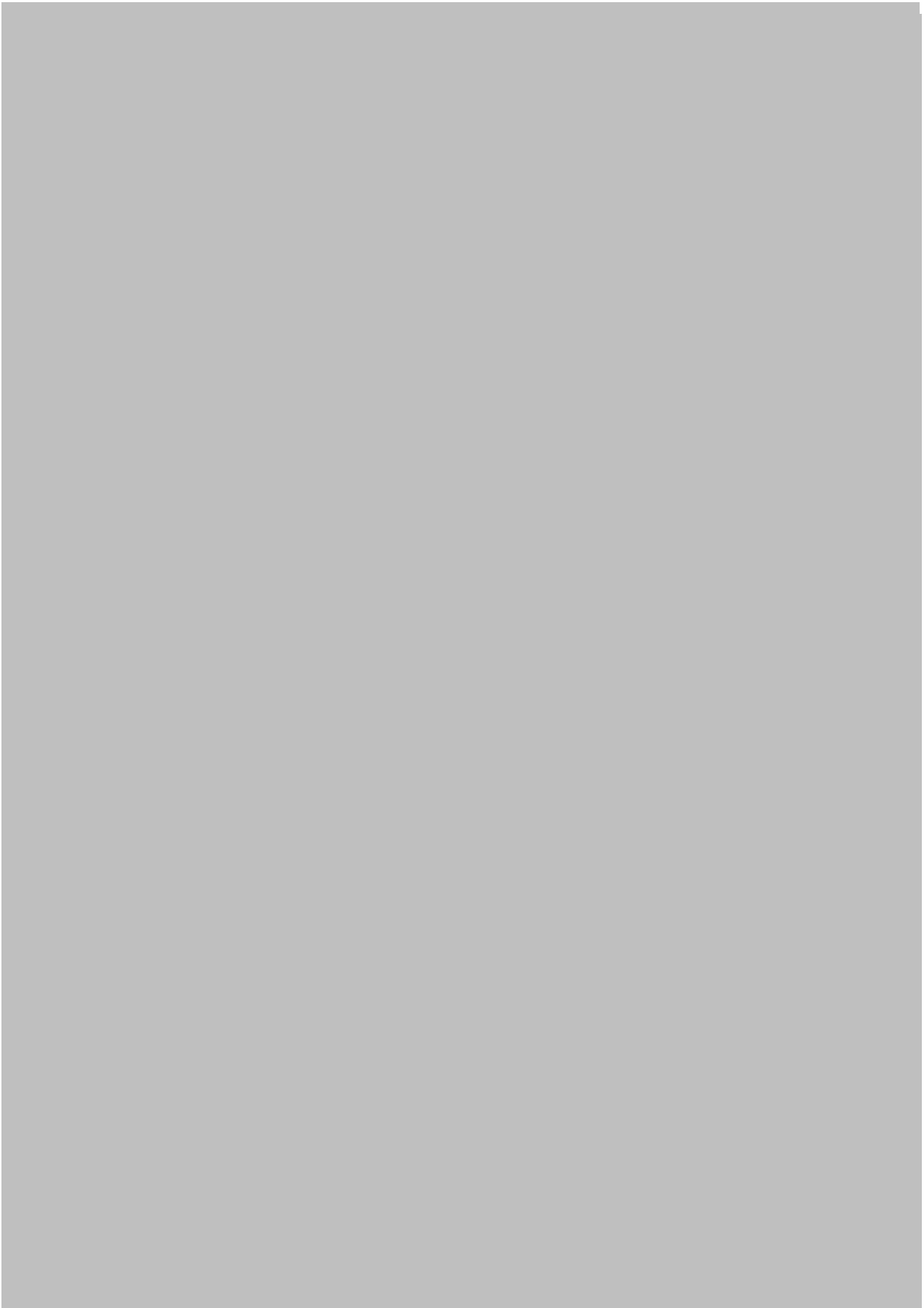




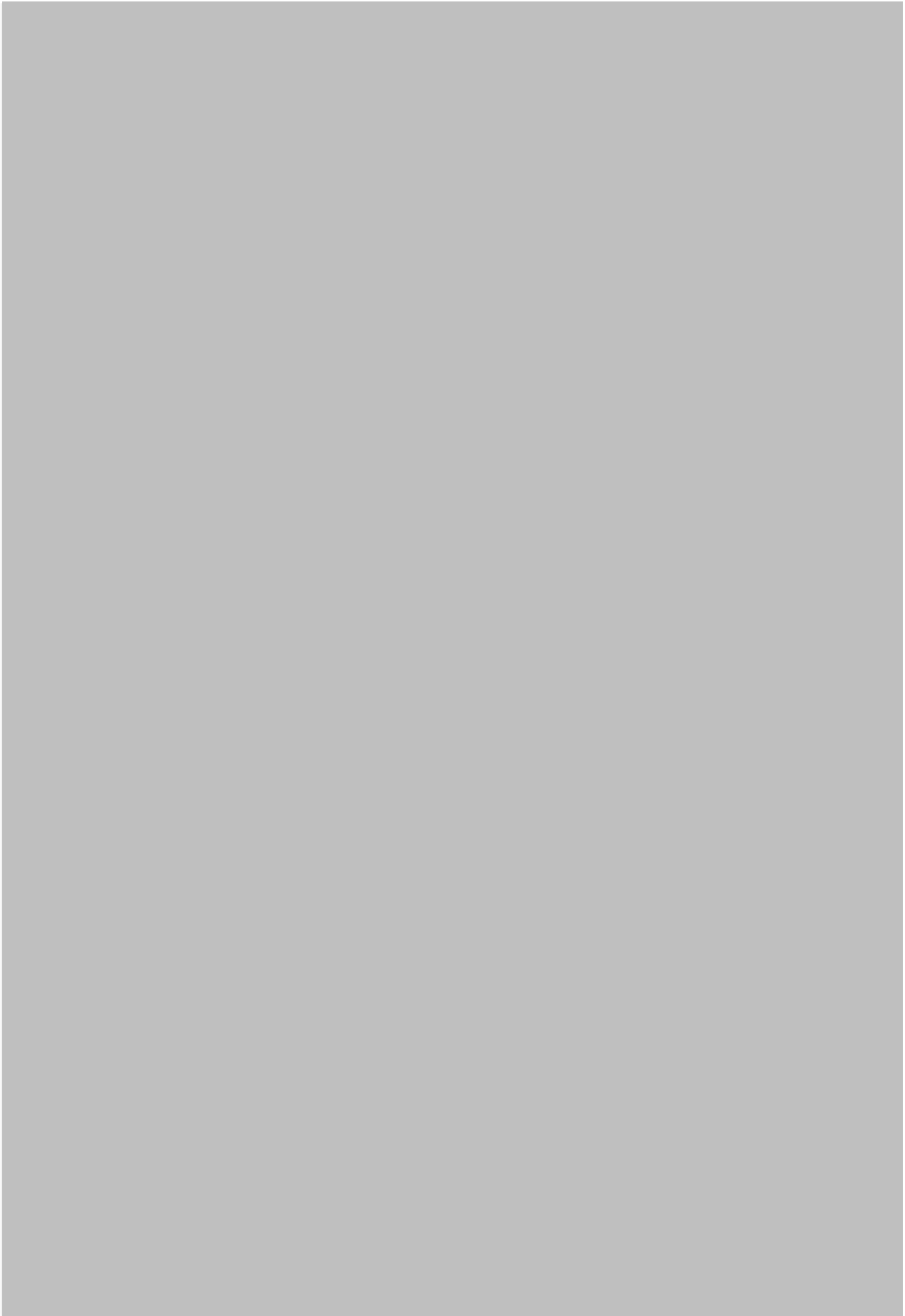


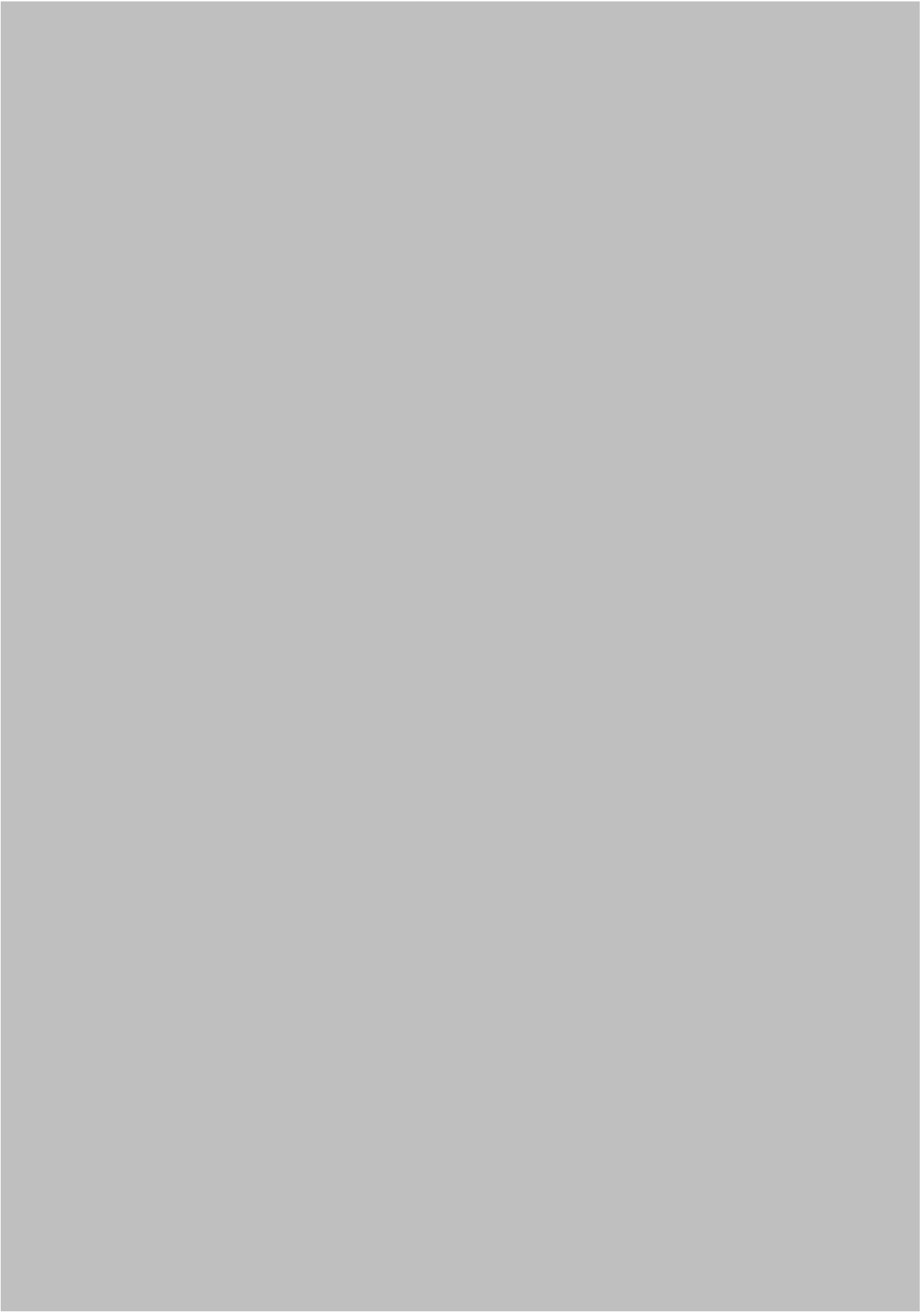




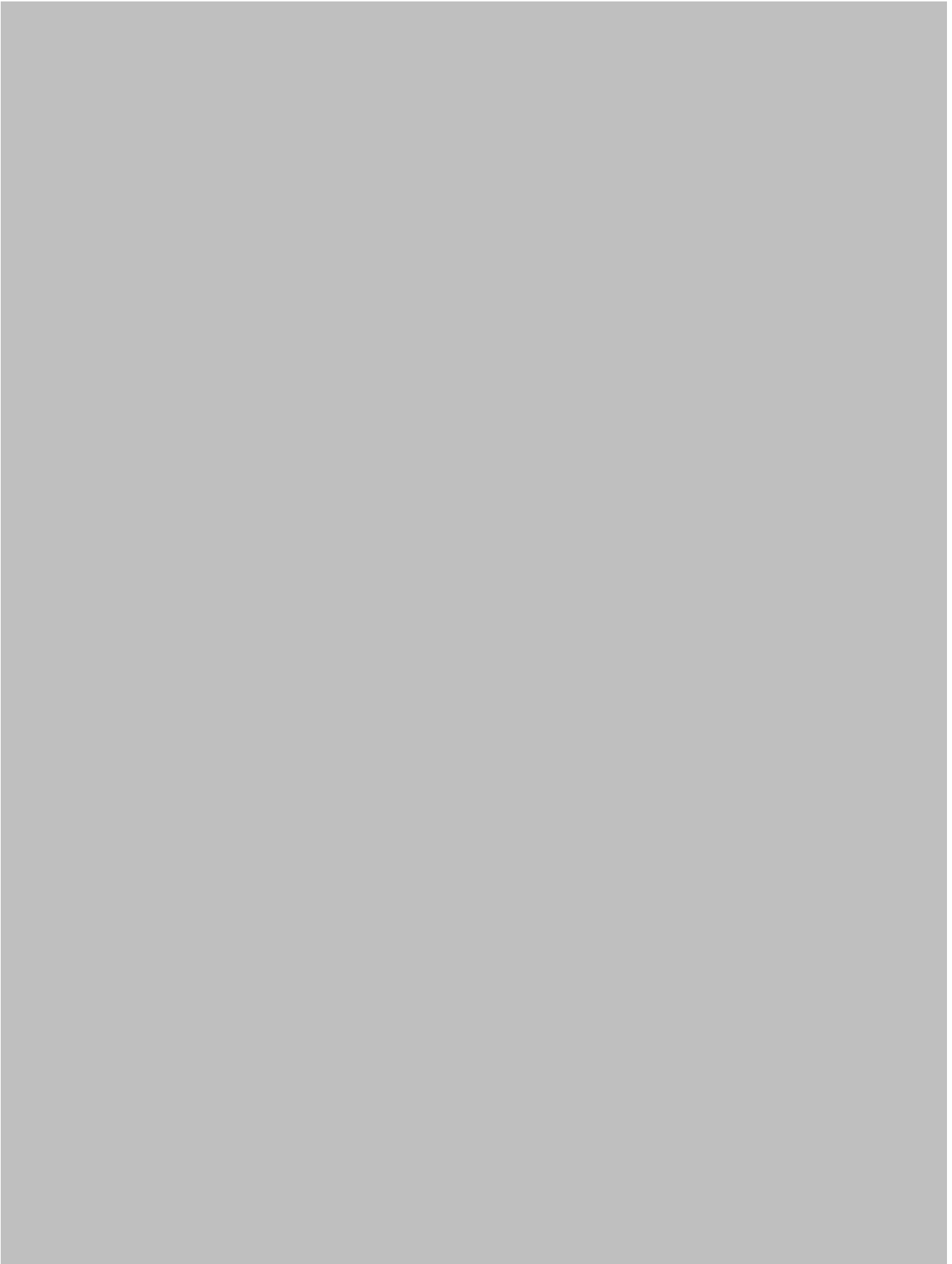






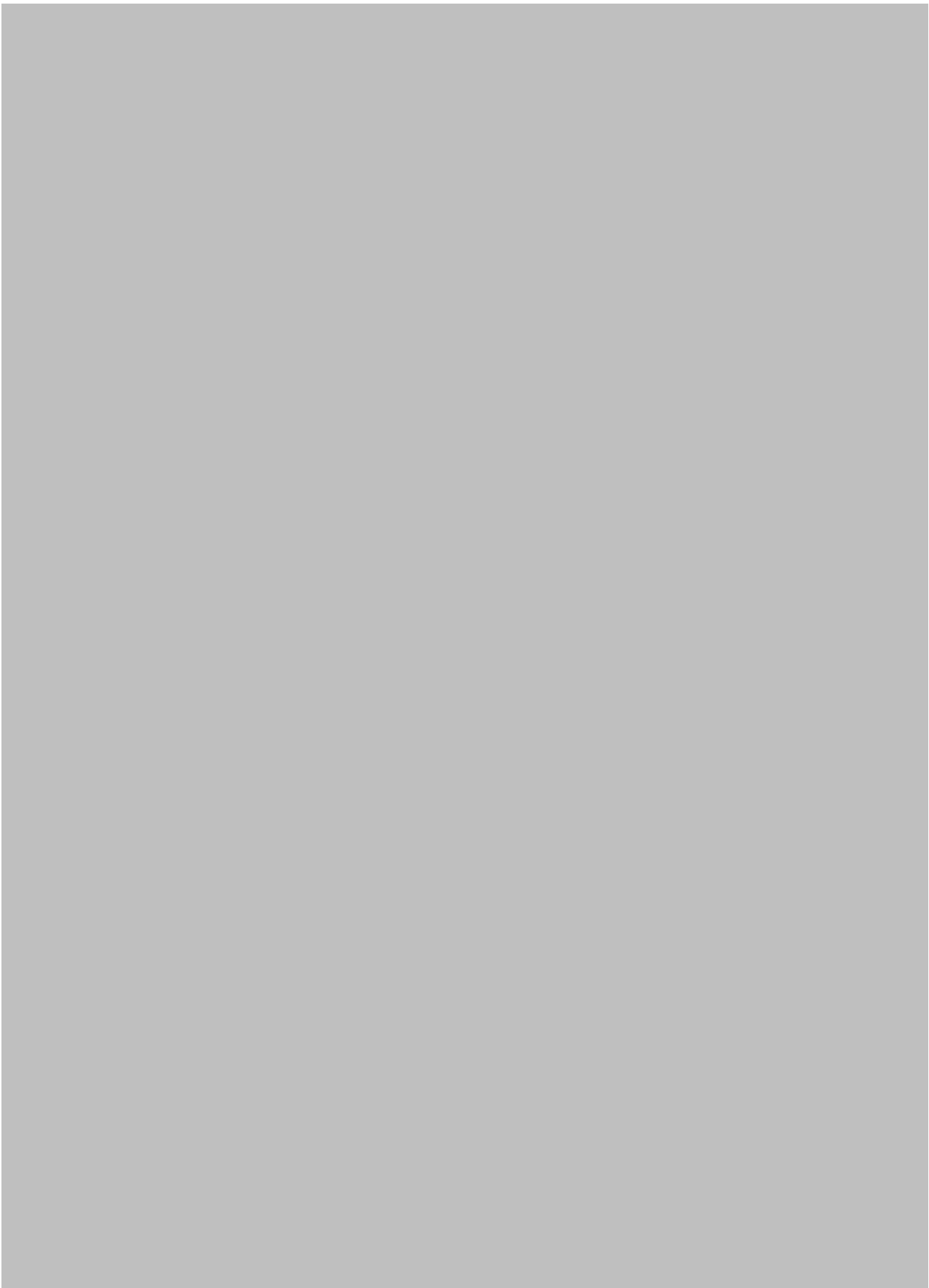














Chapter Four Rationale: The Chromis experience: An interpretive phenomenological analysis of participants' experience of the Chromis programme

This chapter aims to understand the experience of Chromis participants using interpretive phenomenological analysis (IPA). The themes identified across the four cases are reported on. Using IPA with individuals with high levels of psychopathic traits was challenging. These challenges are reflected on in more detail in a separate article published in the *Qualitative Methods in Psychology Bulletin* (See appendix C).

The following article has been published as:

Tew, J., Bennett, A. L., & Dixon, L. (2015). The Chromis experience: An interpretive phenomenological analysis of participants' experience of the Chromis programme.

International Journal of Offender therapy and Comparative Criminology, DOI:
10.1177/0306624X15586037.

CHAPTER FOUR

Article

The Chromis Experience: An Interpretative Phenomenological Analysis of Participants' Experiences of the Chromis Programme

International Journal of
Offender Therapy and
Comparative Criminology
1–21

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DOI: 10.1177/0306624X15586037

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Jenny Tew¹, Alice L. Bennett², and Louise Dixon¹

Abstract

This study examined male prisoners' experiences of participating in the Chromis programme, which aims to address violent behaviour in offenders with high levels of psychopathic traits. Four men who had completed Chromis and moved to new locations were purposefully sampled. This provided the opportunity for men to discuss their experiences after participating in the full programme and away from any influences of the treatment environment. Interview schedules were designed using interpretative phenomenological analysis (IPA). Interview transcripts were analysed independently by two researchers using IPA who then compared and contrasted findings to develop superordinate themes across the group. Four superordinate themes resulted. These were "It's me and what I want that matters," Reaping the rewards, "It's treatment itself that makes things hard," and Make or break external influences. Across the board, participants benefited at some level from Chromis. Participants' experiences highlighted useful information that can inform practice with individuals with high levels of psychopathy. The clinical implications are discussed.

Keywords

Chromis, psychopathy, IPA, violence treatment, personality disorder

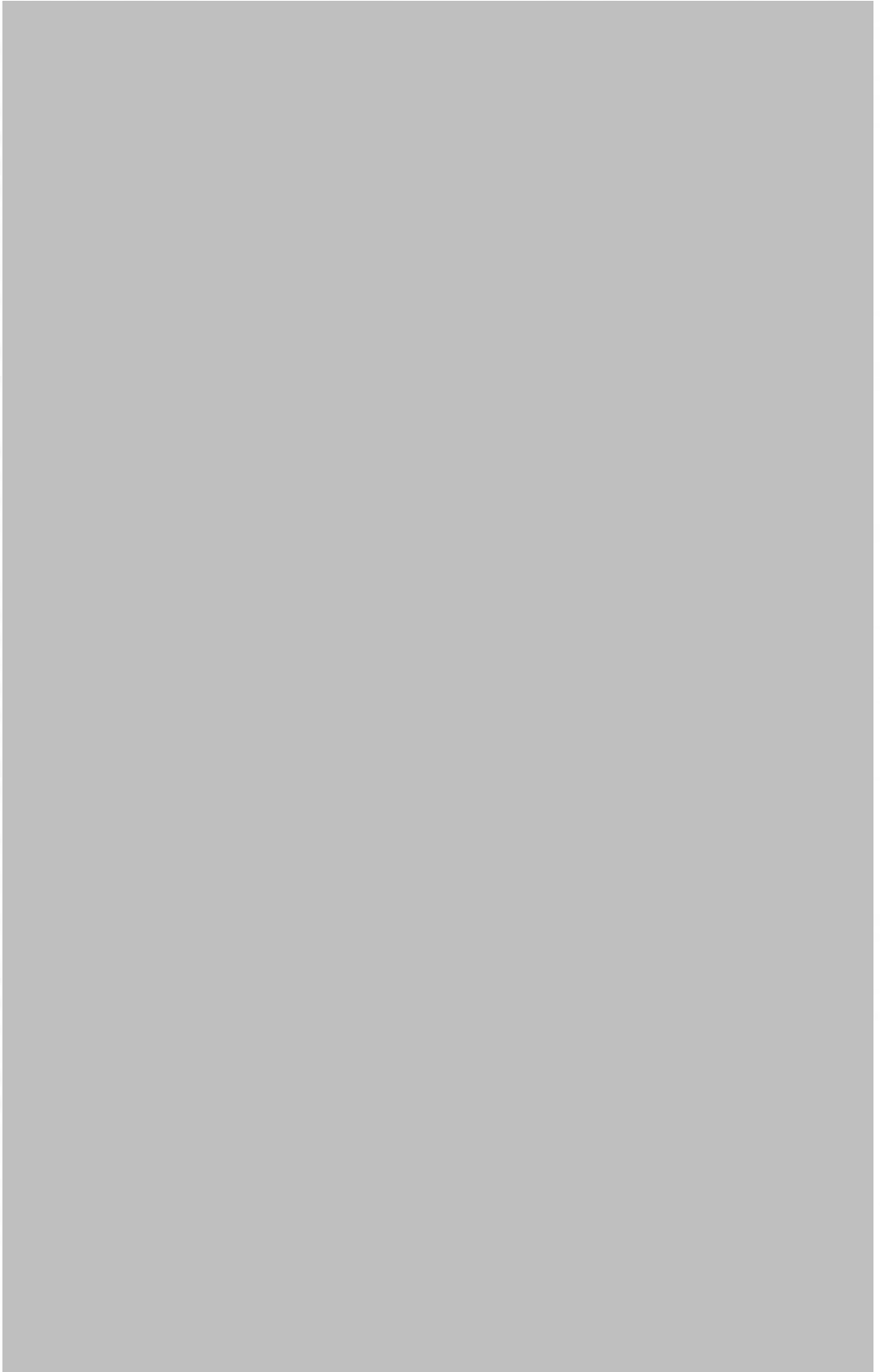
¹The University of Birmingham, England

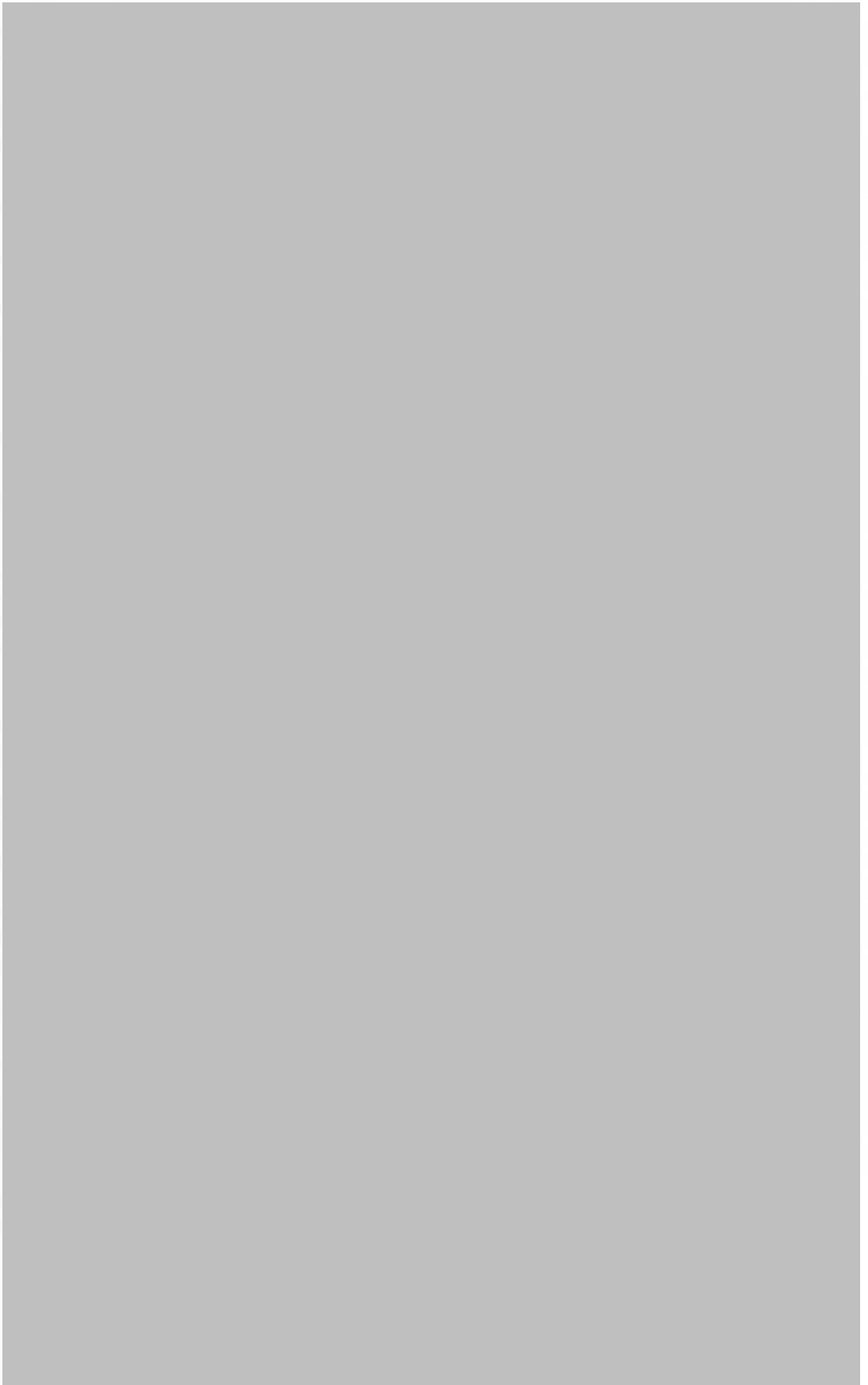
²The Westgate Unit, HM Prison Frankland, Durham, UK

Corresponding Author:

Jenny Tew, National Offender Management Service, 4th Floor, Clive House, 70 Petty France, London SW1H 9EX, England.

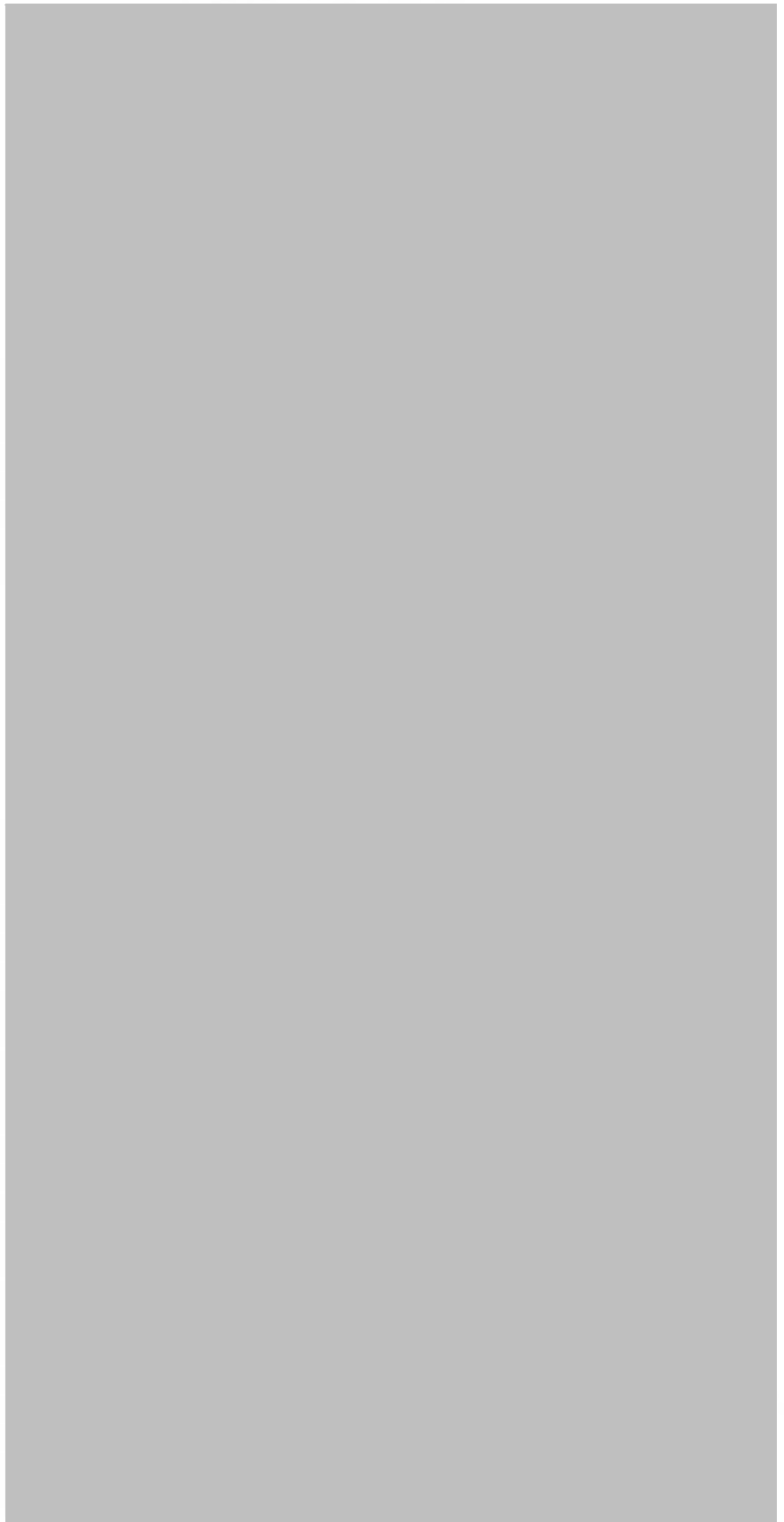
Email: jenny.tew@noms.gsi.gov.uk

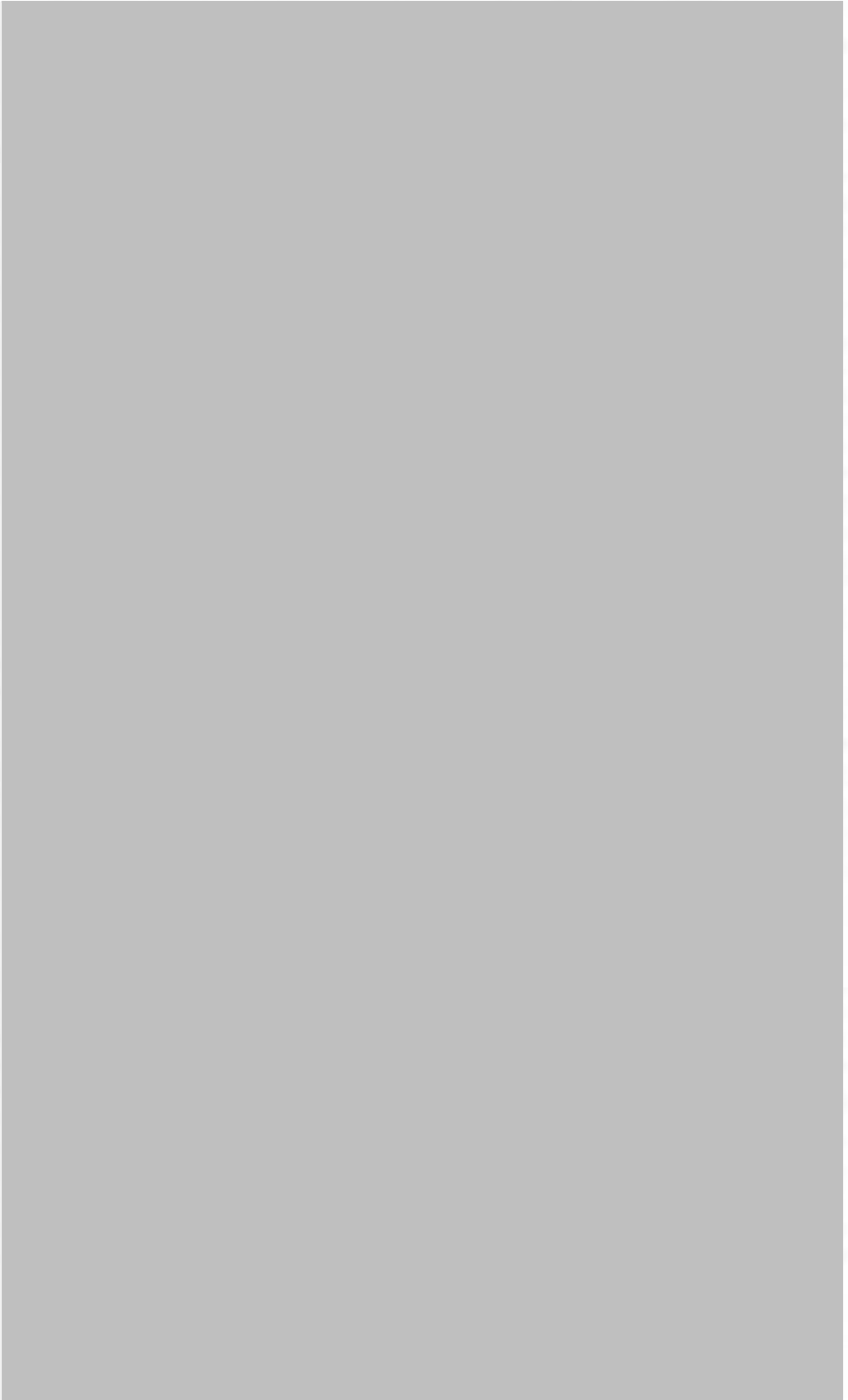


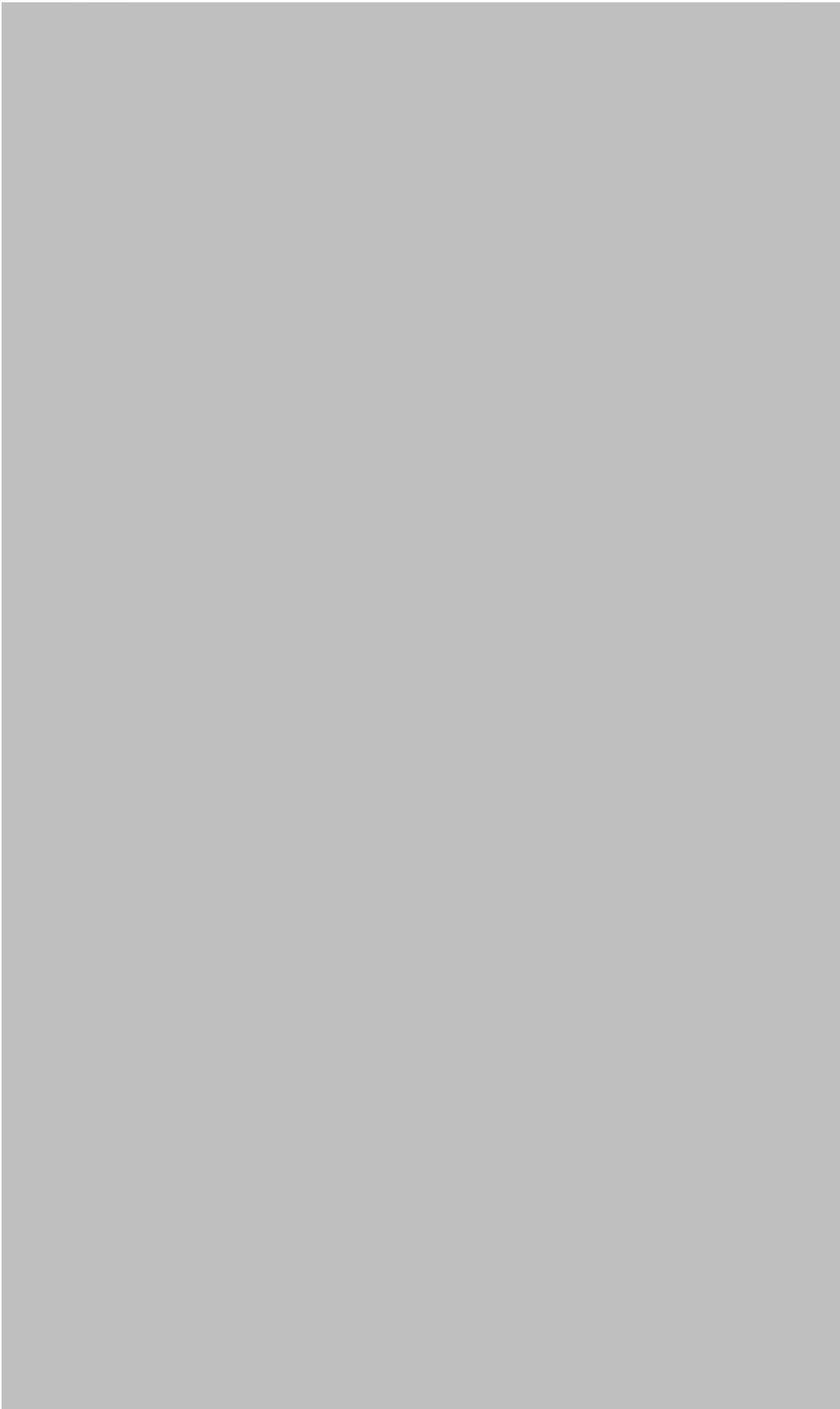




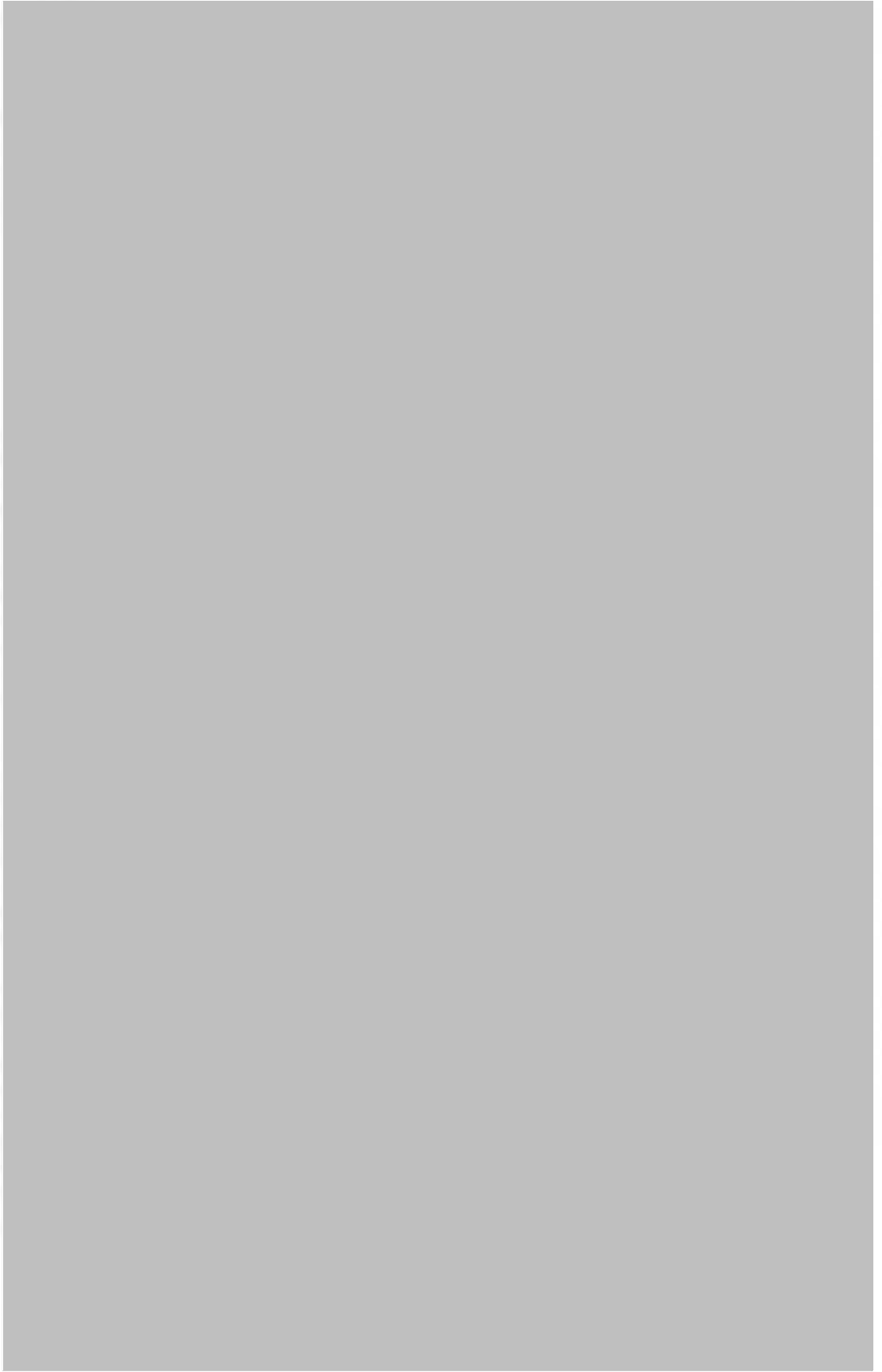
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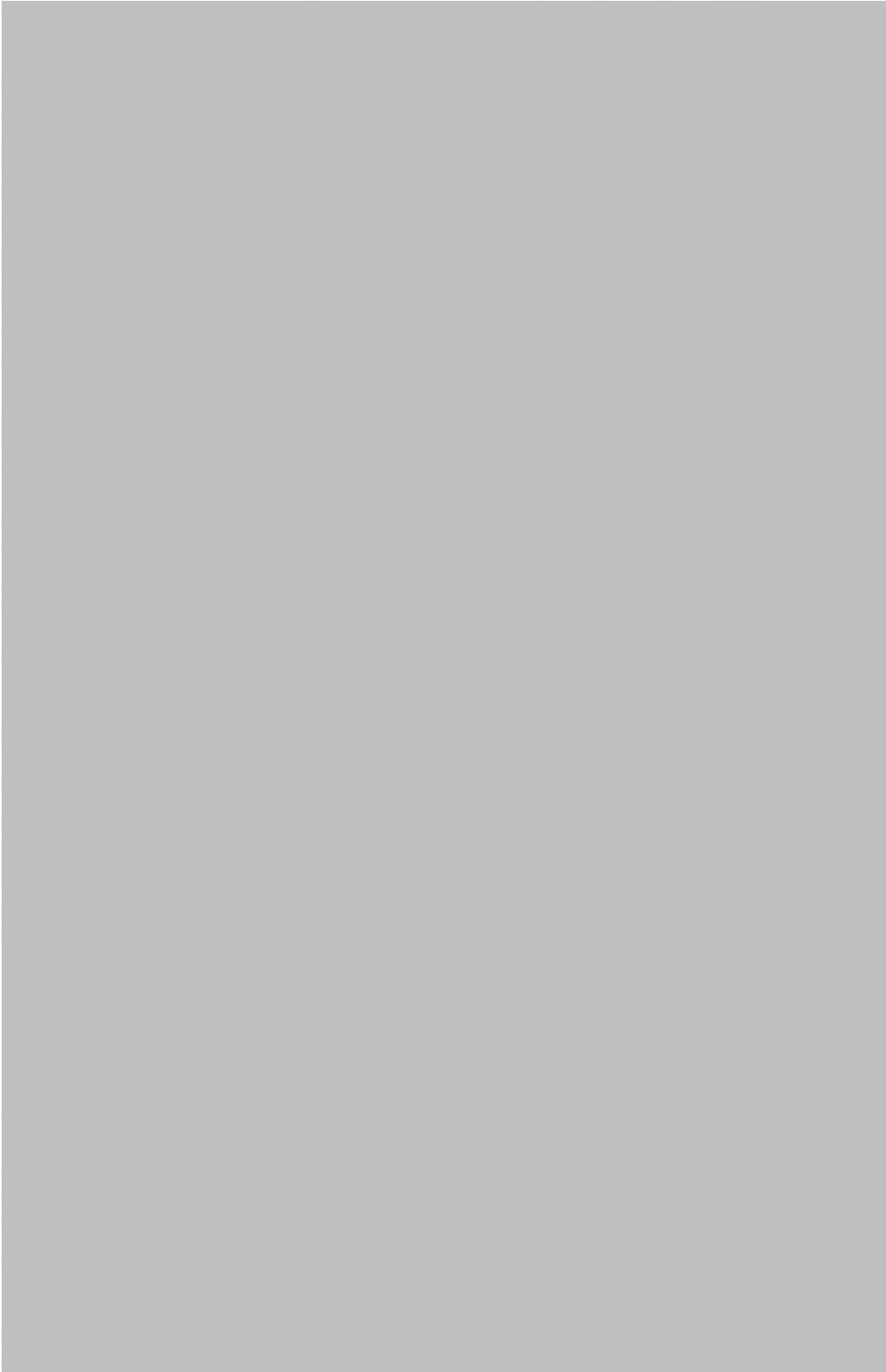






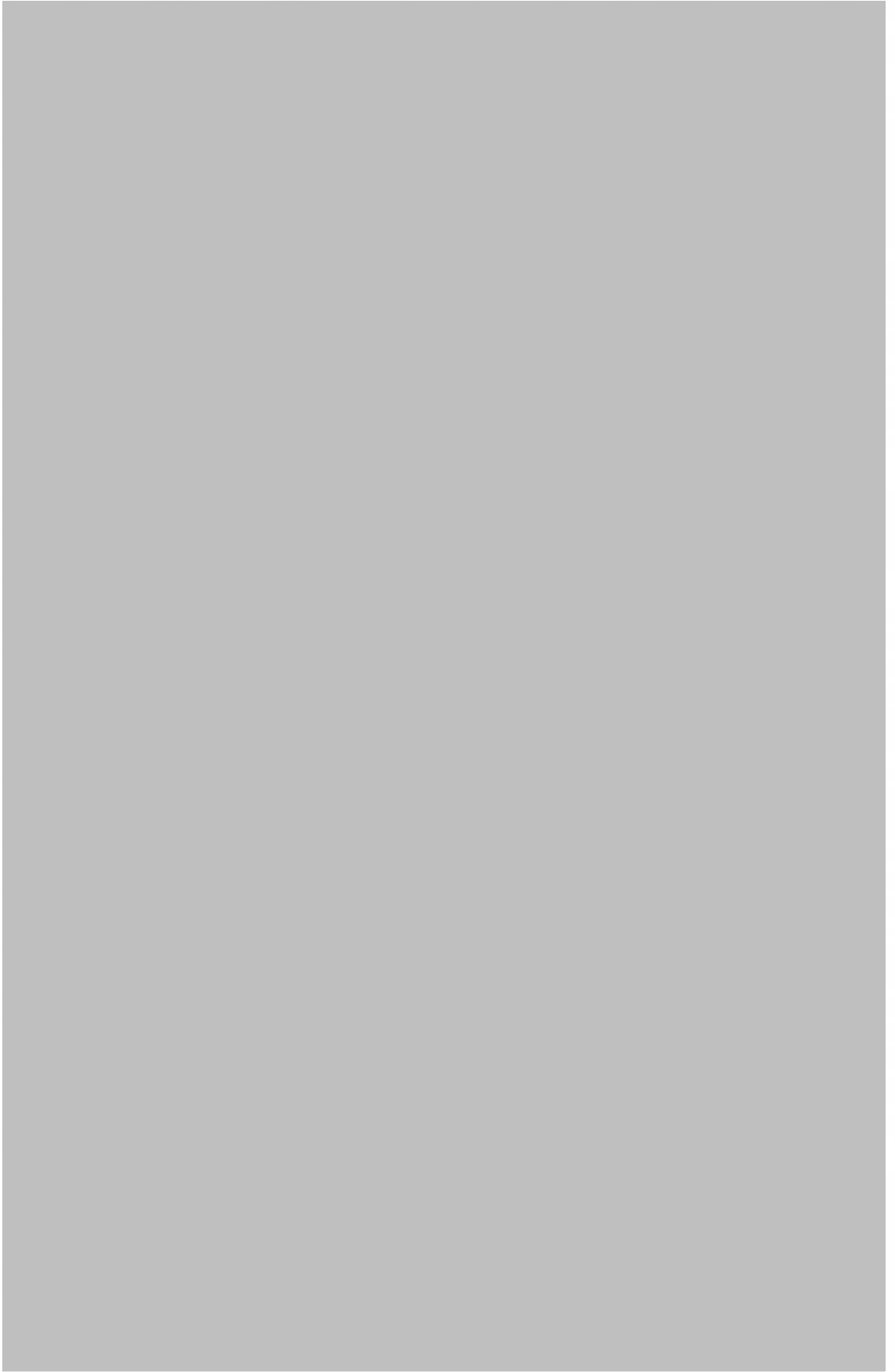


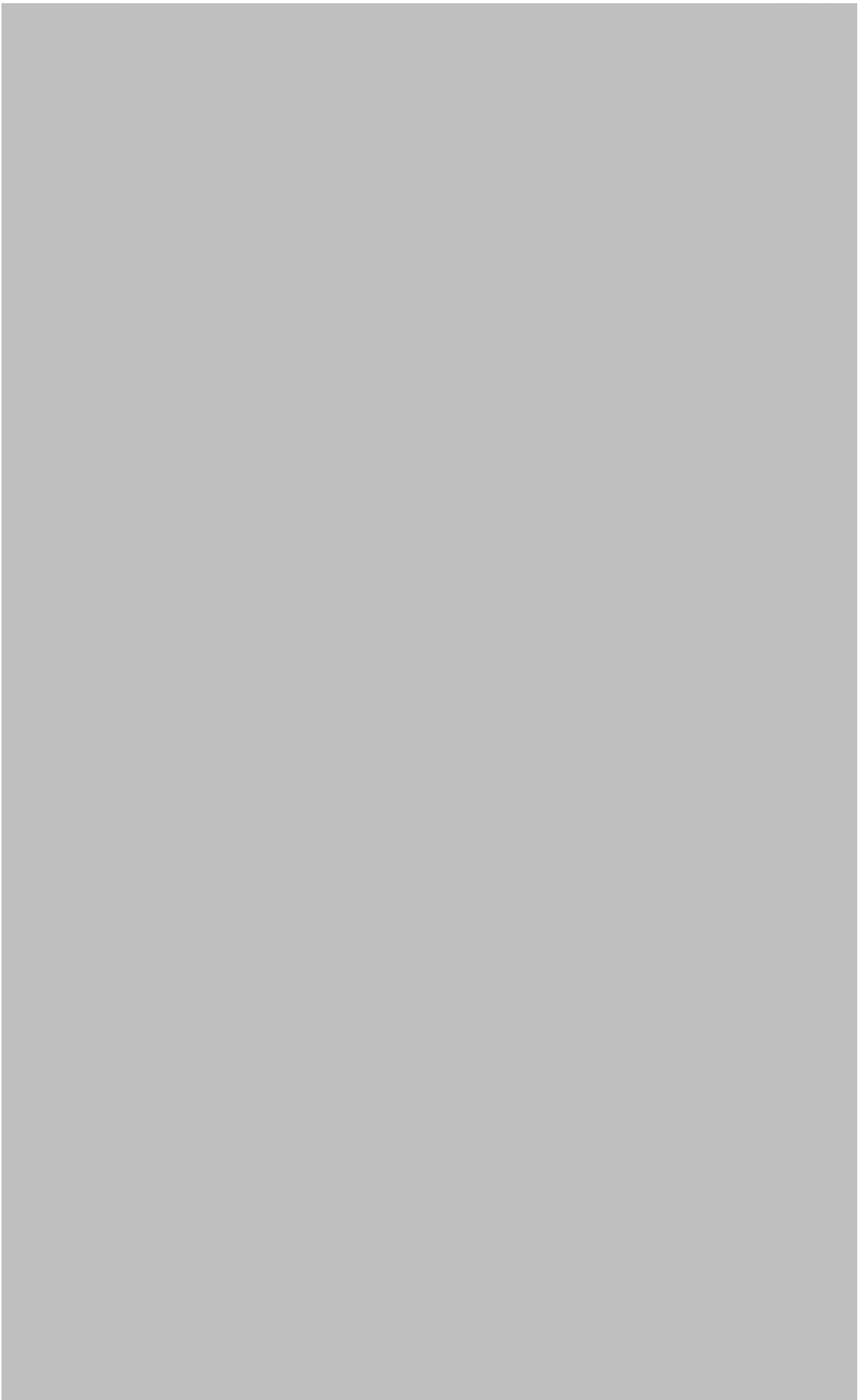


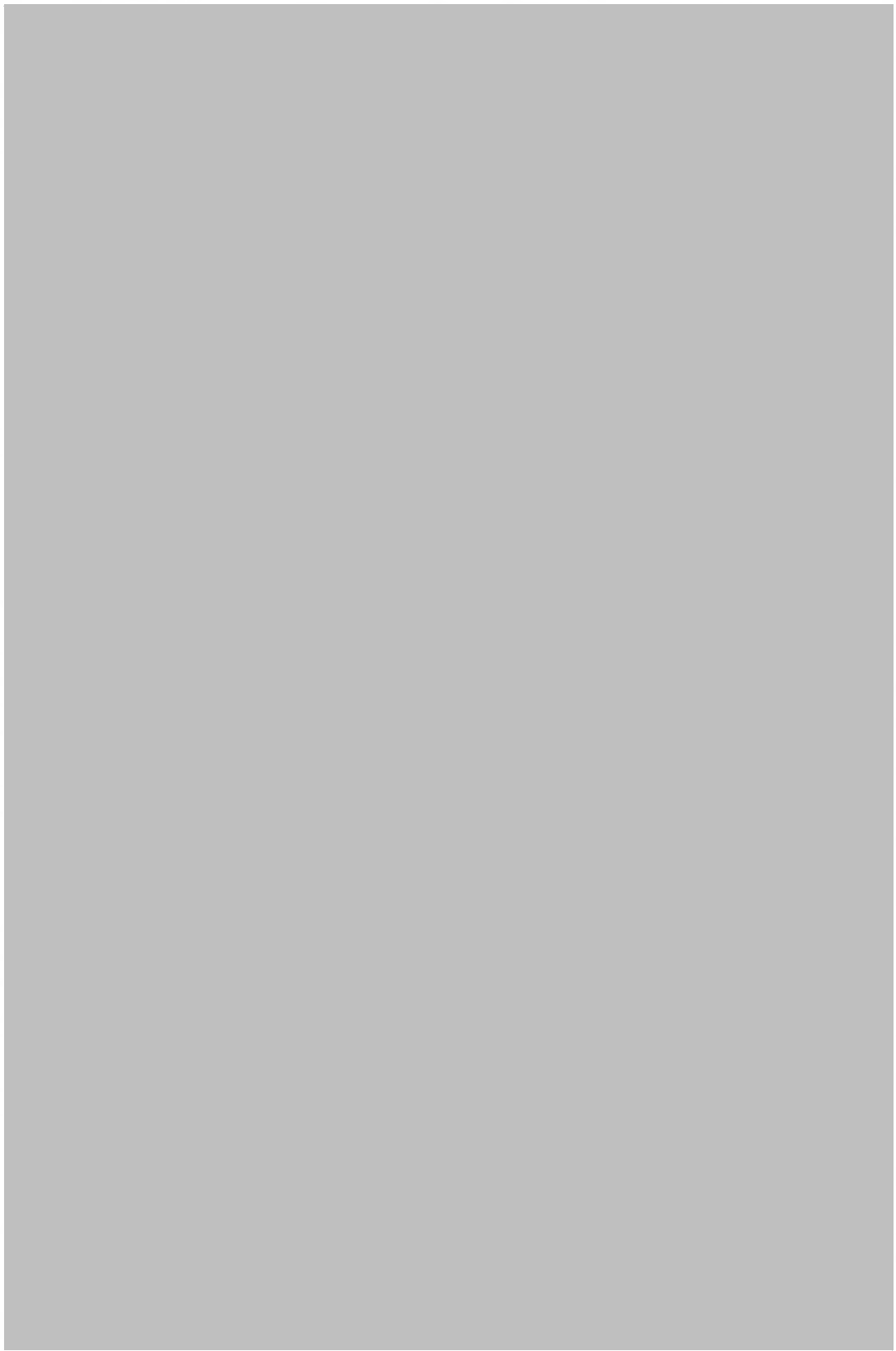


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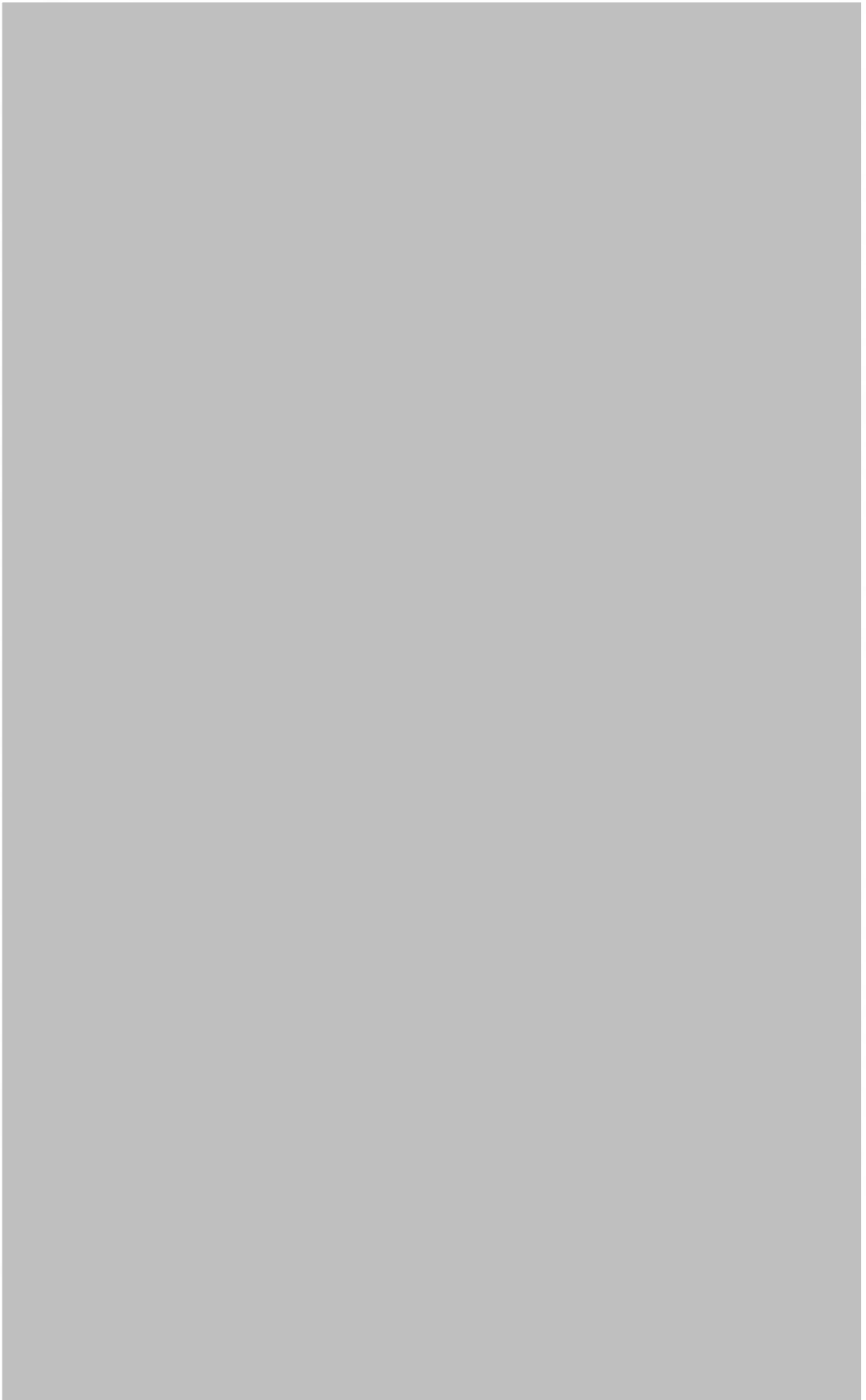


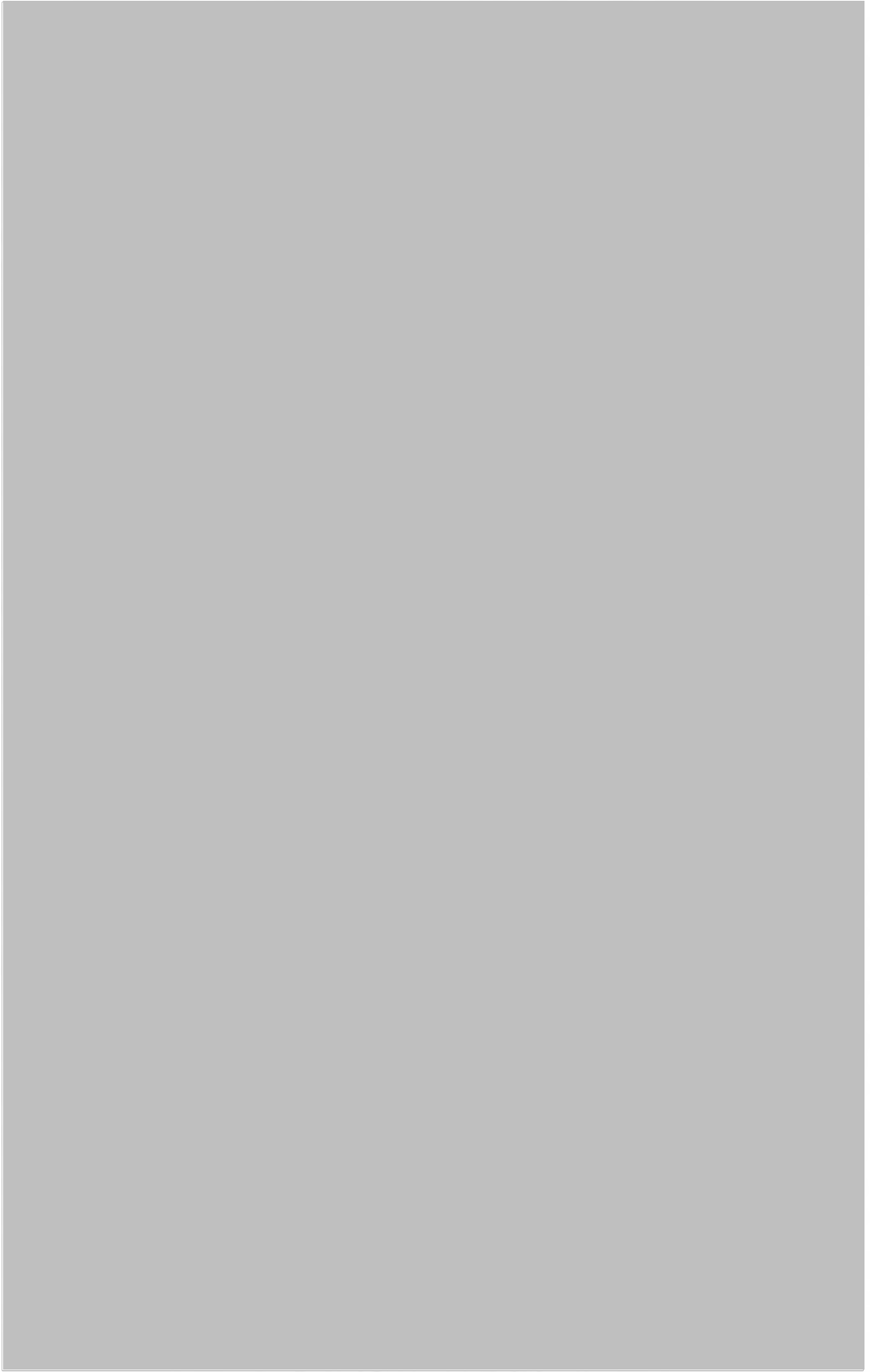




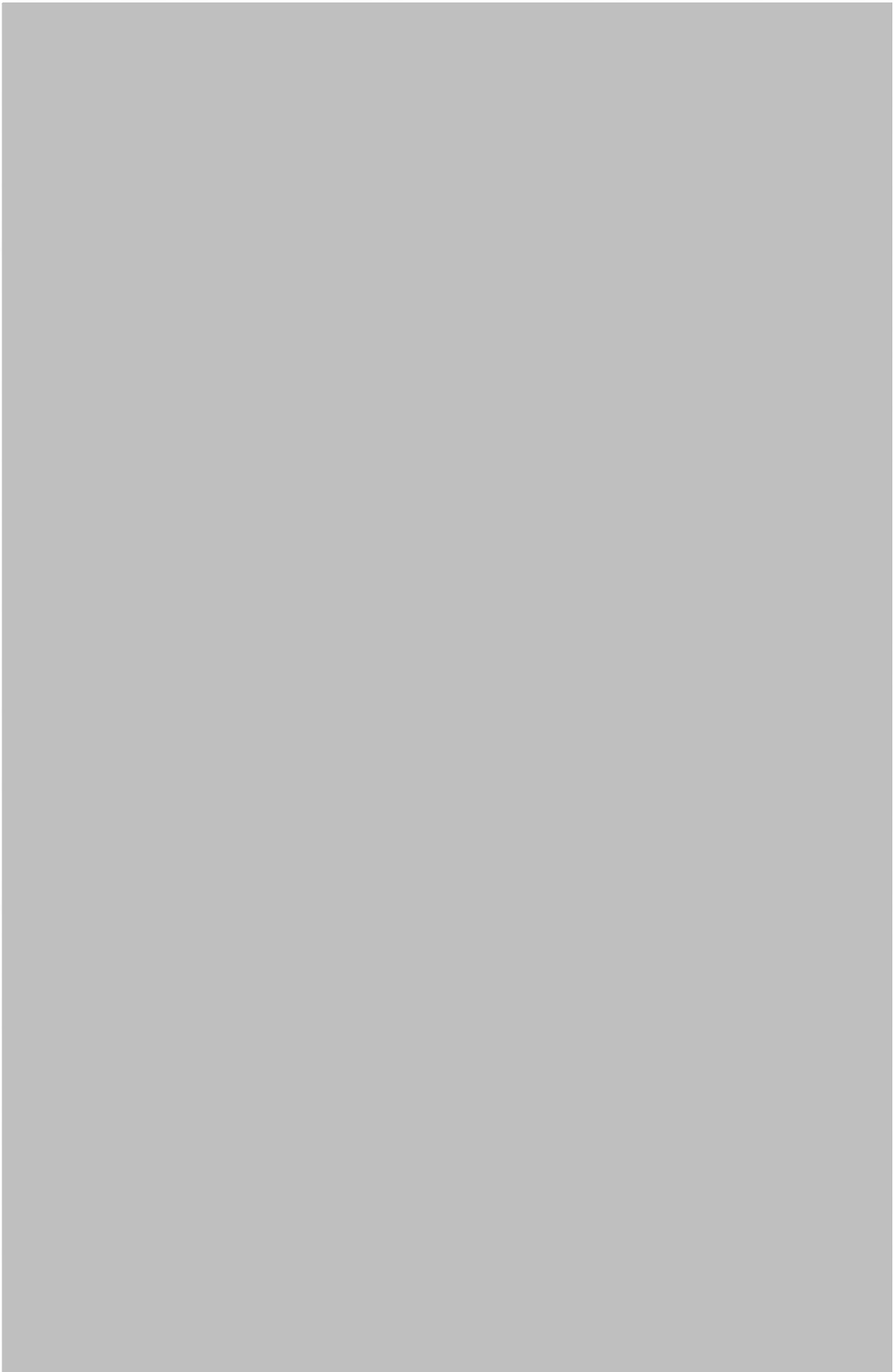


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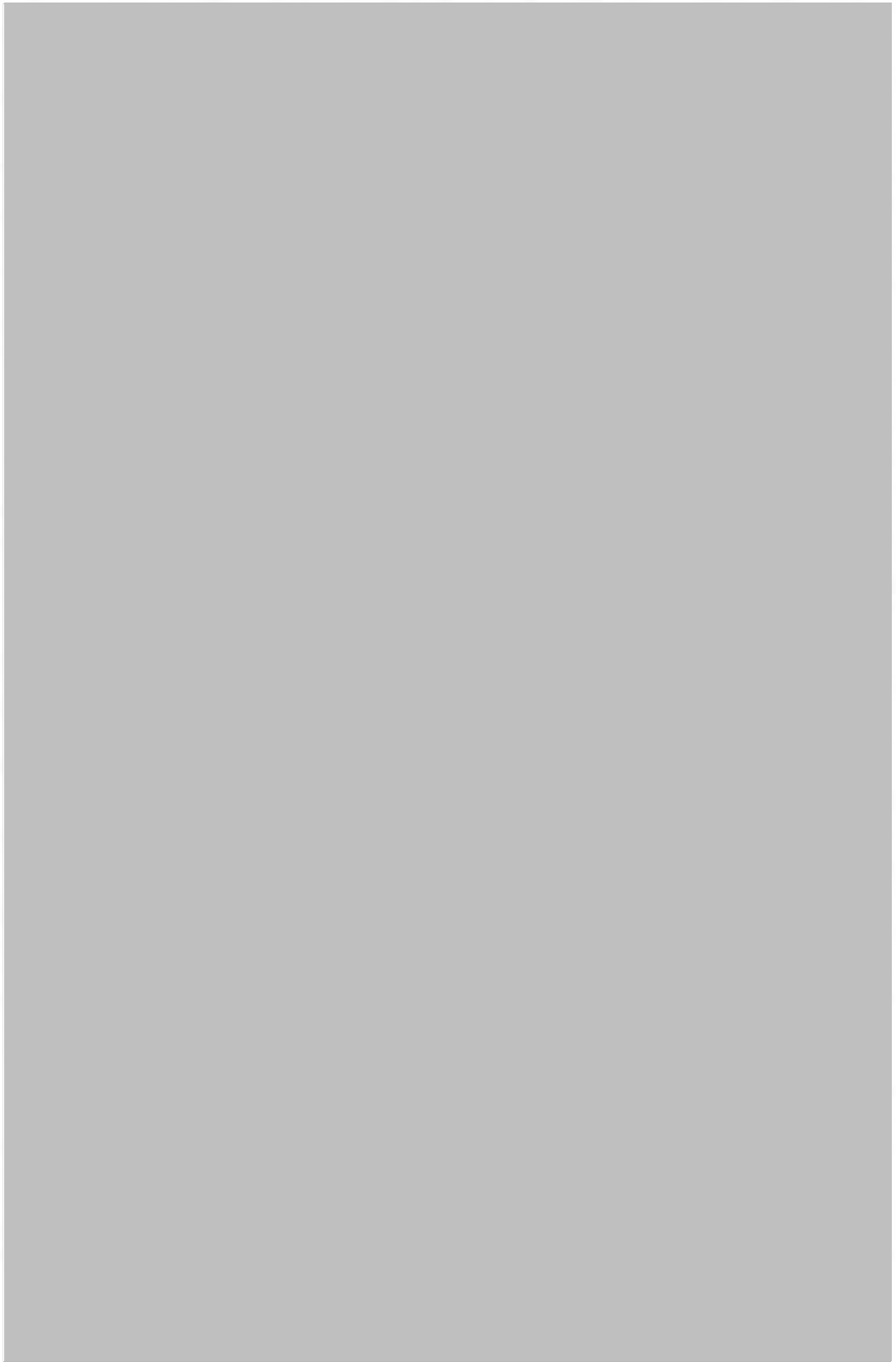




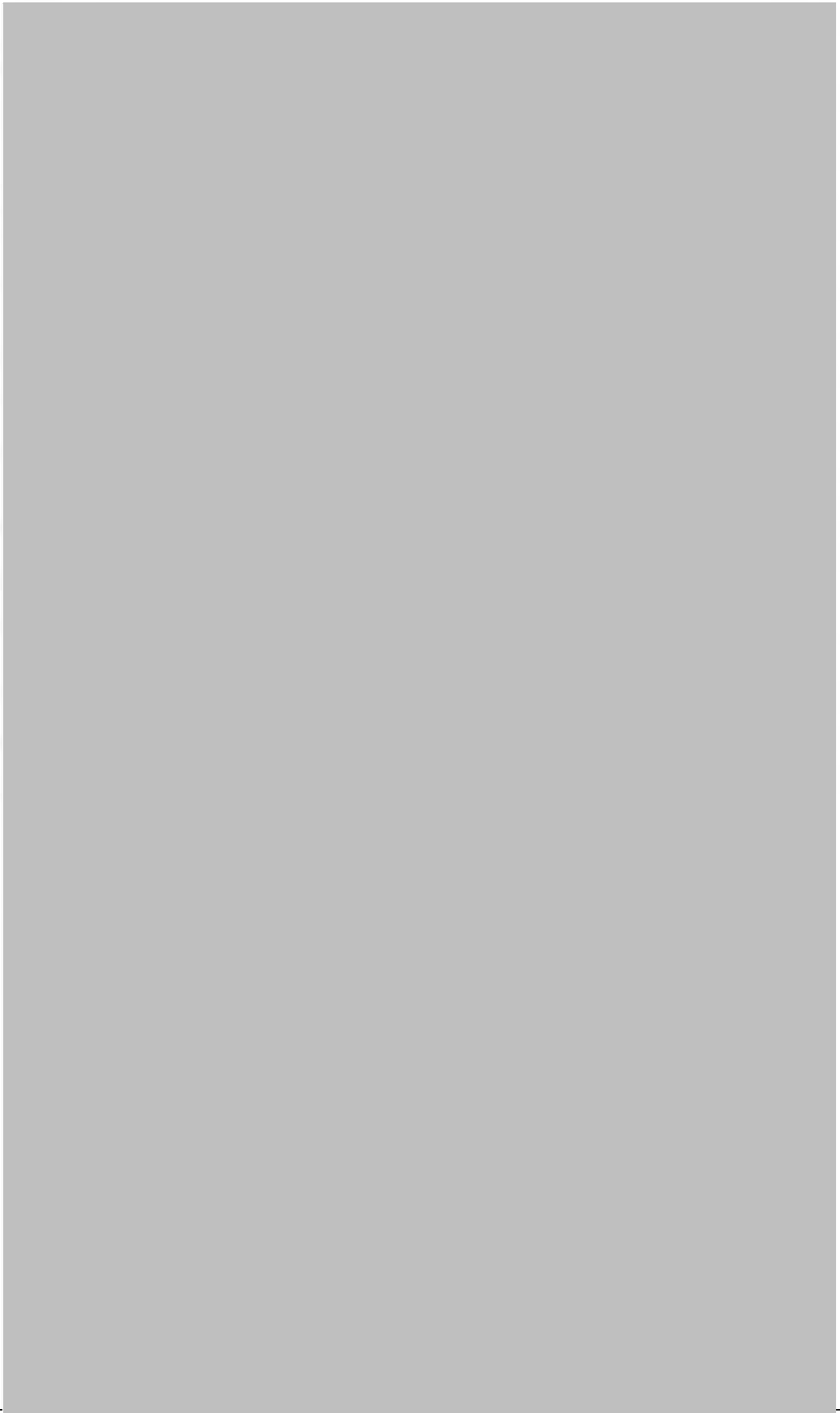


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Chapter Five Rationale: Changes in anger and aggression in offenders with high levels of psychopathic traits attending the Chromis violence reduction programme

The main aim of the Chromis programme is to reduce violence. As a key indicator of treatment success for a violence reduction programme, changes in anger and aggression across time are reviewed for five case study participants. The Novaco Anger Scales and Provocation Inventory (NAS-PI, Novaco 1994), which has been found to have excellent internal consistency, good test-retest reliability and good validity (Hornsveld, Muris & Kraaimaat, 2011), is combined with behavioural indicators of verbal and physical aggression to provide a review of changes in individuals over the course of treatment.

The following article was published in 2012 in *Criminal Behaviour and Mental Health*, volume 22, pages 191-201.

CHAPTER 5

Criminal Behaviour and Mental Health
22: 191–201 (2012)
Published online in Wiley Online Library
(wileyonlinelibrary.com) DOI: 10.1002/cbm.1832

Investigating changes in anger and aggression in offenders with high levels of psychopathic traits attending the Chromis violence reduction programme

J. TEW¹, L. DIXON², L. HARKINS² AND A. BENNETT³, ¹National Offender Management Service, Ministry of Justice, 4th Floor, Clive House, 70 Petty France, London SW1H 9EX, UK; ²The Centre for Forensic and Criminological Psychology, The University of Birmingham, Birmingham, UK; ³Westgate DSPD Unit, HMP Frankland, Durham, UK

ABSTRACT

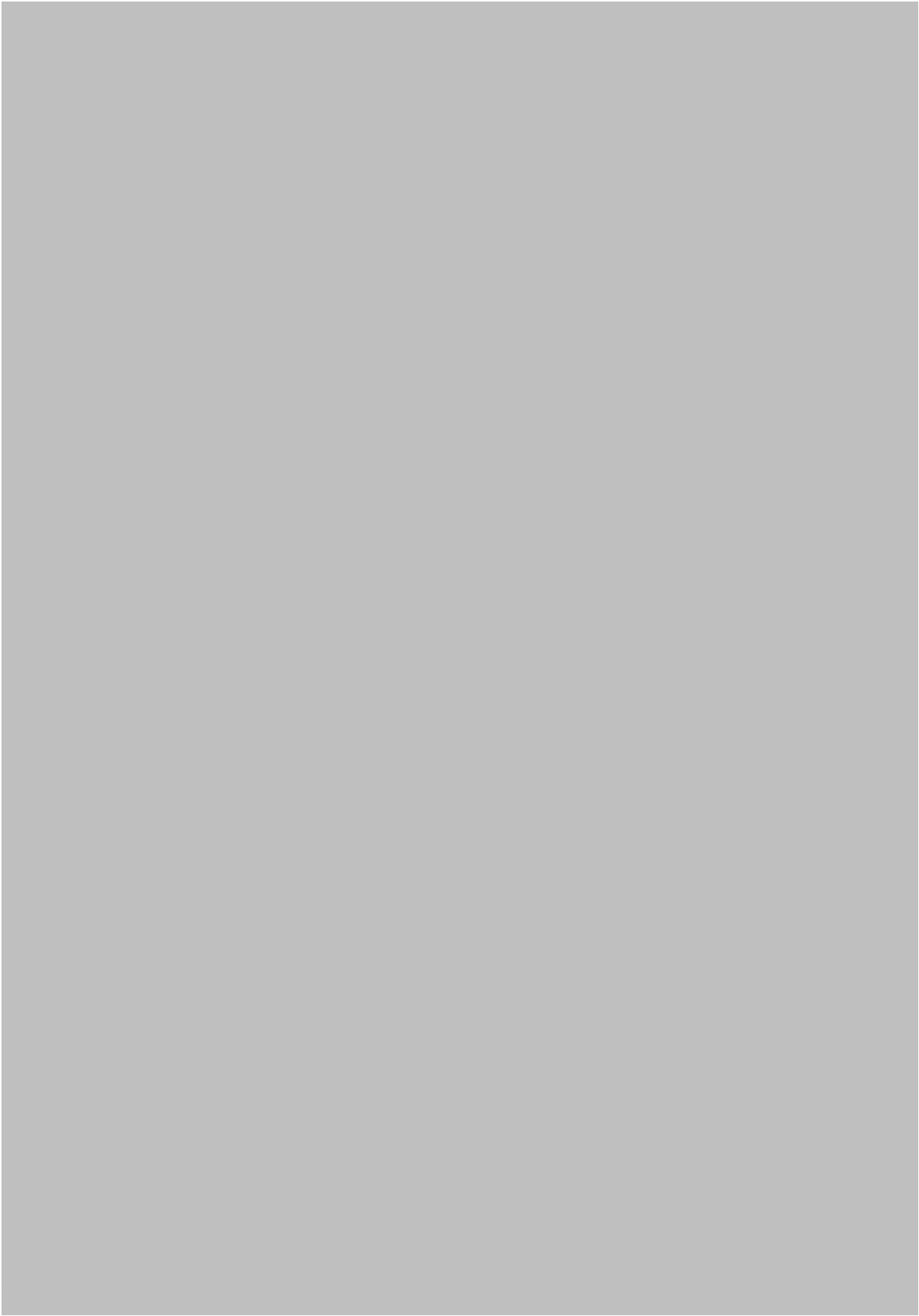
Background *Chromis* was accredited by the Correction Services Accreditation Panel in 2005 as an intervention designed to reduce violence in offenders whose level or combination of psychopathic traits disrupts their ability to engage in treatment and change. It runs as part of the regime in the dangerous and severe personality disorder unit in HM Prison Frankland (Westgate). A multiple case study investigation into changes over time in participants is currently underway, part of which is reported here.

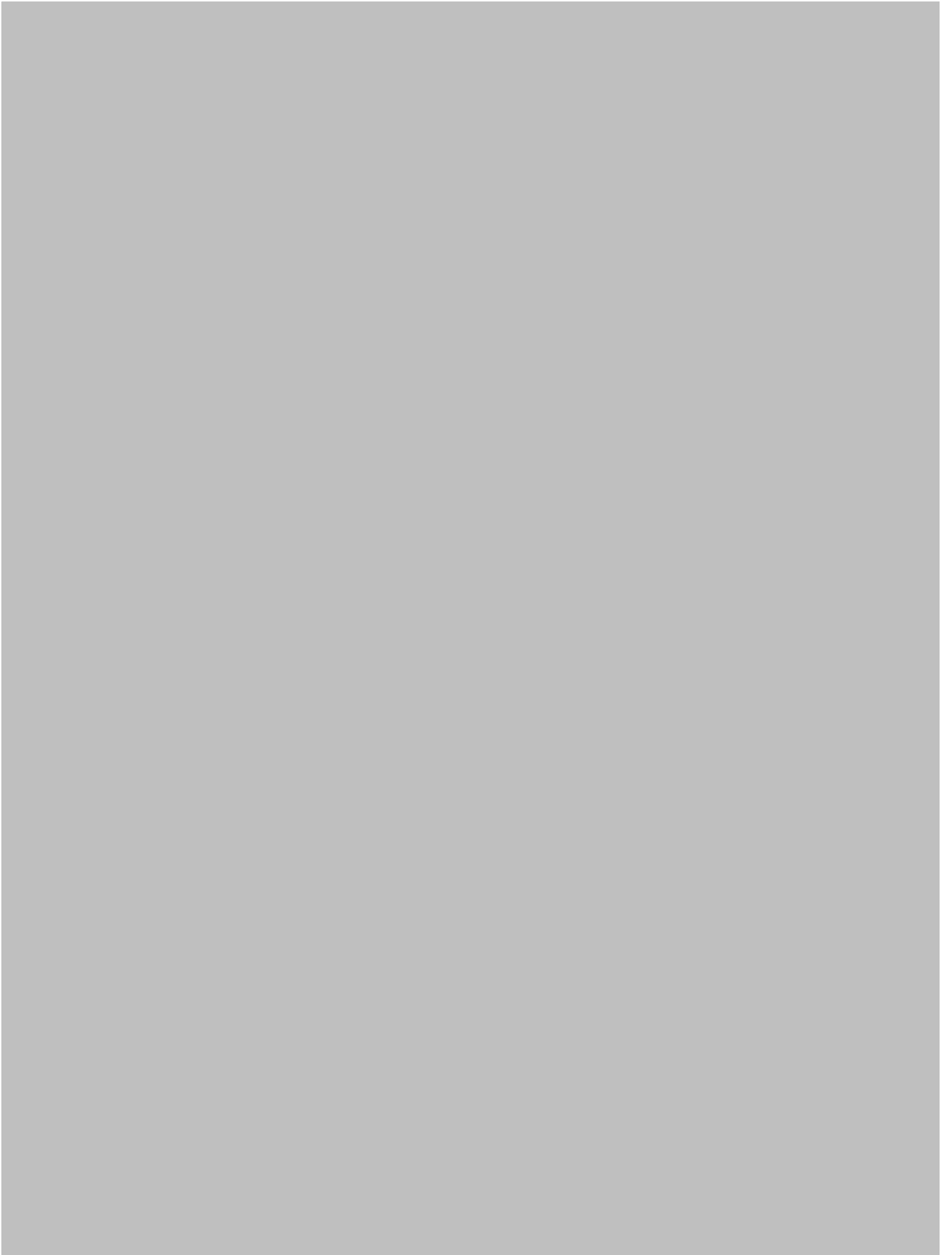
Aims This paper reports on information relating to changes in anger and aggression in *Chromis* completers.

Methods Change in psychometrics and observed incidents of verbal and physical aggression are considered for five case study participants who have completed *Chromis* and progressed from Westgate to a different location.

Results Findings suggest that cases experienced a reduction in self-reported anger, and expected incidents of physical aggression but had higher than expected levels of verbal aggression after leaving Westgate.

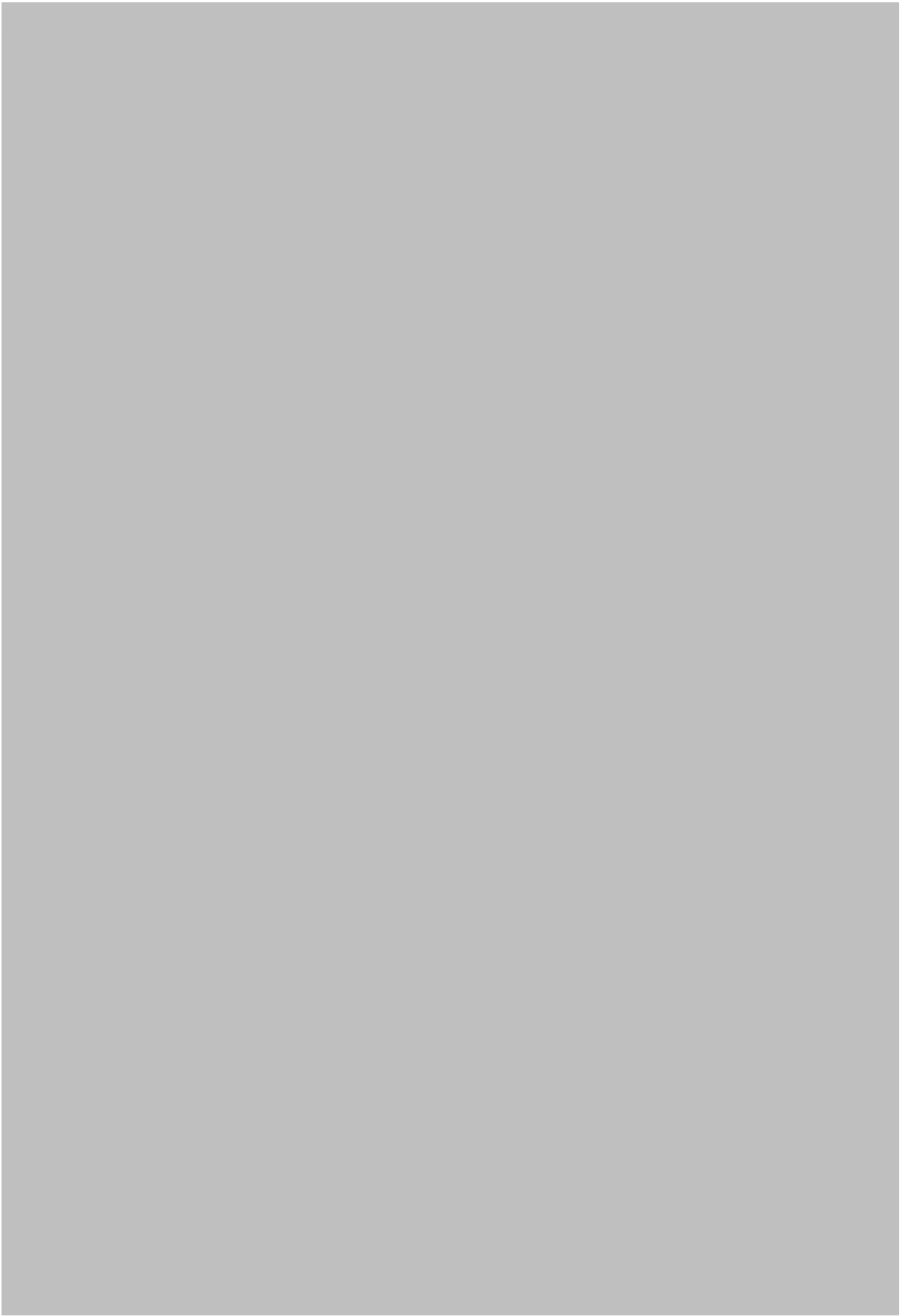
Conclusions These findings offer cautious optimism for the effectiveness of *Chromis*, although methodological limitations must also be considered. Findings may be seen as positive indicators of *Chromis*, or at least the approach to working with these offenders across Westgate, in reducing violence.

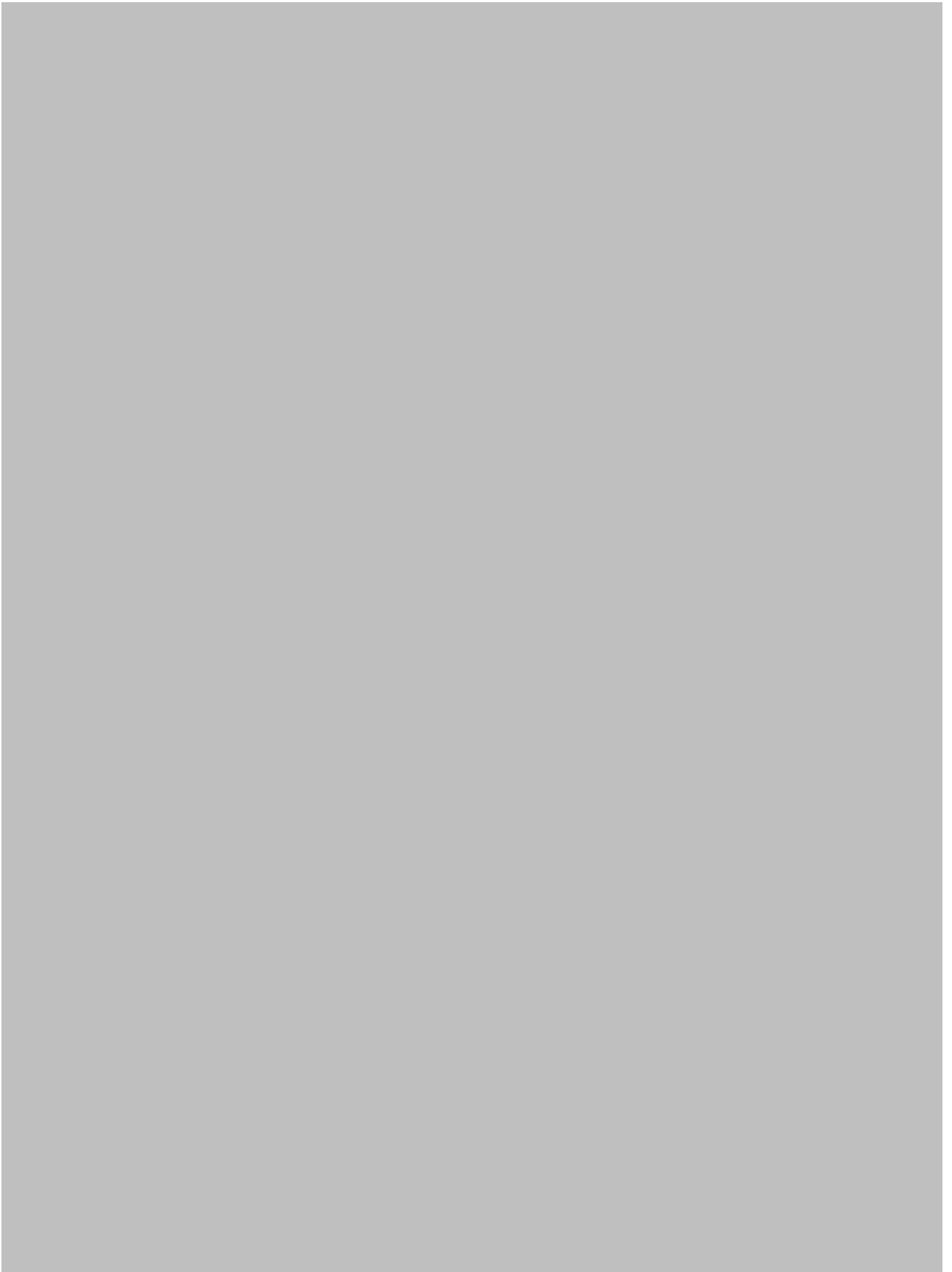


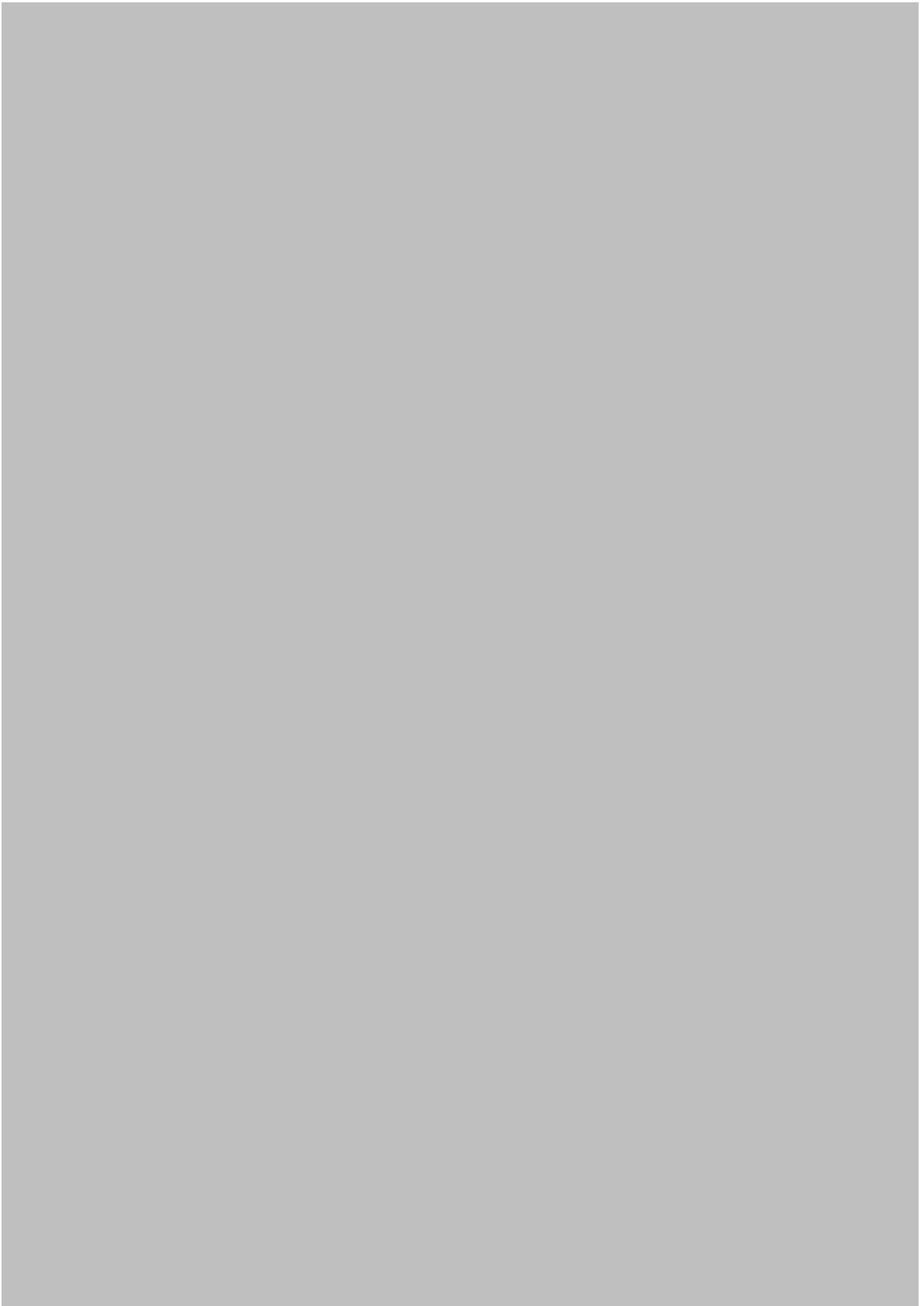




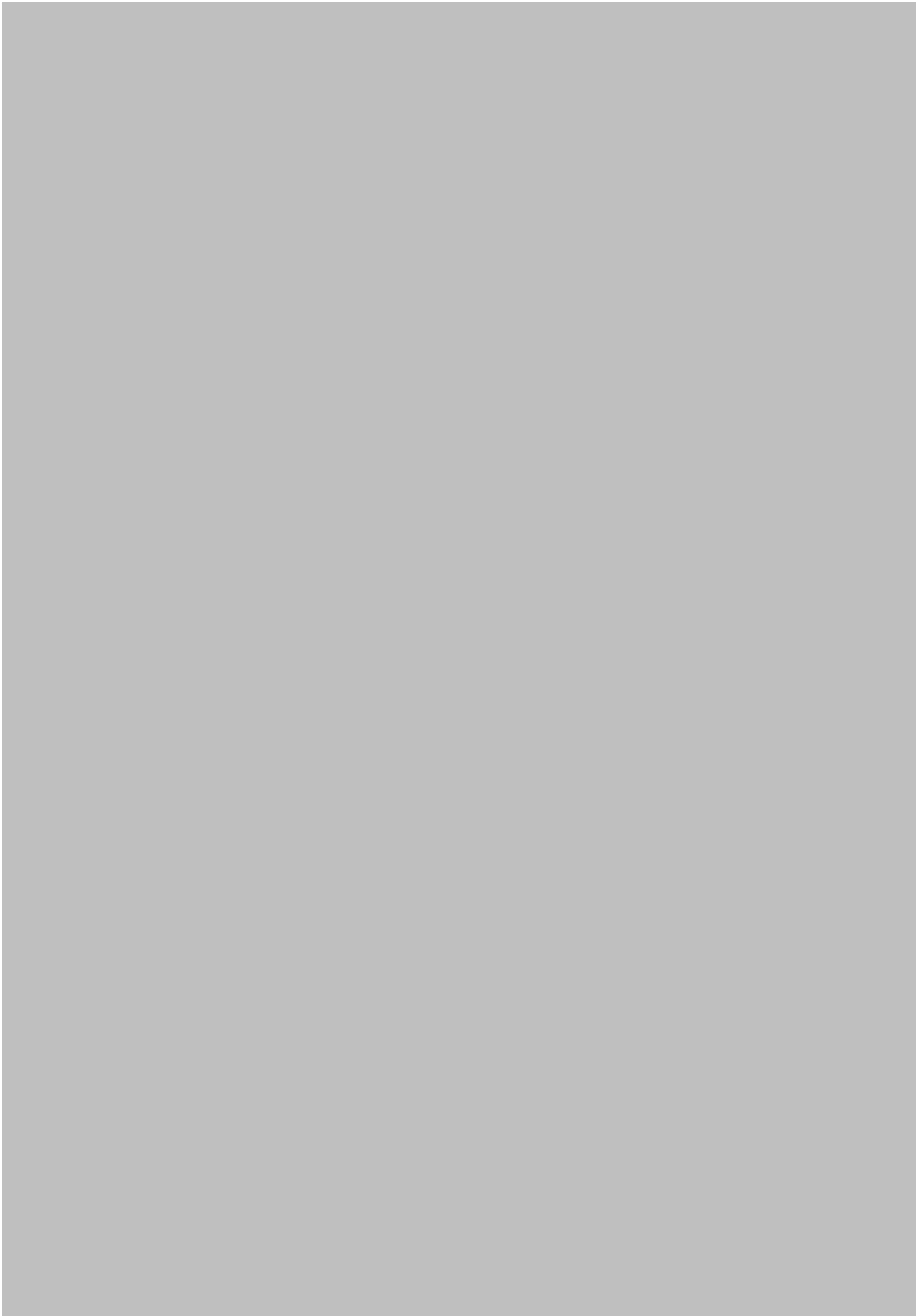


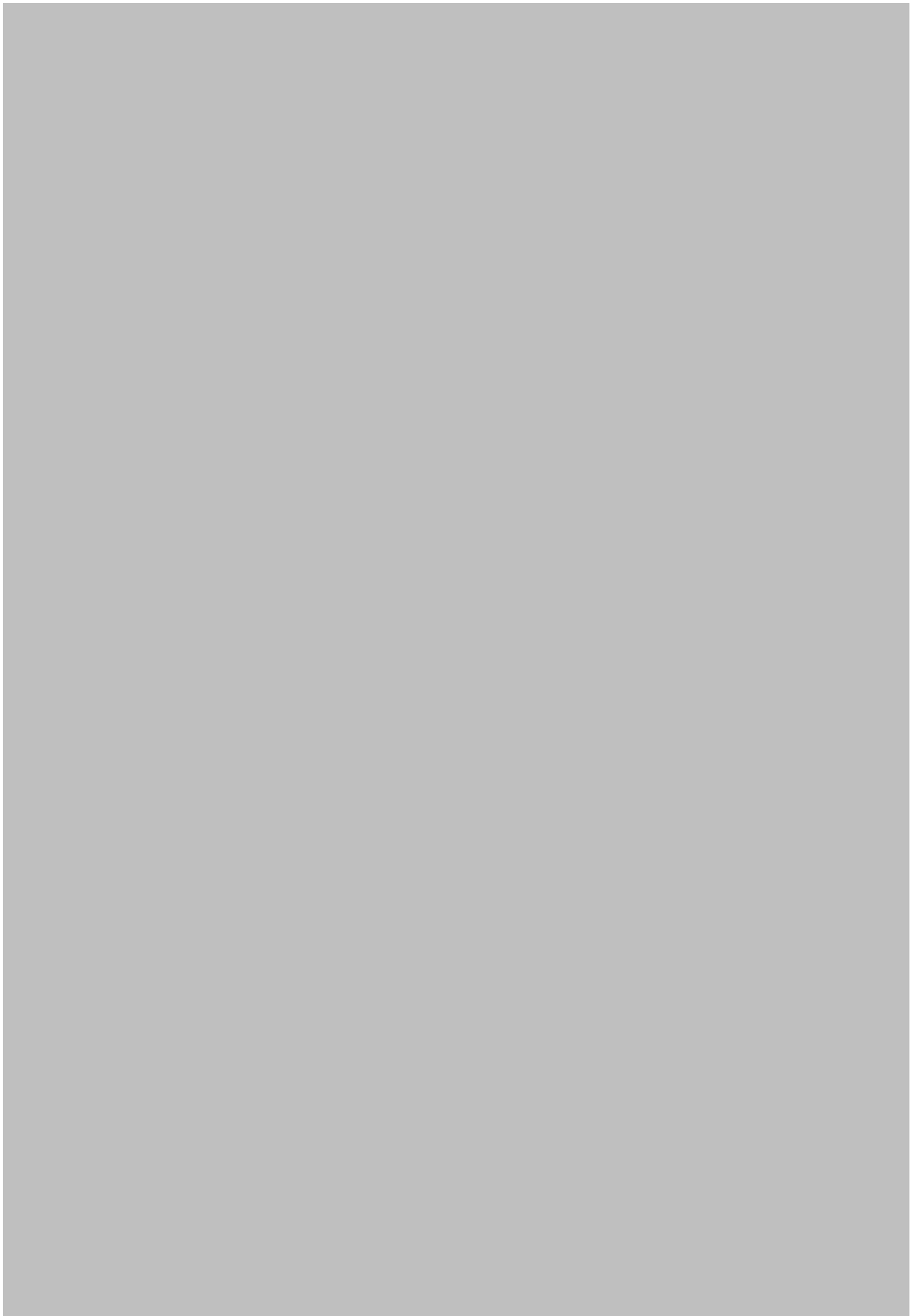












Chapter Six Rationale: Multiple case study paper A Multiple case study investigation into the Chromis programme

This chapter examines changes across five cases studies in four areas identified as relevant to key stake holders. Changes are reviewed to see what can be learnt about the Chromis programme in regard to the four areas. Assertions about the programme are made based on the evidence from across the case studies.

The following chapter has been submitted for publication as a Ministry of Justice Research report.

CHAPTER 6

A Multiple Case Study investigation into the Chromis programme

J. Tew, A. Bennett and L. Dixon

Summary

Chromis is an accredited programme that aims to reduce violence in offenders whose level or combination of psychopathic traits disrupts their ability to engage in treatment and change. Due to the small numbers going through Chromis and the fact that individuals often have a considerable amount of their sentence left to complete post Chromis, it is going to be some time before a reconviction study is possible. That said, the flexible nature of Chromis and the heterogeneous and complex nature of participants means there are considerable benefits to a more individualised approach to programme evaluation.

This study makes use of a multiple case study design to review changes across cases in four areas. These are considered to be markers for treatment success and areas that are important to stake holders. The areas are: Risk factors targeted by the programme, institutional behaviour, engagement in interventions and regimes and protective factors. This methodology is essential as part of the evaluation of Chromis. It allows for aspects of change and treatment response, which are important for this population but would not be captured by solely quantitative approaches, to be understood.

A purposeful sample of five individuals formed the case studies for this project. All individuals who had completed treatment and progressed from the unit but remained in

contact with the criminal justice system were selected to offer breadth of information regarding changes observed beyond the treatment environment. For each individual, information from a range of sources was reviewed from the point of sentence to the date of data collection, which varied across the cases. Sources included treatment files, adjudication records, contact logs, psychometric and risk assessment information, interviews with offenders and focus groups with relevant treatment staff.

Each case study was approached as a separate study; however findings were considered and reported across cases with regard to the four areas of interest. Statements about each area were made where they could be supported by multiple sources of information. Potentially significant information provided by one data source was also noted. Cross case analysis was then conducted. The findings and statements made about each case were compared and areas of similarity and difference were noted.

There appears to be clear evidence that individuals can and do engage in Chromis; although, Chromis is able to accommodate fluctuations in engagement. Difficulties in engagement remain post treatment and the approach taken to engaging Chromis participants needs to be an ongoing one throughout their sentence. However, it is notable that all study participants gained benefits from completing Chromis. These benefits were linked but not confined to, the overall aim of reducing violence. Changes in incidents of physical aggression, self-reports of anger, adjudications and changes in violence risk assessment outcomes all pointed towards positive developments in this regard. From discussions with individuals it was apparent that in general they were better able to delay action; thinking of consequences and considering alternatives for themselves. Relating skills to achieving their own goals seemed critical in achieving this relative stability. Developments in relationships with staff,

particularly uniform staff also seemed important to supporting improved institutional behaviour for individuals.

This research had a number of limitations. The cases reviewed here did not just take part in Chromis while on the treatment unit and so some findings may be considered more reflective of the impact of the whole unit. Given that the unit works to the same core principles and model of change as Chromis then findings provide evidence of the positive impact of working with offenders with high levels of psychopathic traits in this way. In addition to this, across the cases there was some missing data and some poor quality data which may impact on the strength of conclusions drawn. However, it was noted that information from early in someone's sentence was more likely to be missing than information gathered during the treatment or post treatment period. As such, these findings may be considered more likely to underestimate changes than overestimate them.

Further work is needed to build the evidence base for Chromis and its approach to working with this population to reduce violent offending. While caution needs to be used when extrapolating findings from multiple case study projects to wider groups, this study provides promising findings that may be less apparent from larger scale less individualised approaches. This provides a good grounding for the ongoing evaluation plan for Chromis. The next phase of evaluation will incorporate psychometric and behavioural monitoring data for a larger sample of individuals and consider both treatment completers and non-completers.

Acknowledgements

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Introduction

The Chromis programme

Chromis is a treatment programme aimed at reducing violence in offenders whose level or combination of psychopathic traits disrupts their ability to engage in treatment and change. It does not aim to change personality traits but to work with these to reduce individuals' risk of violent offending. It does not require participants to be motivated to change; however, it necessitates them to be open to learn new skills that will provide them with strategies for self-management.

Chromis is comprised of five separate components; each with specific treatment targets aimed at addressing the risk and needs of violent men with high levels of psychopathic traits (see Figure 6.1). Chromis initially aims to genuinely motivate and constructively engage participants in treatment rather than emphasising compliance. It does this by identifying what they really care about and by focusing treatment goals on achieving these aims pro-socially. A formulation is then completed that explores the development and maintenance of unhelpful schema, beliefs and consequent behaviours. This helps to inform which Chromis components an individual needs to complete and in which order. There are three cognitive

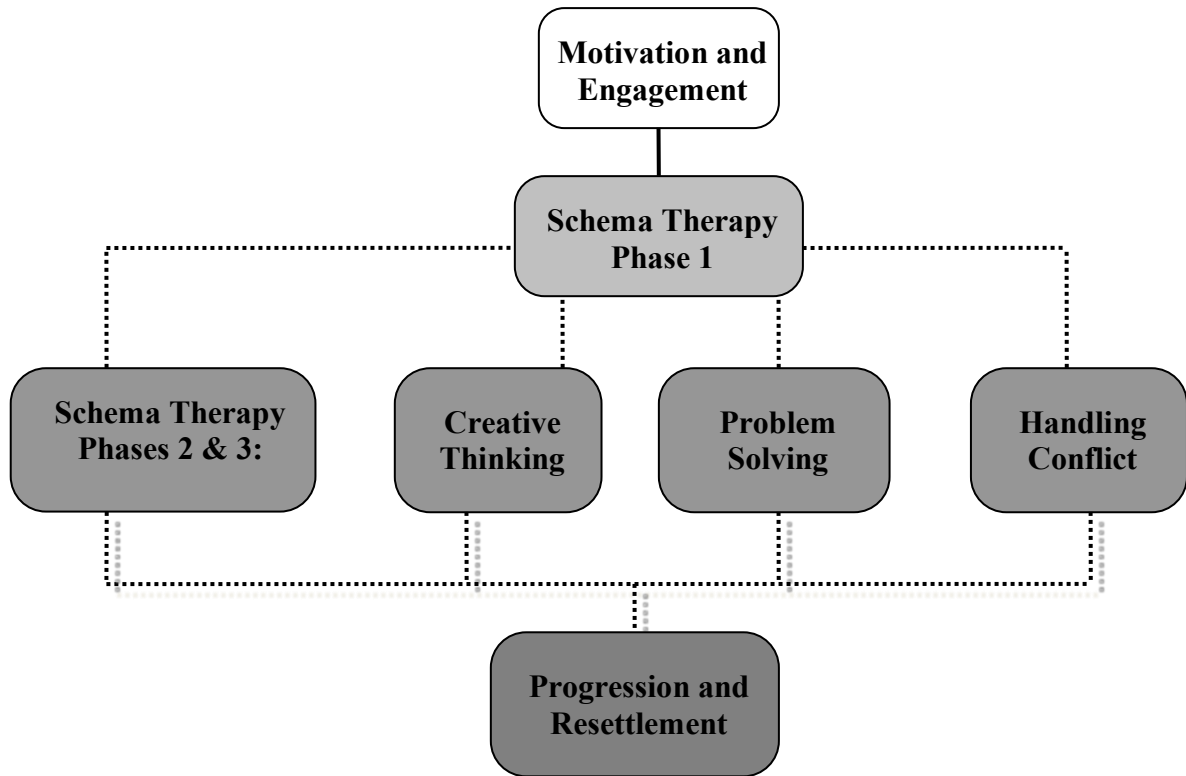
skills components that aim to give participants a chance to learn and develop skills relating to their thinking and interpersonal skills and problem solving. There is also a Schema Therapy component (CST), which is based on cognitive behavioural therapy for personality disorders (Davidson, 2007). This makes use of behavioural experiments in the participants' life to test out their beliefs and practice new skills.

Although Figure 6.1 depicts components following a particular order this is not a necessity as they can be sequenced according to individual requirements. Gaps can be taken between the components to allow for consolidation of learning or to attend other interventions.

There is also flexibility within components, for example some sessions can be run individually or in small groups depending on individual need. The time taken to complete Chromis therefore depends on individual need and progress, but is likely to be between two and half to three years, including assessment and preparation for progression.

Chromis considers psychopathy as a responsivity issue (Andrews & Bonta, 2003) and has been specifically designed to enable participants high in psychopathic traits to genuinely engage in treatment. As part of this, the programme is based on a set of core principles which underpin the assessment, treatment and progression strategy. These principles are also embedded into the wider therapeutic environment of the Westgate unit where Chromis currently runs. This provides opportunities for the generalisation of skills and a continuity of approaches across other interventions on the unit. The principles are: personal relevance, control and choice, future focused, novelty and stimulation, collaboration and transparency, and status and credibility. These are explained in more detail in Tew and Atkinson (2013).

Figure 6.1: The Chromis programme



At the time of writing up, 118 men have started the initial Motivation and Engagement (M&E) component of Chromis and of these 25 have now completed the programme. This is positive considering the length of the programme and its integration with other interventions on the unit. Twenty eight men have either deselected themselves from treatment or have been deselected from the unit where Chromis runs by staff. Deselection can be for behavioural or security reasons or as a result of clinical issues such as refusing to engage in treatment, not being able to cope with treatment or transferring to complete treatment in a secure health setting. Some individuals who have left the unit have subsequently returned and re-engaged in treatment. Around half of those who have left before completing treatment are considered to be unlikely to return as a result of having been left for over three years. The remaining 65 individuals are still engaged in treatment. In terms of the population who attend Chromis, the average age of admission is 36 years, 91% are serving

indeterminate sentences, 88% have offending histories that include convictions for violent offences, 42% have sexual offences and 20% have arson offences. Considering ethnicity, 93% classified themselves as white, 4% as black, 2% as Asian and 1% as mixed ethnicity.

The delivery context

Chromis was accredited by the then Correctional Services Accreditation Panel (CSAP) in 2005. This panel is now known as the Correctional Services Accreditation and Advice Panel (CSAAP). Around this time, the Dangerous and Severe Personality Disorder initiative (DSPD) was also being developed. The background of the DSPD has been well documented (e.g. Howells, Krishnan & Daffern, 2007). Part of this service was a purpose built unit within HMP Frankland called the Westgate Unit. It is within this unit that Chromis has been delivered since 2006. In 2008 the Ministry of Justice completed a review of the DSPD programme (Ministry of Justice, 2008). As a result of this review a new joint strategy was developed between the Department of Health and the National Offender Management Service (NOMS). Also in 2011, the Department of Health and Ministry of Justice consulted on an implementation plan for a new approach to working with offenders who have severe personality disorders, which moved away from the previous DSPD programme (see <http://www.dh.gov.uk/health/2011/10/offender-personality-disorder-consultation-response/> for more details). This new strategy is co-commissioned by the Commissioning and Commercial Directorate in NOMS and NHS Specialised Commissioners and is now known as the Offender Personality Disorder Pathway (Joseph & Benefield, 2010, 2012).

Within the new configuration of services the Westgate Unit continues to provide services for the same population and Chromis continues to be delivered as part of this service. The whole treatment approach of Westgate is underpinned by the same core principles and model

of change that are employed by Chromis, giving a consistent approach across the unit. Participants take part in a range of treatments while on the Westgate unit which can be interspersed between Chromis components depending on their needs. As such, an individual's time in treatment there is likely to be significantly longer than the time required to complete Chromis.

Aims of the research

While Chromis has a strong theoretical underpinning it is important to evaluate the extent to which it is achieving its aims. To effectively evaluate a programme, methodologies such as randomised control trials or quasi-experimental designs offer the most robust findings (Harper & Chitty, 2005). The nature of the Chromis programme does not allow such methods to be implemented at the present time. The complex nature of the client group, high secure setting, limited sample size, flexible nature of the programme and its integration into the wider unit treatment regime all present challenges to a robust demonstration of treatment success. A multiple case study design, following case study protocols that take steps to address validity issues and which relate back to the theory base for the programme, offered the most effective way to answer questions about treatment success for Chromis participants at the time that this study started.

This study aims to review changes across case studies in four areas considered to be markers for treatment success that are important to key stake holders. These areas are: engagement, institutional behaviour, risk and protective factors. Previous research has found that those with high levels of psychopathic traits have difficulties engaging in interventions (Thornton & Blud, 2007). With this in mind, an important aspect of considering the effectiveness of Chromis is to review how well participants actually engage in the programme. Chromis

participants are likely to spend considerable time in custody post treatment and many will have additional treatment needs that will not have been addressed via Chromis, for example needs related to sexual offending. However, they are individuals who are likely to have been disruptive in custody and disengaged from services designed to help them address their offending behaviour. Improvements in institutional behaviour and engagement in regimes and services will therefore be of significant benefit to participants and the service.

There is also reason to believe that these areas, alongside risk factors targeted by the programme, can serve as proxy measures for changes in risk of re-offending for some individuals. For example, in a report to the NHS/NOMS Offender Personality Disorder Team, Wong (2011) recommended that rates of institutional misconduct should be employed as a medium term outcome measure for offenders on the Personality Disorder Pathway. Based on findings from previous studies by French & Gendreau (2006) and Smith & Gendreau (2007), Wong suggested that institutional misconduct should be a proximal indicator of reoffending in the community. Wong also proposes that treatment outcome measures for this population should include participation and completion rates as well as outcomes on measures of change in risk or behaviour.

While this report provides some information about each individual case study the focus will be on cross case analysis to build a knowledge base about Chromis.

Method

A multiple case study design was employed (Stake, 2006; Yin, 2014). If case studies follow explicit procedures, use a variety of evidence and use multiple methods then they have been reported to produce credible findings which can be generalised to relevant wider groups.

They can also be used in formative evaluation work to refine the initiative concerned (Yin,

2014). Using a multiple case study design combines the advantages of case studies, being able to gain in depth insight into changes over time, with the ability to look at changes across cases or for the average case (Van den Noortgate & Onghena, 2007). This method has advanced the development of new processes such as assessments and interventions (e.g. Webster, 2006) primarily because it can accommodate differences across cases while also allowing generalisations to be achieved (Johnstone & Cooke, 2010). This method can identify particular areas of strength or areas for development in a process that might otherwise be hidden within larger scale outcome studies. Indeed, individuals with high levels of psychopathic traits are often grouped together in research considering responsiveness to treatment, yet these individuals form a heterogeneous group with different areas of need and difficulty and who may respond differently to treatment (Chakhssi, de Ruiter & Bernstein, 2010). Therefore, multiple case study design arguably provides a good starting point for evaluating a new intervention, particularly one such as Chromis which is designed to be responsive to the needs of complex individuals and that is embedded in to a complementary regime. It can also help to inform the design and focus of future evaluation studies.

Ethical approval for this study was obtained from NOMS and from the University of Birmingham Science, Technology, Engineering and Mathematics ethical review committee. Given the case study approach, particular attention was given to the anonymity of participants throughout the research and publication process. Individuals carrying the label of past recipient of DSPD treatment already attract a lot of attention throughout the criminal justice system. As such, care was taken to ensure that this research did not identify individuals, thereby removing any potential impact on their progression.

Participants

A purposeful sample of five individuals formed the case studies for this project. All individuals who had completed treatment and progressed from the unit but remained in contact with the criminal justice system at the time that the study started were included to offer breadth of information regarding changes observed beyond the treatment environment. When the study started two individuals had completed Chromis and progressed into the community and three had completed Chromis and moved out of a high security prison, but remained in custody.

The five case study participants had an average age of 29.6 years ($SD = 5.6$) when they started Chromis, which is younger than the average age of individuals who have now started Chromis. Four individuals classed themselves as White British and one as Black British African. Two were serving determinate sentences and three had life sentences. Two had index offences of murder, one of robbery, one of arson and one for offences relating to kidnap and drug and weapon possession. They had an average Psychopathy Checklist Revised (PCL-R; Hare, 2003) score of 29.2 ($SD = 5.5$), with an average Factor 1 score of 10.6 ($SD = 2.7$) and Factor 2 score of 14.9 ($SD = 1.8$).

Pilot

Prior to starting the case studies a short pilot was conducted to help ascertain what records were available, how these could best be accessed and how data could be extracted and recorded. Alongside this the lead researcher spoke to three current Chromis participants about what aspects they felt the study should focus on and what information could best support this.

Data collection

For the main study the researcher met with each participant to explain the procedure, answer any questions and elicit their views on what had been significant areas of importance for them during treatment. All participants provided areas that they thought the project should consider which were used alongside file information to help plan each case study. Consent was obtained from individuals prior to interview.

While there was a large amount of consistency across cases in the data collected there were some differences. For all cases their adjudication history and changes in anger and aggression were noted. In addition to this the researcher reviewed each individual's treatment planning document and ascertained the participant's views and the views of treatment staff about what their key areas of need were and what was focused on in treatment. While individuals had a number of treatment needs, a judgement was made about the main two areas (after anger and aggression) for each individual and these were focused on. Reviewing relevant data for the individual meant that the areas focused on were not necessarily consistent across cases but each study did capture the relevant findings for the individual. For example, self-harm was a significant issue for one individual but this was not a relevant area for all cases. These individual needs obviously represent an overlap between someone's institutional behaviour and their risk of reoffending. As evidence of the need was largely collected from their institutional behaviour they were therefore considered within this area of the study.

This study made use of a range of data sources in order to understand each individual and their experience of Chromis as fully as possible. Key data sources included: contact notes from the point of sentence until the time of data collection, Westgate assessment documents,

Chromis treatment logs, post programme reports for Chromis components, psychometrics, assessments such as HCR-20 and VRS (see Appendix D for further details) which are repeated throughout an individual's time on Westgate, adjudication records, incidence of self-harm, drug testing results, interviews with individuals and a focus group with Chromis facilitators who had worked with each individual.

Case Files Specific aspects of behaviour were tracked for individuals from case files. To achieve this, definitions of behavioural acts were provided (e.g. incidents of verbal and physical aggression) in a coding dictionary (see appendix D for the final coding dictionary for the study). A sample of records was double coded by the second author. Following this process, coding was discussed between the authors to refine and finalise the coding dictionary. Files were then reviewed using the coding dictionary to mark the frequency of each act. Entries were checked to remove any duplication of coding for an incident. In addition to this, 20% of the records were double coded to assess the reliability of the coding dictionary. The inter-rater reliability for the coders was found to be good (Landis & Koch, 1977) with kappa = .80 ($p < 0.001$), 95 CI (.73, .87). It was noted that some aspects of behaviour were easier to capture than others. Focusing specifically on an identified difficult area, impulsivity, the inter-rater reliability was still found to be good with kappa = .72 ($p < 0.001$), 95 CI (.61, .83). All five individuals completed the Chromis components in the same order. As such, incidents of behaviours could be split into time frames: from the start of sentence until moving to Westgate, time on Westgate pre-treatment, the M&E treatment phase, the cognitive skills treatment phase, the CST treatment phase, on Westgate post-treatment and after leaving Westgate. This allowed change over time to be considered. To address the issue of variable time periods, Cooke's equation to compare actual rates to

expected rates of behaviours was used (Cooke, 1997) (see appendix D). This follows the method used by Taylor (2003) to assess violent incident rates at Whitemoor DSPD unit.

Interviews Four of the five case study participants agreed to be interviewed as part of this study. Interviews were semi-structured and explored each participant's experience of attending Chromis, their engagement, relationships with others and their views on the structure and content of the programme.

A focus group was also conducted with Chromis staff who had worked with the five individuals. Staff who were still at the treatment site and who had had the most contact with participants across Chromis components took part. This included the clinical lead for Chromis. These were again semi-structured and were designed to understand staffs' experiences of working with the individual, their perceptions of how they engaged, any particular strengths or difficulties they felt they had and what progress they felt they had made.

Interviews and focus groups were recorded and transcribed verbatim. The information was used in this study to help understand the individual's experience of Chromis in relation to the four areas of consideration.

Psychometrics A battery of psychometric tests is administered alongside Chromis as part of the treatment process. These provide an assessment of change in the particular criminogenic needs that the programme addresses. These are administered prior to involvement in the initial M&E component, pre and post the block of three cognitive skills components and pre and post the final CST component. The pre M&E and post CST administrations provide a

pre and post assessment across Chromis as a whole. It should be remembered that between these two administration periods individuals may also have completed other interventions and so they may represent change across treatment on Westgate as a whole rather than being specifically attributed to Chromis. Further details of the Chromis measures considered in this study can be found in Appendix D.

Clinically significant change is identified by a t-score change of at least 5. Using the area under the curve statistic, a score 5 points above 50 is higher than 69% of that population. Therefore, a score that is more than half a standard deviation from the mean is seen as a clinically meaningful difference from that mean and therefore relevant for interpretation. This method of interpretation is supported by the Correctional Services Accreditation and Advice Panel (CSAAP).

In addition to the Chromis psychometric battery this study used the Working Alliance Inventory (WAI; Hovath, 1994) to consider individuals' working alliance with staff as defined by Bordin (1979). Each participant was asked to identify a Chromis facilitator and a current member of staff that was significant for them. They were then asked to complete two questionnaires, one considering their relationship with each person. The facilitator and current staff member they identified were also asked to complete the questionnaire to provide their view of their relationship with that individual. Separate consent was obtained from individuals for completing these questionnaires. Where individuals were not willing to complete the WAI the principle researcher identified a consistent facilitator and their offender manager or offender supervisor and asked them to complete the questionnaire.

Risk assessments Individuals have a HCR-20 and VRS completed as part of their assessment of suitability for the treatment unit where Chromis runs. The dynamic aspects of these assessments are then reviewed at points throughout their time in treatment, by staff not involved in their current treatment, as an indication of progress. This study reviewed change over time for individuals and notes their overall change between their first and final assessment.

Analysis

Each case study was seen as a separate study and findings were then reviewed across the cases. For each case, the sources listed above were reviewed, using the methods outlined, to see what could be learnt about each of the four key areas of interest for Chromis. Statements about each area were made where they could be supported by multiple sources of data. Potentially significant information provided by one data source was also noted.

Cross case analysis was then conducted. The findings and statements made about each case were compared and areas of similarity and difference were noted. Where differences were highlighted the original data for the cases were reviewed to consider possible reasons for this. These cross case findings led to a number of assertions about the Chromis programme being made.

Considering the area of engagement, Tetley, Jink, Huband and Howells (2011) identified six aspects of the concept that should be measured. These were considered for Chromis for each individual. For each aspect of engagement, component session notes and post programme reports were reviewed. Definitions were created for which entries would be counted (see Appendix D). Counts of relevant entries were then made. The WAI was completed to

consider the issue of working alliance and the grading of this can also be found in Appendix D. Considering the area of institutional behaviour, for each aspect reviewed any relevant psychometrics, and risk assessment items were identified. Definitions were also created for how case note entries could be coded for each area. The relevant sources and definitions for each area reviewed and how these were graded can be found in Appendix D. Considering the area of risk, the psychometrics and risk assessment tools were reviewed for each individual as outlined above. Finally, considering potential protective factors, in addition to aspects within institutional behaviour and engagement that related to potential protective factors, work and relationships were considered.

For all areas, for ease of reviewing the data, definitions were created for counts of incidents in order to allow changes on assessment measures to be graded. Definitions for grading can be found in appendix D. These findings were then reviewed alongside the interview and focus group information for each case to see what could be learnt about each area. Findings across cases were then reviewed.

Results

Individual case study summaries can be found in Appendix D. For each area the case findings are presented and similarities and differences across cases are considered.

Engagement

Before considering how Chromis participants might change over time it is first important to consider if and how they engage in the programme. Data was collected and coded as per the coding and grading dictionary in Appendix D.

Table 6.1: Case study findings from records for aspects of engagement

	Case 1	Case 2	Case 3	Case 4	Case 5
Attendance	Excellent	Good	Good	Good	Good
Complete on time	Yes	Yes	Yes	Yes	Yes
Between session tasks	Excellent	Average	Average	Good	Good (just off average)
Contributes to sessions	Good	Good	Good	Good	Good
Supports others	Good	Good	Excellent	Average	Excellent
Therapeutic alliance	Excellent	Excellent	Good	Excellent	Good

As can be seen in Table 6.1, records indicated that individuals' engagement in Chromis was generally of a good standard. A key finding was that all individuals completed all components of Chromis. This is not to say that engagement was perfect and it became apparent that it was beneficial for Chromis to naturally accommodate fluctuations in engagement, in line with the control and choice principle (Tew & Atkinson, 2013).

While records did not indicate any problems in attendance, staff recalled that two individuals had difficulties with attendance at times; cases two and five. However, staff felt that all

individuals had good and bad days in terms of their engagement in sessions. They felt that it was important for these individuals to be able to exercise choice and for the staff to be consistent in their approach to them when they attended and wanted to take part. This may have contributed to any periods of absence not being as prolonged as they may have been and to individuals engaging in a more genuine way when they did attend.

Discussions with individuals and with staff suggested that it was generally factors outside of treatment that had a negative impact on engagement; whereas aspects of Chromis generally appeared to help with engagement. External factors included things such as the death of a relative, and receiving reports that did not support parole. Considering relevant factors related to treatment, the main area appeared to be participants' relationships with staff. This said, all individuals were very clear that it was down to their own motivation that they completed treatment. As may be anticipated, it seems that the relevance of treatment to the individual was a key factor in encouraging positive engagement. This entailed finding aspects of the individual's life that they were not happy with and relating material to their current situation. Doing this enabled them to see immediate benefits of treatment and to consider current problems within treatment sessions rather than them being barriers to engaging. Records and interviews highlighted that individuals generally understood the material and concepts covered in Chromis components, but it was their motivation or ability to apply these to themselves that was more variable.

It was interesting that two individuals who were noted by staff as having periods of poor engagement were also those who were seen to be genuinely trying to change aspects of their behaviour. This is not to say that other individuals were not trying to change, but illustrates that good engagement may not always relate to change. When looking across cases it

became apparent that it is possible for individuals to engage in Chromis, in terms of attending sessions and completing tasks, but for this to be potentially quite superficial. Case four was consistently highlighted by staff and through records as having made little progress during Chromis components and being particularly difficult to engage. However his engagement, as considered in this research, did not stand out as being significantly different from others. Indeed, his therapeutic alliance with a facilitator who was part of the focus group was rated excellent through the WAI. Likewise, case five attended and completed the final CST component but staff noted that he did not engage in the material or make any meaningful progress during this period as he was focused on the fact that he had not been recommended for parole. Furthermore, case three, who had apparently completed out of session tasks regularly and to a reasonable standard, spoke openly about not liking written work and not feeling these tasks benefitted him at all.

One surprising observation for this population was that individuals could and did support each other in various ways. All participants spoke about preferring individual treatment to group treatment; however, some also shared that they would ask fellow participants they trusted for help with things rather than staff, or that they felt positive about being asked for help themselves. It was notable that an individual who was not particularly overtly positive about his experiences on Chromis spoke clearly about receiving help from a fellow group member and feeling very proud when someone else asked him for help in how to complete diary entries. Records indicated that all individuals could be verbally supportive of others in sessions, challenging individuals in constructive ways or giving appropriate praise. Staff recognised that, through feedback from other participants, two individuals in particular had positive reputations on the unit for being supportive and respectful of others.

The final CST component of Chromis appeared to be a significant turning point for individuals. This component requires individuals to acknowledge areas of difficulty that require change and brings together all of the skills that have been developed throughout earlier components. For most individuals this appeared to increase relevance and therefore engagement. However, for one individual this was where it became more apparent that they had no motivation to change and meaningful engagement, from the perspective of facilitators, became more of a struggle. It was also where another individual particularly struggled to get involved in sessions. While this was due to an issue outside of treatment rather than Chromis itself, the more intimately challenging nature of CST may have further contributed to this.

Considering engagement before and after Chromis it appeared that some of the issues were enduring for individuals. Consistent findings included, engagement not always being linked to progress, issues outside of treatment impacting on engagement and individual motivation and relevance being key. For example, Case four who appeared to engage in Chromis but for whom this seemed quite superficial was one of two individuals who had engaged in a number of interventions prior to Chromis and received very positive reports from these. Also, for case two, who was involved in treatment post Chromis, records indicated that he could engage well unless issues from outside impacted on him. For example withdrawing from a drug relapse prevention course when he felt that the prison was colluding with child services, or withdrawing from hospital based treatment that would involve him staying after his release date.

As a result of all of the data reviewed for each case, and a review of the cross case findings, the following assertions could be made about Chromis regarding participant's engagement.

Table 6.2: Assertions about Chromis related to engagement.

Assertion	Cases
Participants do engage in Chromis and complete the programme.	1,2,3,4,5
Chromis accommodates fluctuations in engagement, which is beneficial.	2,3,5
It is factors outside of treatment that have most notable negative impact on engagement.	1,2,3,5
Participants are able to and do support each other.	1,2,3,5
Relevance of material to individuals' current life is important for engagement.	1,2,3,4,5
Participants can 'engage' but be superficial or have no motivation to change.	4,5
CST is a notable turning point for good or bad.	1,2,3,4,5
Observations related to engagement in treatment were evident post Chromis.	2,5

Institutional behaviour

Given that participants are likely to have time left to serve after completing Chromis, changes in their institutional behaviour is of particular relevance to both them and the service. Data was collected and coded as per the coding and grading dictionary in Appendix D.

Table 6.3: Case study findings from records related to institutional behaviour

	Case 1	Case 2	Case 3	Case 4	Case 5
Anger and aggression	Some Improvement	Improved	Improved	Improved	Improved
Individual tracked area 1	Some Improvement	Improved	Some Improvement	Some Improvement	Some Improvement
Individual tracked area 2	Some Improvement	Improved	No change	No change	Improved
Adjudications	No change	Improved	Some Improvement	Improved	Improved

As can be seen in Table 6.3, all individuals showed improvements in their institutional behaviour over time. Specific areas tracked for each case can be found in the case summaries in Appendix D. When considering institutional behaviour, behaviour in the community while on licence for the two individuals who had been released was included. Improvements were not only seen through the records reviewed, but were also supported by information from interviews and staff descriptions of changes in behaviour. Given the aims of Chromis, a particularly relevant finding across cases was the reduction in physical aggression post treatment. Across all cases there was only one incident of physical

aggression post Westgate, although the low predicted rate of physical aggression for three individuals is noted. Expected numbers of incidents based on pre-Westgate behaviour ranged from 0 to 11 with two individuals expected to have no incidents and one individual expected to have just one.

These changes seemed to culminate in a general shift of individuals becoming less volatile. This was maybe with the exception of case four who, although uniform staff made reference to him being less volatile with staff, records and other staff felt his behaviour remained largely consistent throughout. He was also one of the two individuals who had more than expected acts of physical aggression during treatment. For case one this seemed to relate to particular difficult events in their lives outside of treatment. There was evidence of individuals applying skills from treatment to manage things differently, which appeared to contribute to their improved stability.

As might be expected, individuals all had ongoing problematic behaviour post treatment. Individuals often did not directly acknowledge this themselves, focusing more on how they had changed for the better. However, staff and contact logs highlighted the issue. Individuals showed higher levels of verbal aggression post Westgate than was expected from their pre Westgate behaviour. Considering individual aspects of behaviour that were tracked through case files across time, some aspects of behaviour could be more clearly tracked than others. For example, incidents of self-harm or incidents related to drug use were clearer and more likely to be recorded than incidents related to impulse control. However, reviewing this data alongside the discussion group with staff and assessment tools was helpful. While some individuals showed a higher number of expected incidents in their case records post treatment relative to their pre-treatment behaviour all participants showed a reduction in

severity of behaviours. For example, considering rule and boundary breaking for case two entries pre-treatment included behaviours such as taking a member of staff hostage whereas entries post treatment were, for example, for being late signing in at the hostel, or trying to get overnight visits with his girlfriend when he was not eligible for these. It is also of note that while recorded incidents of impulsivity, problem solving or drug related behaviours may have increased for some individuals they were now managing to remain on normal location and were attracting fewer adjudications. The possible exception to this was case five, who during the course of the study was actually recalled from the community back to a category B prison. However, it is of note that this was not for further offences but problems related to compliance with his licence, which was a positive shift from his previous behaviour. The individual was himself able to highlight changes in his risk related behaviours to those involved in his sentence management. This suggests low level rule violation, less serious than re-offending and with some individual ownership and insight, but nevertheless requiring external action.

While problematic behaviour was tracked and appeared to remain in some form, it became apparent that for most cases there was also a gradual introduction of, and increase in, positive entries relating to their behaviour. For example, over time entries appeared relating to case five volunteering that they had relapsed with their drug use and seeking support from staff. Also, case one started to proactively seek support to manage thoughts about self-harm rather than making threats to self-harm.

Related to individuals' improved institutional behaviour was the fact that all individuals appeared to develop improved relationships with uniform staff. Having worked with uniform staff in treatment individuals spoke of being more prepared to engage with uniform

staff in their progression environments, something that was supported by records. For most cases there appeared to be particular relationships that had helped to shift their overall perception and therefore their general approach to uniform staff, but for case four this was not apparent.

As a result of all of the data reviewed for each case, and a review of the cross case findings, the following assertions could be made about Chromis regarding participants' institutional behaviour.

Table 6.4: Assertions about Chromis related to institutional behaviour.

Assertion	Cases
Chromis participants showed improvements in 'institutional' behaviour over time.	1,2,3,4,5
Chromis participants apply some skills from treatment to life on the unit on occasions.	1,2,3,4,5
Chromis participants had ongoing difficulties post treatment but these were less extreme than pre-treatment.	4,5 most striking but also 1,2,3
Chromis participants have improved relationships with uniform staff.	1,2,3,4,5
Chromis participants became less volatile.	1,2,3,5

Risk factors

Considering changes in risk factors related to treatment and re-offending there were consistent findings across all five cases. All individuals appeared to make improvements in areas related to risk over the course of Chromis. However all of them also continued to have difficulties in relevant areas at the point of ending treatment. This may be expected given the clear interplay between factors related to risk and institutional behaviour for individuals. As can be seen in Table 6.5 all five cases showed some improvements in risk assessment (HCR-20 or VRS) scores over the course of treatment. They also all made clinically significant improvements in some risk areas as measured via psychometric assessments. While there are some obvious cautions relating to self-report assessments with individuals with high levels of psychopathic traits it was interesting to note that for two individuals improvements in these measures related to times that staff identified as periods where they had made the most progress. For example, staff identified case three as making more progress in CST when he was not in a group with certain other individuals, and highlighted case four as being able to quickly understand skills and issue within cognitive skills components but struggling in CST.

Table 6.5: Changes in assessment scores over the course of treatment for cases.

	Case 1	Case 2	Case 3	Case 4	Case 5
HCR-20	Improved	Same	Improved	Some improvement	Same
VRS	Improved	Some improvement	Improved	Same	Improved
Psychometrics Cog Skills	-	Improved	Same	Some improvement	Improved
Psychometrics CST	Some improvement	Some improvement	Improved	Same	Improved
Psychometrics Chromis	-	Improved	Improved	Improved	Improved

In interview, individuals all felt that they were able to address the areas that they needed to work on in treatment. They were able to talk about things that they had learnt and how they had handled some situations differently as a result of this. Staff also identified changes that every individual made over the course of treatment that related to their areas of risk. This was however particularly limited for case four, something that didn't show up as a notable difference in the measures considered.

A likely consequence of this apparent improvement in assessments of risk and improved institutional behaviour, which are inter-related, was each individual's progressive move after completing Chromis. A notable finding was that the two individuals who appeared to have the most significant violence histories (cases two and three) had notable improvements in the quantity and extent of their violence, the main aim of Chromis. This was shown through their case notes and interviews with the individuals and staff. For case two staff particularly commented that this person had always assaulted others but had learnt through treatment that he could exist without it.

While these are very promising findings it was clear that all individuals continued to show evidence of personally relevant risk factors through treatment and in their progression environments. Discussions with staff, post programme reports and contact logs from progression environments all highlighted ongoing difficulties for all individuals. One notable observation was that for the two cases where drug use was a particularly prominent behaviour, despite improvements, the use of drugs continued post treatment and was particularly influential. Case three had had positive drug tests shortly before a parole board and case five had ongoing battles with drug relapse in the community contributing to his eventual recall. While drug use per se is not directly addressed within Chromis it is considered within treatment and the broader regime on the unit.

As a result of all of the data for each case, and a review of the cross case findings, the following assertions could be made about Chromis regarding participants' risk.

Table 6.6: Assertions about Chromis related to risk factors.

Assertion	Cases
Chromis participants show improvements in assessments focused on risk (HCR-20 & VRS).	1,2,3,4,5
Chromis participants showed improvements in risk factors as measured by psychometric assessments.	1,2,3,4,5
Despite improvements, Chromis participants all showed ongoing difficulties relating to risk at the point when they completed treatment.	1,2,3,4,5
Chromis participants had constructive progressive moves post treatment (linked to risk and institutional behaviour).	1,2,3,4,5
Where drug use was an issue this remained an issue post Chromis.	2,3,5

Potential protective factors

Across all cases there appeared to be an improvement in potential protective factors over time in treatment and in progression environments. Looking at the generic protective factors suggested by CSAAP, (2012) there is an overlap between potential protective factors and other areas considered in this study. As such, improvements in attitudes, problem solving, self-management, and engagement outlined above could all be seen as potential protective factors. For example, an individual who described getting a play station to help keep himself out of trouble on the unit was describing the development of an adaptive coping strategy that is potentially protective for him. In addition to these areas, Chromis participants showed developments in some work and relationships, areas that could also act as protective factors.

All five individuals had significant previous work problems as identified by the relevant item in the HCR-20. Two of these individuals showed notable improvement through the VRS dynamic item considering work ethic and the other three individuals showed some shift in a positive direction in the stage of change for this item. Related to this, four of the individuals spoke positively about how they occupied their time in their new environments. For example, case four spoke about completing education courses that he was not keen on attending in order for him to progress to courses that he found more interesting, an approach which he felt was quite new for him. Case two, who was living in the community, spoke about building himself a reputation through his work, which he liked. Records and staff supported these assertions.

Related to participants' institutional behaviour being less volatile, their ability and motivation to work towards longer term goals seemed to help them make choices to manage current situations in a more pro-social way. These longer terms goals could be considered potential protective factors for them. All individuals who were interviewed spoke about wanting to get out of prison and wanting to stay in the community. For example, case one and two both spoke about making decisions about how to handle things in the interests of their longer term aim of getting released. It was interesting to note that case five, who was recalled during the course of the study, was described by staff as seeming to have little motivation to leave prison compared to the others. His anxiety about release was well documented. These generally improved attitudes towards sentence progression formed a potential protective factor. Case four, who was described by Chromis staff as not seeming to believe that he needed to change, appeared to have developed an improved work ethic but no other potentially protective factors.

Four Chromis participants had improved relationships over time. This related to relationships with staff, particularly uniform staff, and for some, relationships with their family. This was apparent across interviews with participants and staff, and contact logs. Items relating to supportive relationships on the HCR-20 and VRS showed little change over time. All participants had struggled to work with uniform staff in treatment but having to manage this appeared to contribute to them holding more positive attitudes toward talking to uniform staff and asking for help, even in their progression environments. Given the length of time three individuals still had to serve and the ongoing management in the community for the other two, developments in relationships with staff represents a potentially significant protective factor for this group. Case two had built up a family on release who were a clear focus for him in his interview. Also, case one reportedly tried not to engage in destructive activities, such as self-harm, because he promised his family that he would not.

Staff felt that as a result of the work completed in treatment they had gained a better understanding of each individual, their risk and how they could best work with them, although they acknowledged that this was not always easy to do in practice. There was a notable amount of planning and communication involved around individuals' progression. This knowledge, communicated via reports and verbally, appears to have been helpful to staff in the progression environments, contributing to suitable management processes to continue to support and engage individuals.

As a result of all of the data for each case, and a review of the cross case findings, the following assertions could be made about Chromis regarding potential protective factors for participants.

Table 6.7: assertions about Chromis related to potential protective factors

Assertion	Cases
Chromis participants show an improvement / development in potential protective factors over time which is evident in treatment and in new environments.	1,2,3,4,5
Chromis participants' motivation for achieving their own aims seemed key.	1,2,3,4,5
Chromis participants develop social competencies and problem solving skills over time.	1,2,3,5
Chromis participants developed improved relationships with staff and some family.	1,2,3,5
Chromis participants' ability to keep themselves occupied / work shows signs of improving over time.	2,3,4,5
The treatment process helps staff to better understand individuals and therefore contribute to potentially protective environments.	1,2,3,4,5

Discussion and Implications

In order to better understand the impact of Chromis on participants, five case studies were completed to review changes in key areas for stake holders. These areas can clearly overlap, for example, changes in institutional aggression relate to institutional behaviour, a risk factor targeted by the programme, and engagement in interventions and regimes. Findings and their implications are therefore considered as a whole.

There appears to be evidence that individuals can and do engage in Chromis. This is positive given that some participants had previous difficulties engaging meaningfully in treatment and the clear fact that any benefits of Chromis can only be realised if individuals participate in, and preferably complete, the programme. Given that individuals who appeared to be genuinely motivated to change appeared to have fluctuating engagement, more so than an individual who was seen to have little motivation to change, it seems important for Chromis to be able to accommodate variable, and at times problematic, engagement. The difficulties experienced engaging in treatment remained post Chromis and so need to be recognised and considered as part of an individual's progression plan.

Considering changes in institutional behaviour and relevant risk factors, while all participants had some ongoing difficulties, they all made progress that was evident beyond the treatment environment and they could all be managed within normal regimes post treatment. In general, participants appeared to be better able to delay action. This enabled them to select alternatives to violence in order to manage new situations. At least part of their motivation for this seemed to be keeping in mind longer term goals of their own that required them to not respond violently. This resulted in more stable behaviour and therefore potentially better access to opportunities within the regimes. This approach also impacted on the development of potential protective factors of improved work ethics, the ability to keep themselves constructively occupied and the development of some positive relationships.

A notable finding across the cases was that individuals seemed more prepared to interact with uniform staff over the course of treatment and in their new environments and in some cases developed helpful relationships with them. This enabled them to get support, access more opportunities and potentially contributed to less volatile behaviour towards staff.

All participants showed improvements in measures of risk over the course of treatment. Risk relevant treatment changes can predict meaningful reductions in violent recidivism (Howells, 2004; Lewis, Olver & Wong, 2013; Wilson, Desmarais, Nicholls, Hart & Brink, 2013).

These could therefore be seen as positive indicators of Chromis' impact in reducing violence for these individuals.

Despite this, it was evident that changes made by individuals were not necessarily apparent in assessment tools but were noted through contact notes and interviews. Changes for participants might be quite subtle but still be important and have a big impact for them and those around them. For example, staff particularly commented that while they felt case three made progress in treatment he was starting at such a level of difficulty and need that he was still way above the norm at the end of treatment. Also, for case four, while he was seen to make little progress it was notable that his pre-treatment records included incidents of weapon use, fire setting and assaults in custody. Post treatment, while there were concerns about his behaviour, he was living on main prison location with no adjudications or incidents of overt aggression.

While all individuals had ongoing difficulties it is argued that the observed changes should not be underestimated, particularly considering each case's level of risk, treatment needs and complex personality profiles prior to treatment. This study suggests a need for staff to maintain a realistic view of what success will look like for Chromis participants and to recognise and acknowledge progress when it occurs. It was notable that while individuals had ongoing difficulties these were less extreme post treatment than their behaviours pre-treatment. Even where apparent negative or backward steps were observed, when considered in context of their previous behaviour this was still an indication of overall

progress. For example, case five had been recalled to custody before the end of this study. However, he had not committed any further offences and had continued to engage in services regarding his struggles to manage in the community. This is in contrast to previous times in the community when he had disappeared and contact had only been regained following further offences.

While there were many similarities across cases it was also evident that individuals had different experiences of Chromis and responded differently to this experience. While one individual spoke of struggling to understand what was required from him for particular written tasks in Chromis, all participants were considered to understand the principles and skills of treatment. Differences were apparent in their motivation or ability to put treatment into practice in their daily lives and this seemed to be where the core focus of work was needed. Unsurprisingly, the need for treatment to be relevant to the individual was critical. This appeared to be achieved through the individual identifying something in their life that they were not happy about. While the key seemed to be an issue that the individual themselves wanted to change, identifying this seemed to enable them to consider and work on other areas. The one individual, case four, who had not been able to identify something that they wanted to develop or change was the individual who did not appear to be able to progress in any of the areas that staff felt needed to be addressed. This indicates that spending time on identifying and understanding motivation at the outset is important. The delivery site has recently changed their approach to Chromis treatment components. They previously completed cognitive skills components with individuals first, to help develop a therapeutic alliance before moving on to the CST component, which necessitated more personal self-disclosure. However, they now complete the formulation phase of CST first (as shown in Figure 6.1) to help further individualise treatment from the outset.

Considering change in treatment, one individual in particular, case four, stood out as appearing to make little progress as a result of engaging in Chromis. This was the one individual who had a diagnosis of narcissistic personality disorder. This individual did still complete treatment which is in contrast to the findings of Bennett (in press) who found narcissistic personality disorder to be significantly correlated with non-completion. However, this could be seen as compatible with the idea that those with narcissistic personality disorder particularly struggle in treatment. In line with this staff did speak generally about those with particularly high levels of overall psychopathy along with a narcissistic personality disorder diagnosis particularly struggling when it came to the CST phase of treatment. Those with high levels of narcissism appear to be the individuals who particularly struggle to engage in Chromis and make changes. More work is therefore needed to investigate the nature of this and if they could be better supported.

While individuals were less explicit about the extent of their problematic behaviour it was notable that participants' views were not wildly at odds with staff or records. It was also interesting to note that files and individuals did not appear to convey the extent of their problematic behaviour during treatment in the same way that staff did during the focus group. It might be expected that staff focus on the key areas in reports in a motivational manner for the participant. However, this highlighted the importance of seeking further information relating to Chromis participants in order to more fully understand them. It appears to be important for successful ongoing sentence progression for the difficulties that individuals have to be openly discussed as part of progression planning, while still remaining encouraging, in line with the principle of transparency underlying Chromis. This also relates to the need for staff involved with these individuals to balance optimism for treatment with a realistic view of ongoing needs. It was always intended that multiple sources would be

required to understand and assess change for participants and progression sites need to be aware of this.

This study provides positive findings to support the ongoing investment in Chromis and its approach to working with this population. This research forms part of a wider evaluation plan for Chromis and complements other studies that have been completed. For example, participants' experiences of Chromis have been explored using interpretive phenomenological analysis (Tew, Bennett & Dixon, 2015) with the interview data from this study. This provided some understanding of why and how some changes might have occurred for individuals; highlighting factors they considered to have helped and hindered their engagement in treatment. This multiple case study project has been able to use a range of data sources to further understand how the individuals engaged and any changes that have occurred.

Limitations and further work

Although this study has enabled a detailed look at changes in key areas for Chromis participants it is important not to overstate the conclusions that can be drawn from this study in terms of implications for the Chromis population as a whole. As sample sizes increase it will be important for further studies to be completed that look at the impact of treatment for participants on a wider scale. This would provide a valuable accompaniment to understanding the details of change at an individual level.

It should be remembered that the cases reviewed here did not just take part in Chromis while on Westgate and so some findings may be considered more reflective of the impact of the whole Westgate regime. Given that Westgate works to the same core principles and model

of change as Chromis then findings provide evidence of the positive impact of working with offenders with high levels of psychopathic traits in this way.

Every effort was made to obtain all relevant data for individuals, however, there was some missing data for cases. This was either because the information did not exist, for example not all participants completed all psychometric assessments at all testing points, or because it could not be accessed. For example, contact notes for case two's period of time in a secure hospital were not available. Other sources, such as interviews and alternative reports were used to provide an overview where some primary information sources were missing.

The counts of behaviours were taken from files and so their accuracy is affected by the accuracy of how records are kept. While every effort was made to ensure all files were reviewed, it is possible that not all were located and so information may be missing. This is most likely to apply to individuals' time pre-Westgate and would therefore provide more information about incidents for this time period. This would mean that these findings underestimate changes in behaviour for these individuals and therefore downplays the potential impact of treatment. The coding of behavioural data was also dependent on the researcher interpreting reports that may not accurately reflect their actual behaviour. It was also the case some behaviours may be more prone to being recorded or more easily distinguished than others, for example self-harm relative to impulsive behaviour.

It is also important to note that individuals progressed from Westgate to different environments that offered different levels of support, intervention and monitoring. These regimes will also have impacted on their post treatment behaviour and the amount of information available to consider in the study. For example there was considerably more

information available for the individual who engaged in an intensive daily treatment programme in the community relative to someone who remained on a normal prison wing or who reported weekly to their offender manager. That said, these differences reflected differences in staff's perceptions of ongoing difficulties for the individuals, and the appropriate responses by the criminal justice service to this.

This study has provided valuable information relating to changes over time for Chromis participants, taking into account the individualised nature of the programme. Participants were selected who could offer the most information in this regard and so this study has focused on people who have successfully completed treatment and progressed to a different environment. The next stage of the evaluation process is to consider changes across participants more widely, including those who fail to complete Chromis. It is anticipated that this will make use of psychometric data and behavioural monitoring data to provide a comprehensive overview of changes in factors that are targeted by Chromis. Looking at those who do not complete treatment may help to further identify critical factors for engagement. It is noted however that these factors and corresponding engagement levels may or may not relate to change for individuals. In this study, it was not the case that individuals who reported better levels of engagement made more positive changes and those who had more problematic engagement made less change. It also remains the case that a longer term aim for evaluation is to consider the impact of Chromis on levels of re-offending.

Conclusion

Given the heterogeneous nature of the Chromis treatment population and the responsive nature of the programme the multiple case study approach has proved a useful one to start to understand engagement and changes for participants. This study suggests that participants can and do engage in Chromis and that they gain benefits, linked to but not confined to the overall aim of reducing violence, as a result of this engagement. Changes in incidents of physical aggression, self-reports of anger, adjudications and changes in violence risk assessments all point towards positive developments in this regard. From discussions with individuals it was apparent that in general they were better able to delay action; think of consequences and consider alternatives. Relating skills to achieving their own goals seemed critical in achieving this. Developments in relationships with staff, particularly uniform staff, also seemed important in supporting improved institutional behaviour for individuals.

This study has provided positive findings to support the ongoing investment in working with this complex population through the approach taken by Chromis; findings that may not have been as apparent from larger scale research projects. However, it has also highlighted that further work is needed to better understand the difficulties experienced by some participants with a view to seeing if they can be better supported through the treatment process. As sample sizes increase the evidence base for Chromis should be further developed through larger scale studies that will provide a wider understanding of the long term impact of the programme on participants.

GENERAL DISCUSSION

The overall aim of this thesis was to further the identification and treatment of individuals with high levels of psychopathic traits in the UK. Conclusions and limitations relating to the individual studies can be found in each chapter. This discussion aims to review collective findings across the studies to see what has been learnt regarding the three specific aims of the thesis. Findings will be summarised and then the implications of this work for policy and practice will be considered, alongside any limitations and areas for further investigation.

Summary of findings

Aim One: To understand how assessments of psychopathy can inform treatment planning for offenders.

With regard to aim one, chapter one brought together the literature regarding risk and treatment for individuals with high levels of psychopathic traits. This was with the specific aim of considering how the PCL-R can inform assessments of risk, need and responsibility for an individual; an area that had not been explicitly reviewed before. It was apparent that PCL-R assessments can be extremely informative for further refining the targeting and planning of interventions for this group. The review therefore lends further support to the statement of Loving (2002) that the assessment of psychopathic traits may inform assessment for treatment. PCL-R factors and items relevant to an individual were found to provide insight into the extent and nature of someone's risk, their treatment needs, and particularly their responsibility needs, that must be considered for treatment to be relevant and accessible for them.

In addition to considering the value of PCL-R assessments for treatment planning, the review also highlights the variability between individuals considered to have high levels of

psychopathic traits. This adds further support to the view of psychopathy as being a continuum rather than a discrete taxon (Edens, Marcus, Lilienfeld & Poythress, 2006; Guay, Ruscio, Knights & Hare, 2007; Walters, Duncan & Mitchell-Perez, 2007).

Aim Two: To investigate the utility of a self-report measure for identifying individuals with high levels of psychopathic traits for further assessment.

Following on from identifying the value of psychopathy assessments, particularly for those with high levels of traits, this thesis aimed to investigate the assessment of psychopathy in the UK prisoner population further. Specifically, chapter two investigated the effectiveness of an updated self-report measure: the Hare SRP, and its short form, the Hare SRP-SF, using the PCL-R as a reference measure. This was with a view to seeing if it was an effective assessment of psychopathy and if it might provide an evidenced way of identifying individuals with high levels of psychopathic traits for further assessment with the PCL-R. The Hare SRP measures were found to have excellent internal consistency and to significantly correlate with, and predict, PCL-R scores. However an effective cut-off score could not be found on the Hare SRP to identify those scoring 25 or more on the PCL-R.

Both the Hare SRP and Hare SRP-SF are better at identifying the lifestyle and anti-social aspects of psychopathy, as they are measured by the PCL-R than they are the interpersonal and affective aspects, also as measured by the PCL-R. This finding adds further support to previous research relating to self-report assessments of psychopathy (Edens, Hart, Johnson, Johnson & Olver, 2000), although it did find the interpersonal scale of the Hare SRP performed better than in a previous Norwegian study (Sandvik et al., 2012). Cooke, Michie, Hart and Clark (2005) found that the affective items of the PCL-R were most discriminating of high levels of psychopathy, followed by the interpersonal items. They suggest that a

deficient affective experience is at the core of psychopathy across cultures. The interpersonal and affective PCL-R items have also been found to distinguish those accepted to DSPD treatment from other personality disordered individuals (Howard, Khalif, Duggan & Lumsden, 2012). The literature review in chapter one of this thesis also highlighted these traits to be particularly relevant to treatment planning for individuals. As such, for any psychopathy assessment or screening tool to be effective it seems important for them to be able to identify the relevant interpersonal and affective traits. The findings of chapter two suggest that the PCL-R and the Hare SRP perform differently in this regard.

Aim Three: To investigate the effectiveness of the Chromis programme in working with individuals with high levels of psychopathic traits.

The ultimate goal of effective assessment is appropriate risk management and risk reduction. As such, as a next step this thesis also aimed to investigate the effectiveness of the Chromis programme in working with these individuals in the UK. This was achieved through a series of studies taking a detailed look at a small sample of participants. While Chromis is only one of several programmes on the unit where it is delivered, all treatments and the wider regime are underpinned by the same core principles and model of change. It is therefore important to remember that these individuals did not just take part in Chromis and findings are reflective of the wider Chromis approach to working with individuals with high levels of psychopathic traits.

It was apparent in chapter four that participants did have some insight into themselves and they were certainly able to offer valuable information to help understand Chromis. This is particularly significant given the suggestion that those with high levels of psychopathic traits

can have a lack of insight (Hare, 2003), and the importance of service user involvement in treatment development and evaluation (Davidson, Ridgway, Schmutte & O'Connell, 2009).

Across chapters four, five and six the findings suggested that participants can and do engage in Chromis and that they gain benefits as a result of this engagement. Chapter five found that individuals experienced a reduction in self-reported anger and in levels of physical aggression but had higher than expected levels of verbal aggression after moving on from the treatment unit. Chapter six found that while individuals experienced difficulties engaging in treatment they gained benefits from completing treatment, linked to the overall aim of reducing violence. Across cases these benefits linked to improving relationships with uniform staff, delaying action, thinking about the consequences and considering alternatives. Seeing the benefits for themselves of choosing more pro-social courses of action for achieving their own goals seemed critical in their decision making.

Importantly, no individual was considered to have increased their risk as a result of completing treatment and all gained some benefits. As such, these studies add further support to the literature suggesting that those with high levels of psychopathic traits can benefit from appropriately targeted and designed interventions (Olver & Wong, 2009; Reidy et al., 2013). It was also the case that, while there were obvious similarities between the five individuals, they also had notable differences between them in terms of their personalities, treatment needs and responsivity needs. This study therefore also contributes to the literature suggesting that those with high levels of psychopathic traits form a heterogeneous group (Edens et al., 2006) who are capable of benefiting from treatment, despite their individual responses being varied (Thornton & Blud, 2007).

While all individuals gained some benefit from treatment it was apparent that one individual made notably less gains from treatment than the other four. This individual had the highest Factor 1 score out of the all the cases and was the only person to also have a diagnosis of narcissistic personality disorder. He therefore had the highest level of the interpersonal and affective traits of psychopathy; those considered the core of the disorder (Cooke et al., 2005). While there are cautions around generalizing findings of multiple case study research this finding could lead to the conclusion that Chromis is not as effective as hoped in working with those with high levels of psychopathic traits. This said, while this individual had clearly learnt some of the language of treatment, he had still gained some genuine benefits and the experience had not exacerbated his behavior, as cautioned by Reidy et al. (2013). This study may therefore add to the view that different traits may benefit from different treatment approaches and that we need to be able to identify and understand an individual's traits to be able to individualize treatment (Donahue et al., 2013).

Importantly, participants in chapter four all found Chromis beneficial, albeit difficult, indicating that they felt there was value in completing the programme. It is particularly significant that individuals themselves felt that they benefited in some way from treatment given the aim of Chromis is to make treatment relevant to the individuals' goals and needs (Tew & Atkinson, 2013).

Salkin, Worley & Grimes (2010) suggest that for individuals with high levels of psychopathic traits a realistic goal would be to see gradual progress over time with some problems being encountered along the way. Findings from the Chromis studies across chapters four, five and six would support this. While there appears to be some support for the principles of treatment and management utilised by Chromis, it seems necessary for this

to be an ongoing approach throughout an individual's sentence. This supports the early suggestions of Cleckley (1988): that there may be a need for ongoing support and management of individuals with high levels of psychopathic traits.

Across chapters four, five and six it seems that staff play an important role in the effectiveness of Chromis. There are characteristics of staff that Chromis participants identify as helping or hindering treatment for them, and their relationships with uniform staff seem to improve post treatment after having to negotiate working with them on the programme. It is interesting to note that while the interpersonal and affective traits related to psychopathy are not considered to change over time (Harpur & Hare, 1994; Walters, 2004) this work would suggest that individual's relationships are able to change.

Implications, and limitations

The implications and limitations relating to each study have been highlighted in the respective chapters. This section considers the implications of the findings related to each aim of the thesis, alongside any limitations that should be kept in mind when considering these.

Aim One: To understand how assessments of psychopathy can inform treatment planning for offenders.

The review in chapter one highlighted the value of the details of a psychopathy assessment for individuals, particularly for those with high levels of traits. This group is likely to be high risk of further offending but will struggle to engage in and benefit from treatment to address this risk. In a resource limited service this review suggests that it is important to consider

psychopathy for offenders and to identify the individuals who would most benefit from an in-depth assessment of the relevant traits.

This said, the review highlighted that there is less literature explicitly relating to the treatment and responsivity needs of those with high levels of psychopathic traits than there is investigating their risk. Given the relatively recent shift in focus to considering what treatment might be effective with this group, as opposed to whether they can benefit from treatment at all, this is not surprising. It is also worth remembering that this review highlighted some limitations of the literature, particularly in relation to psychopathy and treatment. For example a lack of control groups in studies and the aims of treatment being unclear (D'Silva, Duggan & McCarthy, 2004). As work in this area develops there is clearly scope to learn more about the treatment and responsivity needs of this heterogeneous group.

This literature review also helps to better understand how different individuals with high levels of psychopathic traits may respond differently to different treatment approaches (Reidy, Kearns & DeGue, 2013; Donahue, McClure & Moon, 2013). It is hoped that this literature review may help inform the work of clinicians and programme developers in addressing the criticism of interventions having being inappropriately applied to those with high levels of psychopathic traits (Vien & Beech, 2006). This may particularly be the case where mainstream treatments need to be responsive to the personality traits of these individuals in order for them to be accessible and meaningful, rather than there being bespoke interventions available for them. Given the apparently similar treatment needs between those with higher and lower levels of psychopathic traits it is through considering the levels of risk and responsivity needs of those with higher levels of traits that treatment may be made more appropriate and therefore hopefully more effective.

Aim Two: To investigate the utility of a self-report measure for identifying individuals with high levels of psychopathic traits for further assessment.

The findings of chapter two have added to the evidence base surrounding the use of self-report measures to assess psychopathy, and their use in the UK more specifically. The Hare SRP may be a useful tool where the PCL-R is not possible and could provide supplementary information to a PCL-R to further improve consideration of some traits. However a lack of effective cut-off score for identifying those who scored 25 or more on the PCL-R meant that it could not be recommended as an effective screen for identifying those who would benefit the most from a PCL-R assessment.

The Hare SRP enables us to consider psychopathy in situations where it is not currently possible to consider it. While there may be some value in this assessment it is important to reiterate that on the evidence obtained to date it is not advised to use it as an assessment in place of the PCL-R. Despite following the same factor structure as the PCL-R it performs differently in respect of identifying interpersonal and affective traits. It has been noted that the Hare SRP was generally weaker at capturing the interpersonal and affective aspects of psychopathy, considered core to the disorder (Cooke et al., 2005), relative to the lifestyle aspects as measured by the PCL-R. It would be interesting for future research to further investigate the individuals who had high scores on the PCL-R but who were not identified as having high levels of psychopathic traits by the Hare SRP. For example, particular traits or combinations of traits may mediate the relationship between self-report and PCL-R assessments. It also needs to be remembered that participants in chapter two were told that their Hare SRP would only be used for research. The results of this assessment may be different when the outcome of the assessment has implications for the individual. Research has shown that the links between the PCL-R and an outcome were stronger when scores

were calculated for research purposes than they were when they were calculated for clinical use (Hawes, Boccaccini & Murries, 2013). This factor may also be influenced differently by different traits. Further work understanding the relationships between the measures could help to further refine the use of the Hare SRP as a screening process for PCL-R assessments. The consideration of additional data sources to the Hare SRP for screening purposes may also be beneficial in this regard.

Chapter two used the PCL-R as a reference measure. While this is a well-researched and well used assessment of psychopathy within the UK, it is worth remembering that it is only one assessment of the concept. While there are issues with measuring psychopathic personality traits via self-report measures (Lilienfeld & Fowler, 2006), it is worth remembering the criticisms raised in the introduction around the inter-rater reliability of the PCL-R (Boccaccini, Turner & Murrie, 2008; Murrie, Boccaccini, Johnson & Janke, 2008). The interpersonal and affective items on the PCL-R have been found to have lower levels of inter-rater reliability in these studies than the lifestyle and anti-social traits. As such the PCL-R is not without bias in these areas itself. The use of additional criterion measures in future research, either alternative assessments of psychopathy, or assessments of outcomes relating to specific aspects of psychopathy, would further add to the validity of any findings.

While the study in chapter two makes use of cut-off scores to consider the potential of the Hare SRP as a screening tool it should be remembered that these are rarely used in clinical practice in the UK. As identified in the introduction to this thesis, there are no agreed diagnostic criteria for psychopathy and those with high levels of traits form a heterogeneous group with different needs and difficulties. The value of an individual assessment of these traits in planning treatment is also clear from chapter one. It is necessary to use cut-off

scores in research and they are necessary for a screening tool to be operationally useful. It is true that cut-off scores can be useful in applied decision making (Edens, 2006), however, it is important to reiterate that their use in this study does not equate to support of their use in clinical practice at the individual level. Failing to consider the importance of these traits for someone who scored just below a cut-off score, or treating everyone who scored above a cut-off score the same would be considered a significant step backwards in our work with psychopathy.

Some may consider that all individuals should have an assessment for psychopathy, particularly given the value in understanding individual traits and the lack of a distinct taxon for psychopathy, meaning that the use of a cut-off score on a measure is misleading. Unfortunately, resources do not permit this within the NOMS and so a pragmatic, evidenced based, clinically appropriate approach to guide assessment decisions still needs to be found. It is also the case that clinicians may wish to avoid subjecting individuals to unnecessary assessments, particularly ones relating to a concept such as psychopathy. The consideration of psychopathy can raise anxiety in professionals and have serious implications for the individual concerned. A more targeted approach to assessment of psychopathy may therefore also be warranted on ethical grounds.

As well as psychopathy being relevant to understanding risk and treatment planning for individuals, it is also relevant for evaluating treatment effectiveness more widely. Very few well designed treatment outcome studies control for psychopathy (Loving, 2002). This is despite it being a significant factor in treatment effectiveness for individuals. Controlling for or even assessing psychopathy within research is currently problematic, as individuals involved in treatment within NOMS are unlikely to have PCL-R assessments. It is certainly

the case that both a treatment group and control group for a research study would not have PCL-R assessments. Findings suggest that The Hare SRP might be an effective assessment of psychopathy that would allow this construct to be considered within research.

The mean PCL-R score in chapter two (24.5) is notably higher than studies that have considered the prevalence of psychopathy in the UK would suggest (Coid et al., 2009; Cooke, Michie, Hart & Clark, 2005; Hare, Clark, Grann & Thornton, 2000). These studies typically find mean PCL-R scores of around 15 or 16. This means that chapter two has not been able to review the performance of the Hare SRP across a representative UK sample. While this sample is more likely to reflect the population that clinicians would want to target for assessment, to accurately assess the utility of an assessment or screening process for use with this population, it would be beneficial to have a more representative sample.

Further research that made use of a larger, clinical sample (i.e. assessments completed not for research) would provide further information on the performance of the Hare SRP and provide an opportunity to investigate the underlying structure of the data through factor analysis. Collectively this would allow for more confidence in the findings and any consequent recommendations. While chapter two has made an important contribution to the literature relating the assessment of psychopathy, assessing psychopathy and identifying those with high levels of psychopathic traits remains a complex task. It rightly requires clinical experience, training and knowledge specific to psychopathy and the assessment methods of choice.

Aim Three: To investigate the effectiveness of the Chromis programme in working with individuals with high levels of psychopathic traits.

Chapters four, five and six collectively provide cautious optimism for the effectiveness of Chromis. Findings support the continued commissioning of Chromis for this population and continued investment in working with individuals with high levels of psychopathic traits using the approach taken by the programme. Furthermore, they support the need for continued investment in ongoing research relating to the treatment this population and specifically the further evaluation of Chromis.

When considering these findings it needs to be remembered that participants were followed up for what could be considered a relatively short period of time post treatment, ranging between one year five months and three years three months in chapter six. Results should therefore be considered with the caveat that it is possible that insufficient time has passed post treatment to gain an accurate measure of enduring change. Also, while ascertaining the experiences of the individuals included in the study in chapter four has been beneficial, it should also be remembered that all of the participants were still being supervised by the criminal justice system in some capacity. This combined with the fact that the researchers were staff within the criminal justice system means that they are likely to be motivated to present positively despite being assured the study would have no impact on their progress.

Further research considering the experiences of other Chromis participants, for example those who fail to complete treatment and those who may complete but struggle to make progress, would also be informative. This would be with a view to seeing if more could be done to engage and support these individuals in treatment. Also, this thesis considered retrospective accounts of the experience of treatment from individuals who had completed

Chromis and left the unit. It may also be informative for future research to access the experiences of individuals who are still in treatment or for whom the treatment experience was more recent, in order to obtain a richer understanding.

The characteristics of staff and the nature of participants' relationship with them are both things that can be hard to quantify, however these issues seem to have an impact, both for treatment and on making progress post treatment. Managers and commissioners need to be aware of this when making decisions regarding the ongoing delivery of the programme. The restructuring of the prison service over recent years, driven by a need to reduce public spending, has led to changes in the involvement of uniform staff in some treatment programmes. While we clearly need to strive for an efficient service, we also need to ensure we do not lose sight of the benefits of some of the less quantifiable aspects of treatment delivery models. These findings help to support the involvement of uniform staff in the treatment of individuals with high levels of psychopathic traits.

Not all individuals in UK prisons with high levels of psychopathic traits currently have access to the Chromis programme. Some offenders' level of risk or the nature of their treatment needs can mean that they are deemed more suitable for alternative, more widely available, interventions. As there appears to be some support for the approach taken by Chromis in working with this population it may be helpful to further explore the extent to which these methods and principles can be incorporated into other interventions. Intervening with young offenders with high levels of psychopathic traits has been found to be particularly effective (Thornton & Blud, 2007). As such, there could be benefits in seeing if the approach taken by Chromis is effective with young offenders in the UK who show psychopathic like traits in an effort to intervene early. Given the limitations of the current

evaluation of Chromis this should be undertaken with caution and inbuilt monitoring and evaluation. Importantly, it seems it would be beneficial to invest resources to further understand a young person's particular motivations and goals, alongside facilitating the involvement of uniform staff and supporting the generalisation of skills beyond the treatment room.

Currently, the Chromis programme does not require an individual to have a specific level of psychopathic traits in order for them to be considered for treatment. It instead focuses on the nature of someone's traits and their ability to engage in and benefit from treatment. Chromis is necessarily an intensive, and therefore costly, intervention. If it were to be rolled out to other locations then there would need to be careful consideration given to when an individual should be referred to Chromis and when it may be more appropriate for their particular responsivity needs to be assessed and accommodated within a more mainstream intervention. Given the heterogeneity of those with high levels of psychopathic traits, the range of factors likely to influence their ability to engage in treatment and the current state of the literature in this area this is likely to remain a clinical judgement. This judgement should be made by those with experience of assessing and working with psychopathy and with an up to date knowledge of the literature in these areas.

Chromis participants continued to have difficulties regarding their engagement and particular treatment needs post treatment. Chapter five found higher than expected aggression after moving on from the treatment unit and chapter six highlighted ongoing difficulties in engagement and a range of different treatment needs particular to each individual.

As such, it seems likely that it is not effective to simply invest in a treatment programme such as Chromis. This needs to be embedded into a wider regime and have a compatible

approach to progression for individuals. Since Chromis was first developed a comprehensive pathway has been introduced for the treatment of offenders who may be suffering from a personality disorder (Joseph & Benefield, 2010, 2012). This provides increased scope for a more coordinated approach to an individual's sentence management and treatment planning, allowing more of their sentence to be specifically tailored to their needs, supporting the suggestions of Olver and Wong (2009) and Reidy and colleagues (2013). It will be important for Chromis participants for their progression through this pathway to particularly reflect the approaches of the Chromis programme. Chromis has a progression strategy, which aims to support the approaches of the programme continuing through to individuals' particular progression environments. These findings support the close linking of the Chromis progression strategy and the personality disorder pathway to help to ensure that this is achieved.

It seems important for clinicians and researchers to realistically consider what success may look like and how this may best be captured for treatment participants with high levels of psychopathic traits. In chapter six particularly, assessment tools did not always pick up on the changes made by Chromis participants, but this was not to say that changes were not significant or that they did not have an important impact for the individuals and those around them. It is possible that previous, larger scale research into the effectiveness of treatment with this population may not have captured these more subtle benefits gained by participants. This has implications for the future assessment of individuals and future evaluation projects. Given participants' levels of difficulties, research methodologies need to continue to be utilised that will capture potentially subtle but important changes made by participants if a programme's value is to be fully understood. Also, as participants themselves identified that recognition was important to them, this needs to be remembered in practice. Those in

regular contact with participants need to be aware of any differences in how they handle situations, and contact logs or other similar records need to capture this information. Such documents may be more important than formal assessment measures in assisting with any changes being acknowledged and understood throughout the treatment process. This focus on change of course needs to be balanced against the need to be realistic about the individual's ongoing level of risk and treatment needs.

Alongside the apparent benefits of the Chromis approach, it is also important to recognise that working with this population is clearly hard for staff. Individuals are disruptive, both inside and outside of the treatment room, they can have erratic attendance at times and progress can be slow and sometimes very subtle. This means that it is vital that appropriate individuals are selected, trained and supported to carry out this work. The recognition of progress of individuals may be as important for staff as it is for the individuals concerned. Recognition of the outcomes of their efforts, both during treatment and in progression environments, may help to maintain the motivation of staff to continue their work.

As well as providing information about the effectiveness of Chromis chapters four, five and six also add to the wider treatment literature for those with high levels of psychopathic traits. Chromis has many elements in common with other interventions for this population, as outlined in the introduction. These elements include: criminogenic needs being the focus of treatment while personality traits are considered responsivity issues, appealing to what motivates the individual, taking a cognitive-behavioural approach and being individualised yet structured. The studies in this thesis therefore add further support to these being appropriate approaches to working with this group. One area of difference is that Chromis does not consider where an individual is in the stages of change (Prochaska & DiClement,

1982) as explicitly as other interventions. This may be an area for Chromis programme developers to consider further. Given that in chapter four individuals identified that the timing of treatment was important to them deciding to engage, then considering where they are in the cycle of change at the point of referral may serve to further improve the responsive nature of Chromis. It of course needs to be considered that if the timing of treatment is important to individual's decisions to want to change then this may be the critical factor in deciding their progress, over and above the nature and content of treatment.

While this thesis has contributed to the literature about working with individuals with high levels of psychopathic traits it may be considered to have made relatively small steps in advancing this work. Criticisms of earlier studies into treatment with this group include studies having a lack of a control group, unclear treatment targets and unclear conceptualisations of psychopathy (D'Silva et al., 2004). The treatment targets of Chromis are clear and clinicians, and therefore this research, make use of the PCL-R definition and structure of psychopathy, meaning that these studies are arguably improvements on some previous work investigating the effectiveness of different treatments with this population. However, while not appropriate to the multiple case study methodology, there is a lack of control group to this work.

While identifying control groups appear to be a difficulty for many researchers, some have conducted small scale studies with control groups (for example, Wong et al., 2012). It would still be some time before a suitable sample size has been in the community for a sufficient amount of time for a reconviction study to be completed. However, it may be appropriate for future work, considering a range of possible outcome measures, to identify a suitable

control group to provide a more detailed and robust understanding of the findings. Given developments within the UK relating to the identification and treatment of individuals with complex personality profiles, including psychopathy (Joseph & Benefield, 2010, 2012), there would at least be value in exploring the feasibility of the identification and use of appropriate control groups for future work relating to Chromis.

While it is considered that best use has been made of the currently available data to begin to evaluate Chromis, this task is ongoing. Considering a range of outcome variables is necessary when evaluating the effectiveness of interventions with individuals with high levels of psychopathic traits (Salkin, Worley & Grimes, 2010). There is clear support in the literature for changes in relevant risk factors being linked to changes in re-offending risk (Howard & Dixon, 2013) and for this still being the case for individuals with high levels of psychopathic traits (Olver, Lewis & Wong, 2013). It is also the case that improving institutional behaviour in this population would have value, to participants and the service. However, these pluses do not necessarily translate to actual changes in re-offending rates, arguably our ultimate goal. As such, while it is important for research efforts to continue and be valued, it is also necessary for the longer term goal of reductions in recidivism to still be strived for. This said, re-offending is an important but coarse indicator of success and other outcomes indicative of life success may be valuable for individuals, having a possible synergistic effect on each other. These other outcomes may also be informative for the ongoing development of treatment, allowing further understanding of the disorder and aspects of, or processes for, change.

Reviewing these findings in the light of previous literature it appears that, in contrast to the view expressed by Reidy and colleagues (Reidy et al., 2013), we have gained little

knowledge about how to intervene to address violence in those with high levels of psychopathic traits that we may now be nearing the position recommended by Cleckley in 1988. Cleckley outlined that, while he did not have clear advice at that stage regarding the rehabilitation of those with high levels of psychopathic traits, he thought it was important for a consistent attitude to be reached. There appears to be a more consistent and constructive attitude prevailing clinical practice that these individuals are capable of change and can be engaged in interventions if they are appropriate. It has been suggested that sentencing practices in the UK for those with high levels of psychopathic traits may change when effective interventions are in place (Vien & Beech, 2006). Given the investment by NOMS into progression pathways for these individuals this seems to be starting to happen over time.

The evaluation of the Chromis programme is ongoing. While important information has been gained it is also clear that further work is necessary to fully understand and improve the treatment approach taken by Chromis. As sample sizes increase the use of other research methods will be necessary to build on the evaluation outlined in chapters four, five and six. For example, Chromis participants are now subject to in depth behavioural monitoring throughout their time on the treatment unit. This process was not in place at the time that the participants of these studies were in treatment. This behavioural monitoring information, alongside measures such as the psychometrics, would provide valuable data to consider change over time for a larger sample and help to strengthen our understanding of interim treatment outcomes for participants. It would also be important for a cost benefit analysis to be completed. Chromis and its supporting elements require a considerable investment of money as well as effort. While those with high levels of psychopathic traits might be a minority group within the prison population they are a problematic and costly group to

manage. It will be important to ascertain whether or not Chromis is worth it in monetary terms for this investment to continue.

Conclusion

Collectively, the body of work contained within this thesis has added to the evidence base relating to the identification and treatment of individuals with high levels of psychopathic traits in the UK. At a time of spending cuts across public services there is a need to have clinically informed yet efficient approaches to forensic psychology practice and this work has made some progress in this regard. The case is made for the value of considering the nature of an individual's psychopathic traits in order to work meaningfully with those with high levels of these traits to address their risk of re-offending. Indeed, a key theme throughout these studies looking at both assessment and treatment is the heterogeneous nature of those with high levels of psychopathic traits and the need for practice and research to be sensitive to this in order to be effective.

While the Hare SRP could not be used as a screening tool to target further assessment with the PCL-R it was found to be an up to date self-report measure of psychopathy that has some value as an assessment of the disorder in the UK, particularly where a PCL-R may not be possible and thus the concept of psychopathy is not considered. A vital start has also been made in evaluating the effectiveness of the Chromis programme in working with those with high levels of psychopathic traits. There is cautious optimism for the approach taken by Chromis as an effective way to work with these individuals. Further work is clearly needed but it is argued that continuing to invest in working with this complex group is worthwhile.

In addition to the clear value of this work to UK practice it has also made small but important steps in developing the wider literature related to considering the assessment of psychopathy beyond the PCL-R, the use of self-report measures more generally and the treatment of those with high levels of psychopathic traits. This work is largely compatible with previous work in these areas but makes some significant steps forwards in understanding up to date assessment and treatment approaches and identifying methodological issues for consideration in future research.

These advances in our understanding are positive and enable a more constructive way forward in practice. However, it is imperative that clinicians and policy makers remain aware of the limitations of the current literature relating to the assessment and treatment of those with high levels of psychopathic traits. This will hopefully ensure that findings are not inappropriately applied at the group or individual level and that practice does not go down inappropriate routes, as may have been considered to be the case previously. It has taken considerable time to counter the view that treatment makes all of those with high levels of psychopathic traits worse (Rice, Harris & Cormier, 1992). For both these individuals and society as a whole clinicians and researchers have a responsibility to maintain the difficult stance of being critically curious about the possibility of change for those with high levels of psychopathic traits.

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Appendices

Appendix A: Literature Review

The article in Chapter 1 was informed by the following literature reviews.

Psychopathy and Risk

The following searches were performed in Psychinfo (1987-2009), Medline (1950-2009) and Embase (1988-2009) on the 24th November 2009.

- 1) Psychopathy (Subject Heading search)
- 2) Psychopath* (free text search)
- 3) 1 or 2
- 4) Risk Assessment (Subject Heading search)
- 5) 3 and 4
- 6) Criminals – explode (Subject Heading search)
- 7) Violence – explode (subject Heading search)
- 8) 6 or 7
- 9) 5 and 8
- 10) Limit to Adult, Male, Human Populations,

In psychinfo – step 6 – Select criminals and male criminals

step 7 – Select domestic, intimate partner, violence, and patient violence

In medline - rerun step 1 searching psychopathy as a key word

step 6 – select criminal psychology

In Embase - step 6 – select offender

This produced 157 articles in total. Abstracts of the articles were then reviewed. The search selected published work written in English relating to adult males that used the PCL-R to measure psychopathy. Articles were removed that related to women, young offenders, or did not mention psychopathy, the PCL-R or some related term. Duplicate articles across the three searches were also removed. Relevant references from articles were followed up. Considering the advanced state of evidence based literature in this area, meta-analytic studies that examined psychopathy and risk provided the best evidence. This review included 8 meta-analysis.

Psychopathy and Treatment

The following searches were performed in Psychinfo (1987-2009), Medline (1950-2009) and Embase (1988-2009) on the 1st January 2010.

- 1) Psychopathy (Subject Heading search)
- 2) Psychopath* (free text search)
- 3) 1 or 2
- 4) Treatment (Subject Heading search)
- 5) 3 and 4
- 6) Criminals – explode (Subject Heading search)
- 7) Violence – explode (subject Heading search)
- 8) 6 or 7
- 9) 5 and 8
- 10) Limit to Adult, Male, Human Populations,

In psychinfo – step 6 – select criminals and male criminals

step 7 – select domestic, intimate partner, violence, and patient violence

In medline - rerun step 1 searching psychopathy as a key word

step 6 – select criminal psychology

In Embase - step 4 select psychiatric treatment, treatment failure, indication, outcome, planning, refusal, response, and withdrawal.

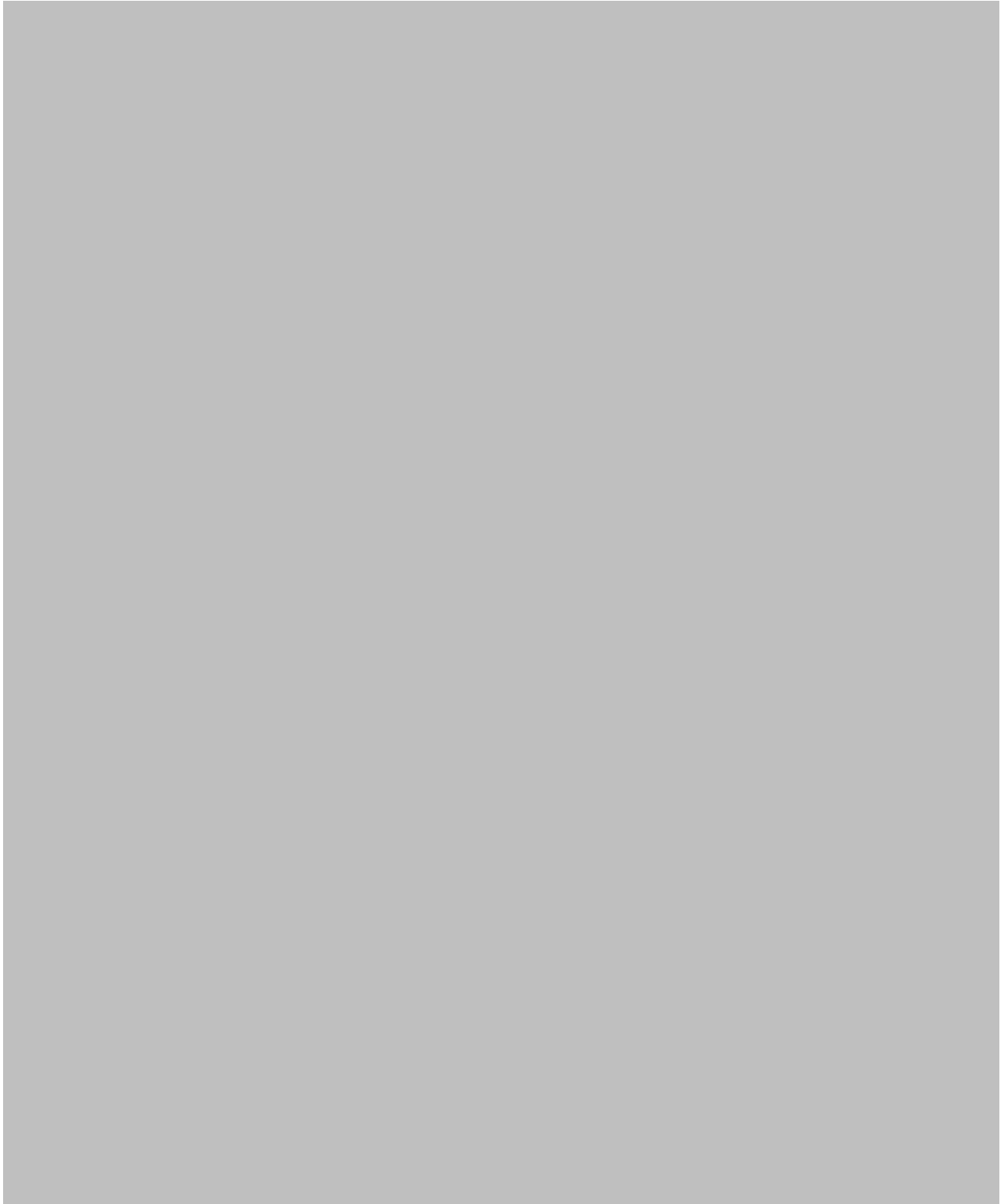
step 6 – Select offender

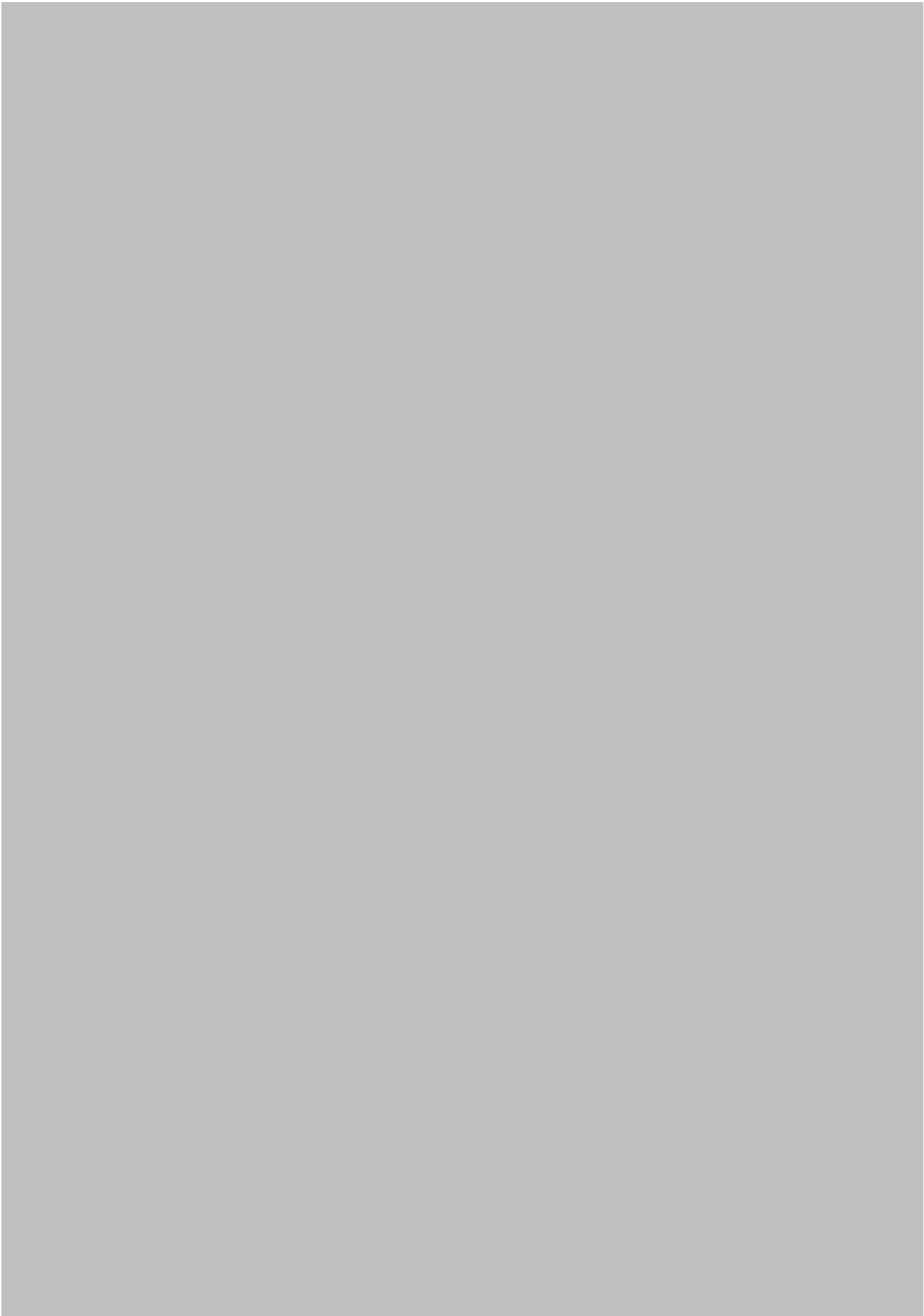
This produced 178 articles in total. Abstracts of the articles were then reviewed. The search selected published work written in English relating to adult males that used the PCL-R to measure psychopathy. Articles were removed that related to women, young offenders, or did not mention psychopathy, the PCL-R or some related term. Duplicate articles across the three searches were also removed. Relevant references from articles reviewed were followed up.

Appendix B: Ethical Approvals

National Offender Management Service

For the Self-Report Psychopathy Scale study









Appendix C: Reflections on using IPA with people with high levels of psychopathic traits.

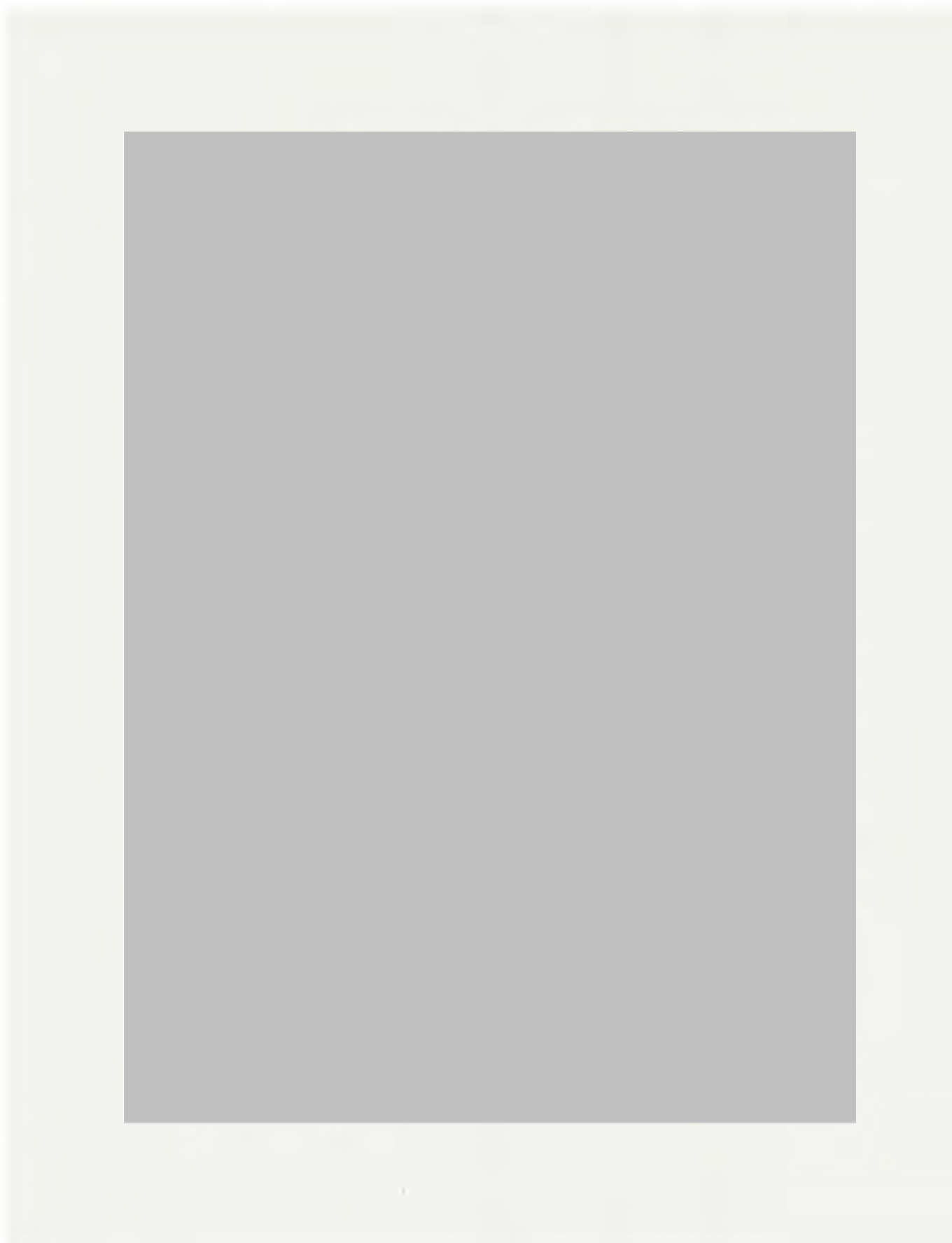
Tew, J., & Bennett, A. L. (2014). Using Interpretative Phenomenological Analysis to access experiences of offenders with high levels of psychopathic traits: Reflections from practice. *Qualitative Methods in Psychology Bulletin*, 18, 6-14.

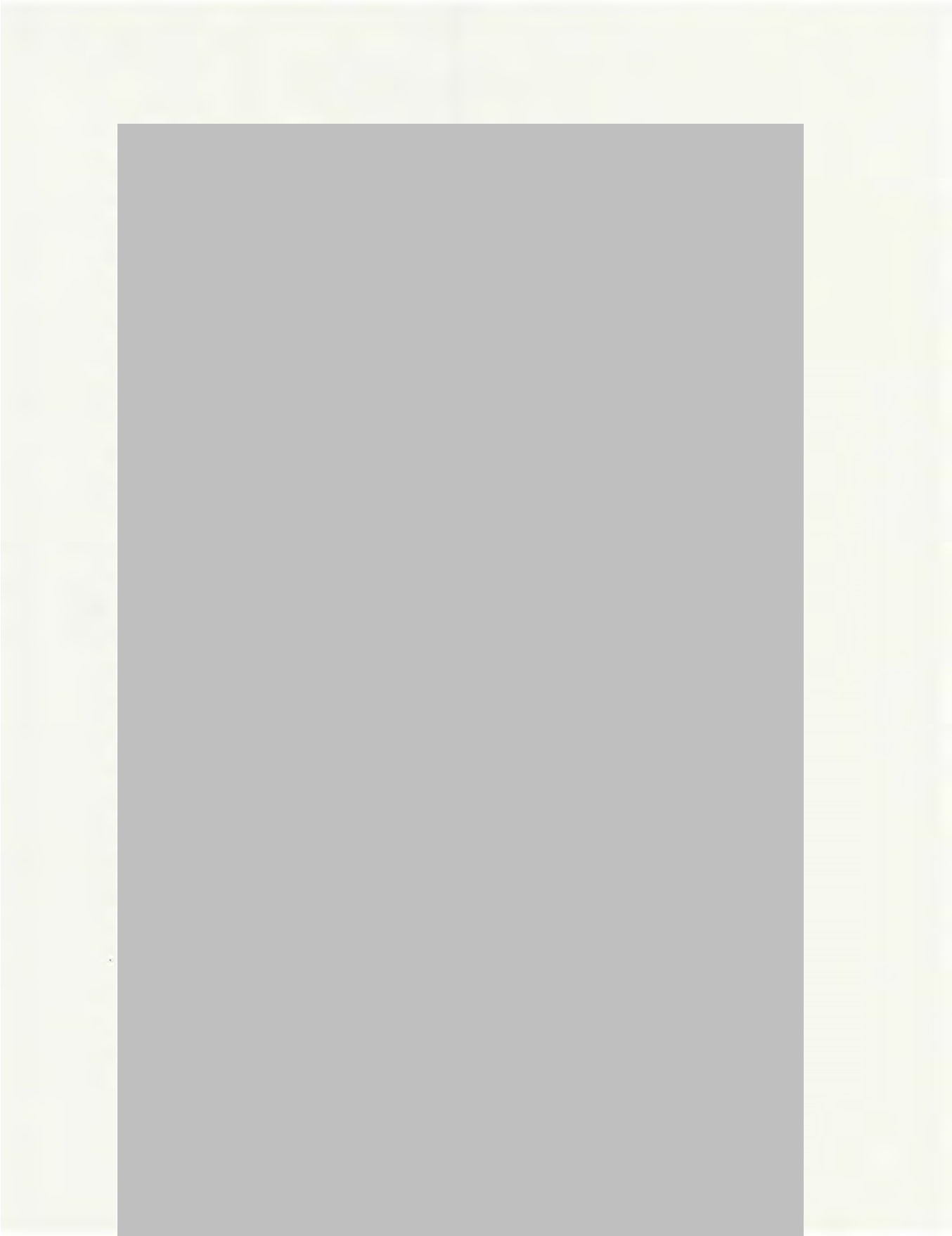
Peer-reviewed article

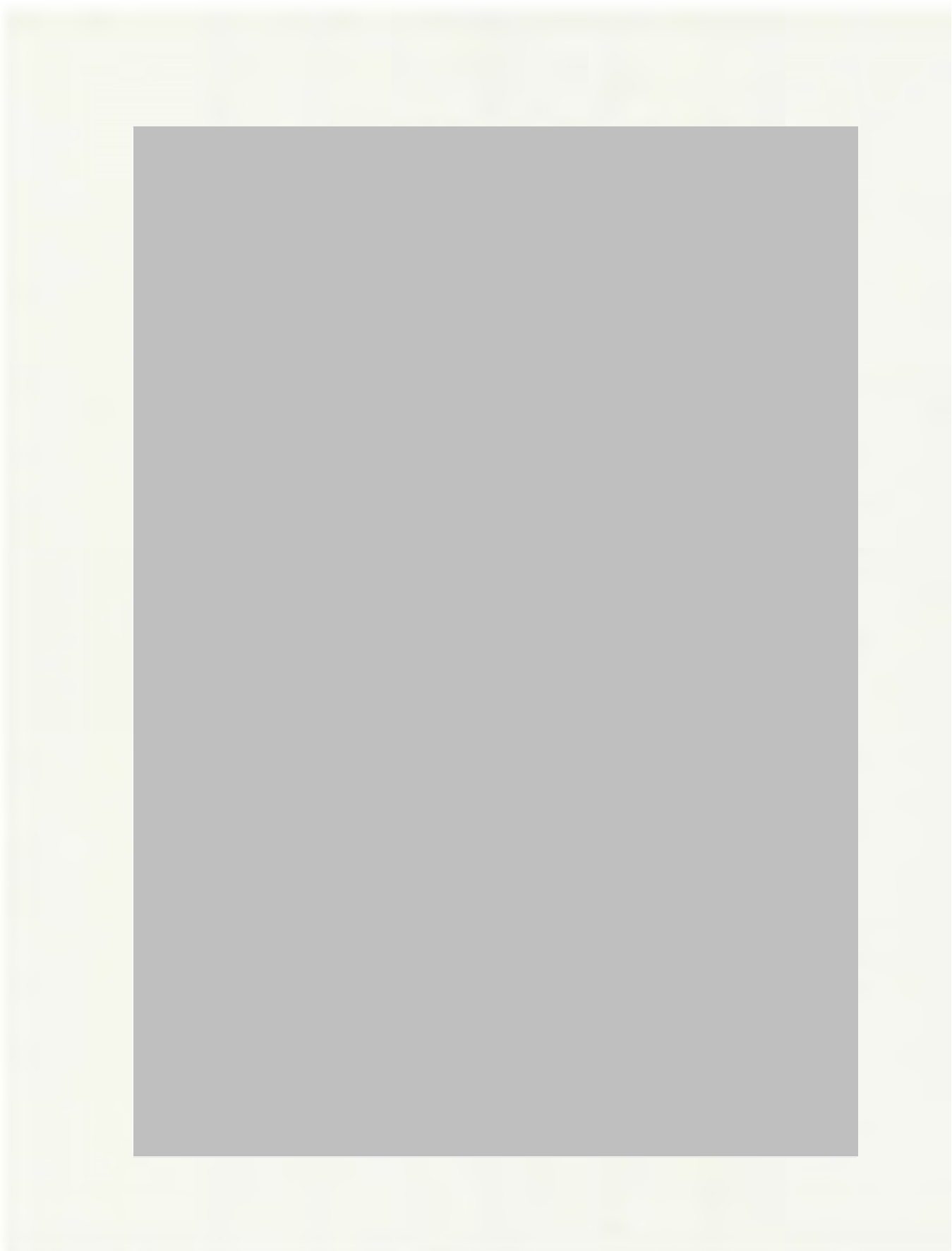
Using Interpretative Phenomenological Analysis to access experiences of offenders with high levels of psychopathic traits: Reflections from practice

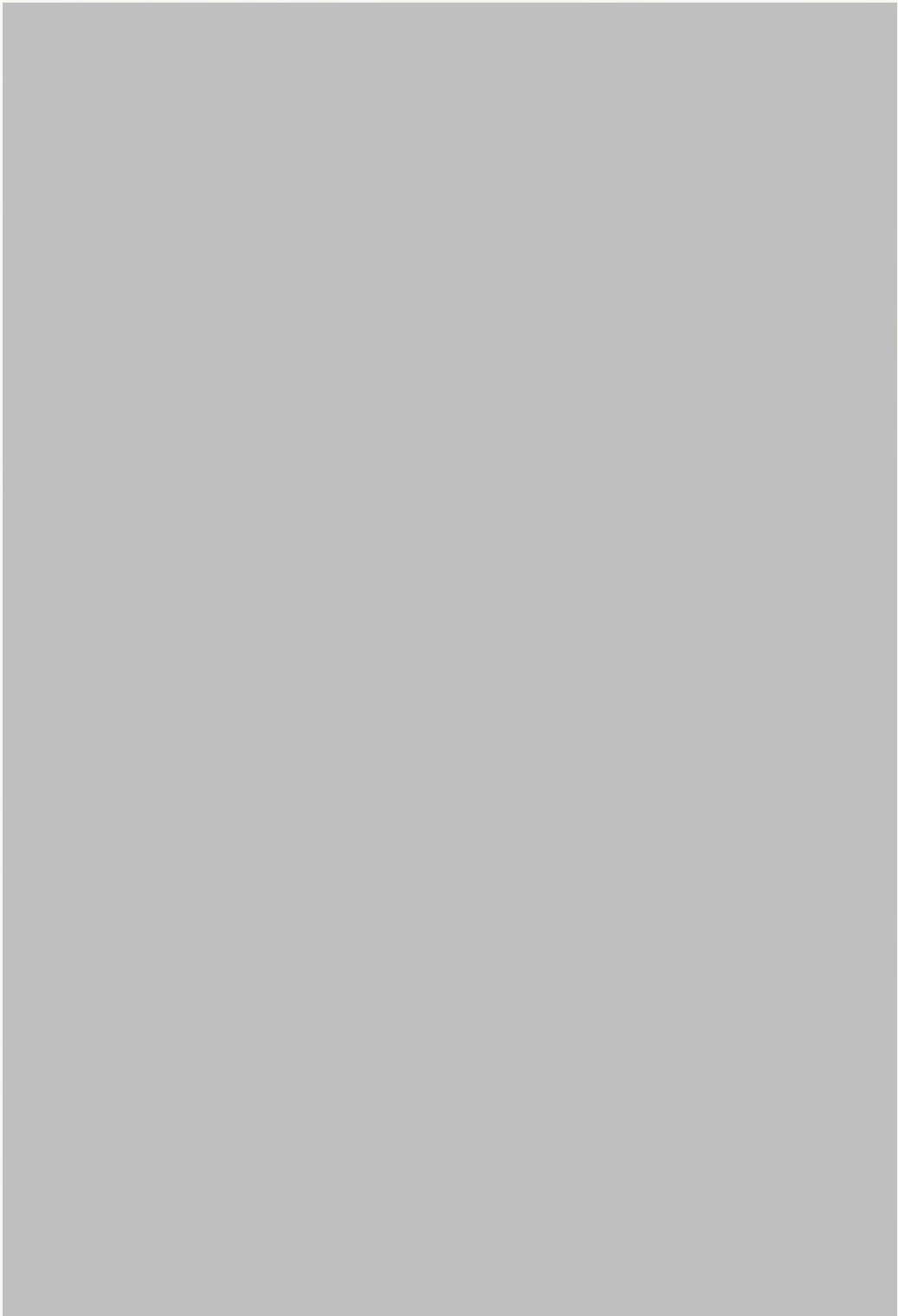
Jenny Tew & Alice L. Bennett

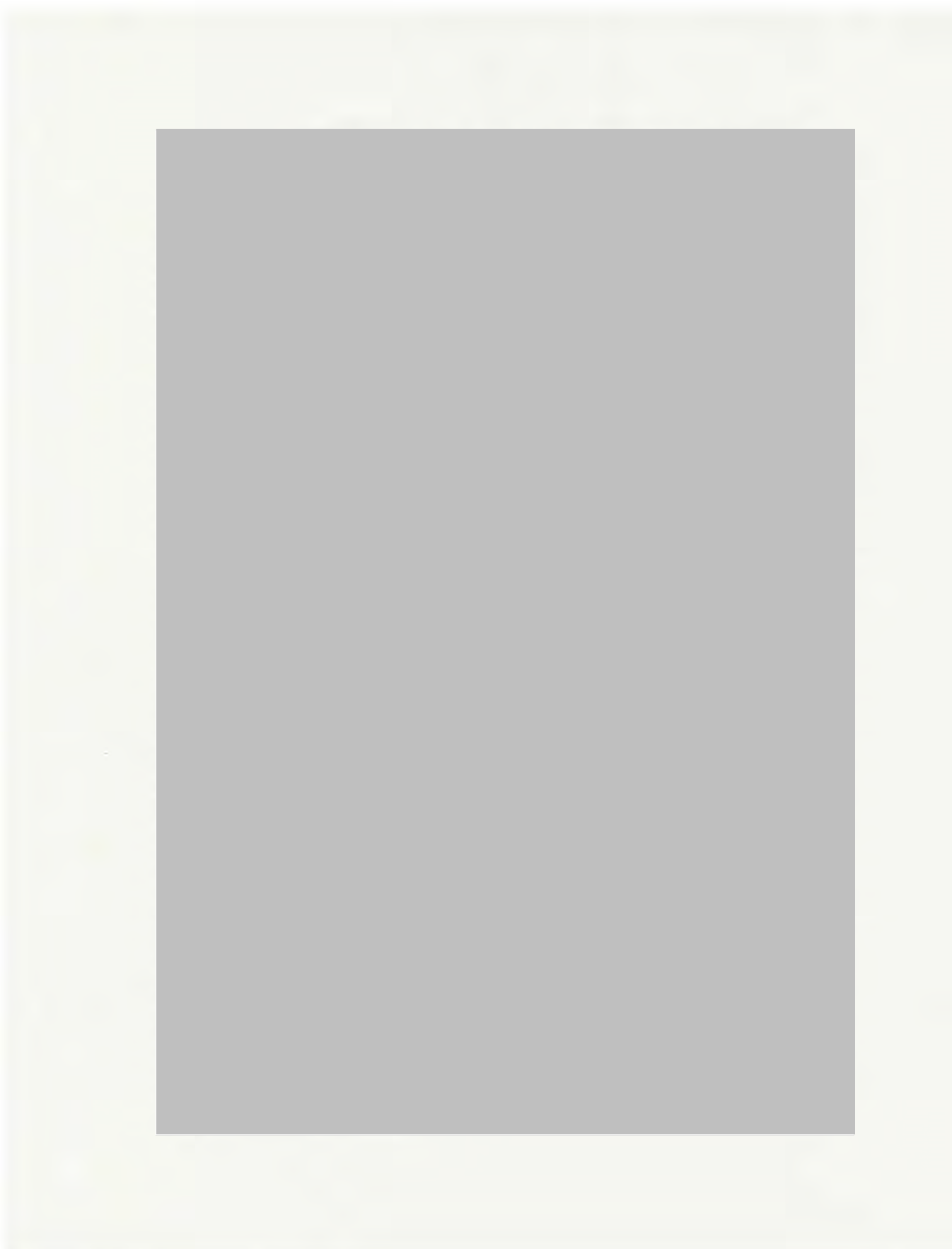
Chromis is a violence reduction intervention for offenders with high levels of psychopathic traits. Since Chromis has a particular focus on being responsive to individuals' needs, part of evaluating its effectiveness involved researchers needing to get an understanding of individuals' experiences of completing the programme. Using Interpretative Phenomenological Analysis (IPA) to analyse interviews with four programme completers raised a number of issues for the researchers to consider. This article aims to share these experiences with a view to promoting discussion and furthering practice in this area.

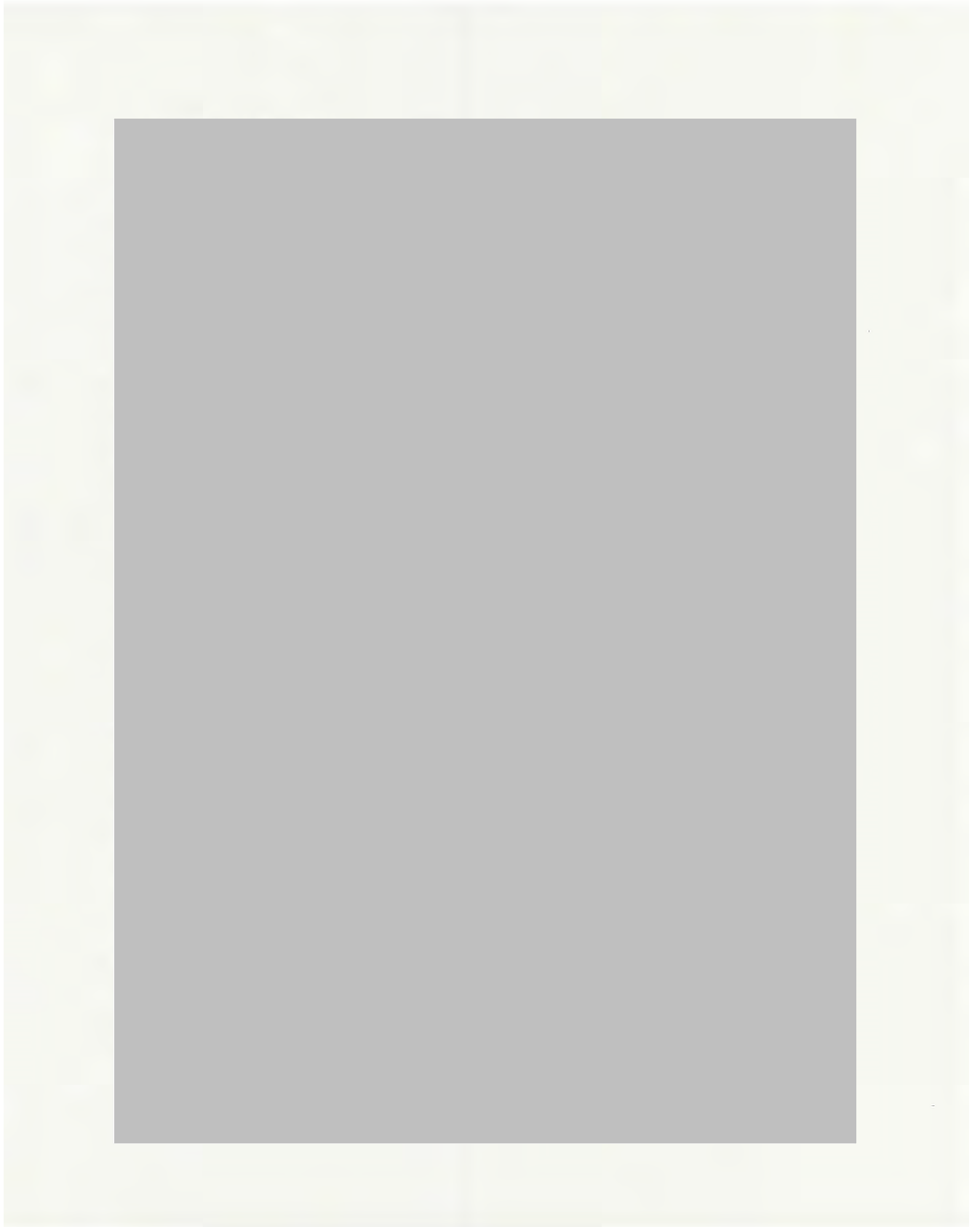


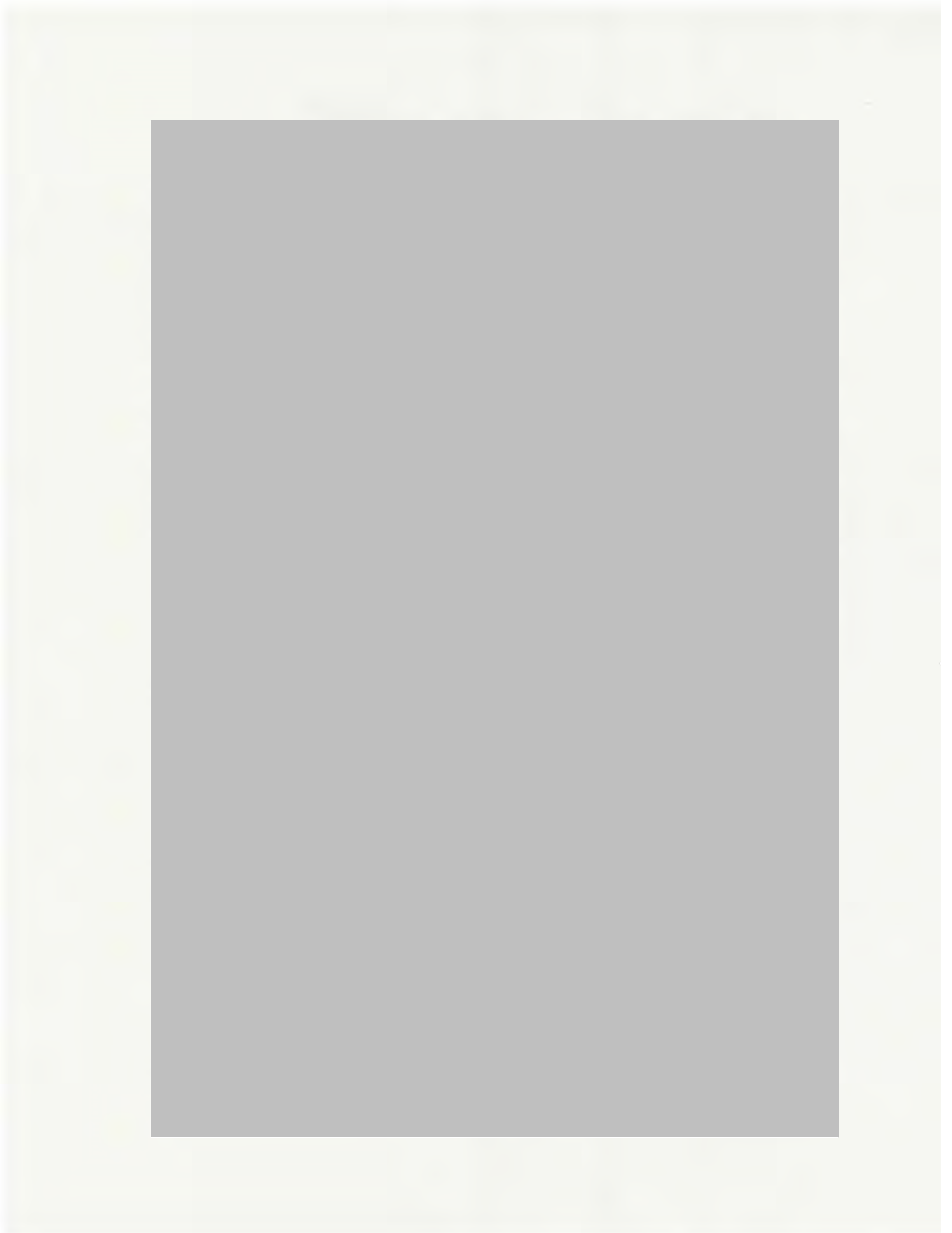














Appendix D: Chapter six case study summaries

Table 1: Background summary for case study 1

Age (at time of study)	36
Ethnicity	White British
Offending	Index Offence: Arson Sentence: Life with a 3 year tariff that expired 16 years ago Previous Offending: previous conviction for sexual offences
Personality assessments	IPDE - 2 definite diagnosis (Anti-social and Borderline) PCL-R - Total = 30, Factor 1 = 11, Factor 2 = 14.9 <i>Definite items:</i> manipulative, lack of remorse / guilt, poor behavioural controls, early behavioural problems, lack of realistic long term goals, irresponsibility, failure to accept responsibility, juvenile delinquency, <i>Probable items:</i> Grandiosity, need for stimulation / proneness to boredom, pathological lying, shallow affect, parasitic lifestyle, impulsivity, <i>Not applying:</i> Glibness and superficial charm.

Previous Interventions	<p>Anger Management course –1995</p> <p>Cognitive Skills course –1997</p> <p>Anger control course -1996, started but withdrew after 2 days.</p> <p>Personal development course - 2001</p> <p>Stress management course - 2003</p> <p>Enhance Thinking Skills - 2003</p>
Individual areas tracked	<p>1 = Poor attitudes</p> <p>2 = Self Harm</p>
Pathway through treatment	<p>Spent 8 years 8 months on the unit</p> <p>Psycho Education, Motivation & Engagement, Creative Thinking, Problem Solving, Handling Conflict, Emotional Modulation, Social Competence, Relationships & Intimacy, Chromis Schema Therapy, Progression & Maintenance</p>
Progression	<p>Had left the unit 1 year 10 months before the study.</p> <p>Came from a category A establishment and progressed to a category B establishment.</p>

Table 2: Background summary for case study 2

Age (at time of study)	33
Ethnicity	White British
Offending	Index Offence: False Imprisonment, Attempted Kidnap, Possession of an Offensive Weapon and Possession of Class A Drugs Sentence: 11 years Previous Offending: 105 previous convictions spanning a range of offence categories

Personality assessments	<p>IPDE - 2 definite diagnosis (Anti-social and Paranoid), 1 probable diagnosis (Schizotypal)</p> <p>PCL-R - Total = 28, Factor 1 = 10, Factor 2 = 18</p> <p><i>Definite items:</i> conning and manipulative, callous lack of empathy, lack of remorse / guilt, failure to accept responsibility, need for stimulation / proneness to boredom, irresponsibility, lack of realistic long term goals, impulsivity, early behavioural problems, revocation of conditional release, criminal versatility, juvenile delinquency</p> <p><i>Probable items:</i> poor behavioural controls, parasitic lifestyle, shallow affect, pathological lying</p> <p><i>Not applying:</i> Glibness and superficial charm, Grandiosity, sexual promiscuity, many short term marital relationships.</p>
Previous Interventions	Says previously declined offer of help with substance misuse as did not think this was a problem.
Individual areas tracked	<p>1 = Rule and boundary breaking</p> <p>2 = Incidents related to drug use</p>
Pathway through treatment	<p>Spent 4 years 6 months on the unit</p> <p>Psycho Education, Motivation & Engagement, Creative Thinking, Problem Solving, Handling Conflict, Chromis Schema Therapy, Progression & Maintenance</p>

Progression	<p>Had left the unit 3 year 3 months before the study. Had been in the community 2 years 1 month at the time of the study.</p> <p>Came from a category A establishment and progressed to a medium secure unit and then back to Westgate until his release.</p>
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Table 3: Background summary for case study 3

Age (at time of study)	43
Ethnicity	White British
Offending	<p>Index Offence: Murder</p> <p>Sentence: Life with a tariff of 9 years that expired</p> <p>Previous Offending: 14 previous convictions. Mostly acquisitive, criminal damage and failing to surrender to custody.</p>

Personality assessments	<p>IPDE - 4 definite diagnosis (Anti-social, schizoid, borderline and Paranoid)</p> <p>PCL-R - Total = 27.1, Factor 1 = 8, Factor 2 = 15.6</p> <p><i>Definite items:</i> need for stimulation / proneness to boredom, lack of remorse / guilt, shallow affect, callous lack of empathy, poor behavioural controls, early behavioural problems, lack of realistic long term goals, impulsivity, revocation of conditional release</p> <p><i>Probable items:</i> conning and manipulative, parasitic lifestyle, failure to accept responsibility, juvenile delinquency, criminal versatility</p> <p><i>Not applying:</i> Glibness and superficial charm, Grandiosity, pathological lying, sexual promiscuity (not scored), many short term marital relationships (not scored) irresponsibility (not scored)</p>
Previous Interventions	<p>Engaged with psychologists discussing offence and related issues - 1992.</p> <p>Withdrew from CSCP 1997 & 2001.</p> <p>Tried anger management 3 or 4 times before completing in 1998. Made limited progress.</p> <p>Reasoning & Rehabilitation – 1998</p>

Individual areas tracked	1 = Impulsivity 2 = Incidents related to drugs
Pathway through treatment	Spent 5 years 9 months on the unit Psycho Education, Motivation & Engagement, Creative Thinking , Emotional Modulation, Iceberg, Social and Interpersonal Competencies, Problem Solving, Handling Conflict, Chromis Schema Therapy, Progression & Maintenance
Progression	Had left the unit 2 year before the study. Came from a category A establishment and progressed to a category B establishment. Received D category status during the study.

Table 4: Background summary for case study 4

Age (at time of study)	35
Ethnicity	White British
Offending	Index Offence: Murder Sentence: Life with a tariff of 16 years Previous Offending: 13 previous convictions including acquisitive offences, robbery, wounding, possession of a weapon

Personality assessments	<p>IPDE - 4 definite diagnosis (Anti-social, Narcissistic, borderline and Paranoid), 1 probable diagnosis (histrionic)</p> <p>PCL-R - Total = 37.9, Factor 1 = 15, Factor 2 = 16.7</p> <p><i>Definite items:</i> Glibness and superficial charm, Grandiosity, need for stimulation / proneness to boredom, pathological lying, conning and manipulative, lack of remorse / guilt, callous lack of empathy, parasitic lifestyle, poor behavioural controls, sexual promiscuity, early behavioural problems, lack of realistic long term goals, impulsivity, failure to accept responsibility, many short term marital relationships, juvenile delinquency, criminal versatility</p> <p><i>Probable items:</i> shallow affect, irresponsibility</p> <p><i>Not applying:</i> revocation of conditional release (not scored)</p>
Previous Interventions	<p>7-session Individual Violence Programme – 1999</p> <p>2 day Stress management - 2001</p> <p>2 day Drug awareness - 2001</p> <p>Enhanced Thinking Skills - 2001</p>
Individual areas tracked	<p>1 = Impulsivity</p> <p>2 = Poor problem solving</p>

Pathway through treatment	Spent 7 years on the unit Psycho Education, Motivation & Engagement , Iceberg, Creative Thinking , Emotional Modulation, Problem Solving, Handling Conflict , Social and Interpersonal Competencies, relationships & Intimacy, Chromis Schema Therapy, Progression & Maintenance
Progression	Had left the unit 1 year 5 months before the study. Came from a category A establishment and progressed to a category B establishment.

Table 5: Background summary for case study 5

Age (at time of study)	44
Ethnicity	Black British African
Offending	Index Offence: Robberies and attempted robbery Sentence: 14 years Previous Offending: 39 previous convictions including acquisitive offences, robberies, drug possession and assaults.

Personality assessments	<p>IPDE - 3 definite diagnosis (Anti-social, borderline and avoidant), 1 probable diagnosis (paranoid)</p> <p>PCL-R - Total = 23, Factor 1 = 9, Factor 2 = 12</p> <p><i>Definite items:</i> conning and manipulative, lack of remorse / guilt, callous lack of empathy, parasitic lifestyle, poor behavioural controls, early behavioural problems, failure to accept responsibility, juvenile delinquency, criminal versatility</p> <p><i>Probable items:</i> need for stimulation / proneness to boredom, shallow affect, impulsivity, irresponsibility, revocation of conditional release</p> <p><i>Not applying:</i> Glibness and superficial charm, Grandiosity, pathological lying, sexual promiscuity, lack of realistic long term goals, many short term marital relationships,</p>
Previous Interventions	None
Individual areas tracked	<p>1 = Impulsivity</p> <p>2 = Incidents related to drug use</p>
Pathway through treatment	<p>Spent 5 years 8 months on the unit</p> <p>Psycho Education, Motivation & Engagement, Creative Thinking, Iceberg, Problem Solving, Emotional</p>

Modulation, **Handling Conflict**, Social and Interpersonal
Competencies, **Chromis Schema Therapy**

Progression Had left the unit 1 year 9 months before the study. He had been in the community for 1 year 1 month at the time of the study.

Came from a category A establishment and progressed to a category B establishment.

Where PCL-R items were omitted this was done within the scoring guidelines of the PCL-R (Hare, 2003) and assessments were pro-rated.

Chromis assessment measures

Chromis psychometric battery measures included in this study

Barratt Impulsivity Scale (BIS-II; Barratt, 1994). The Barratt scale is a 30-item self-report questionnaire. There are three subscales measuring motor impulsivity, cognitive impulsivity and non-planning impulsiveness. Participants rate each of these items on a four-point scale (where 1 equals rarely/never and 4 equals almost always/always).

Social Problem Solving Inventory Revised (SPSI-R; D’Zurilla et al., 2000). The SPSI-R is a 52 item self-report measure assessing strengths and weaknesses in problem-solving abilities. It measures two adaptive problem solving dimensions; Positive problem orientation and Rational problem solving and three dysfunctional dimensions; Negative problem orientation, Impulsivity/carelessness style and Avoidance style. The Rational problem solving scale as four subscales, namely; Problem definition and formulation, Generation of alternative solutions, Decision making and Solution implementation and verification.

Novaco Anger Scale and Provocation Inventory (NAS-PI; Novaco, 1994). The NAS-PI is divided into two parts. Part A comprises the Novaco Anger Scale. This contains 60 items divided into 3 scales that focus on (1) cognition, (2) arousal and (3) behaviour, related to anger and the experience of anger. Part B is based on the Novaco Provocation Inventory. This contains 25 items divided into 5 subscales to provide an index of anger intensity and generality across a range of potentially provocative situations. These subscales examine primarily cognitive aspects of anger: perceived disrespect of oneself by others, perceived sense of unfairness, frustration, a tendency to see others as self-centred and insensitive, and sensitivity to incidental annoyances.

Locus of control questionnaire (LOC; Levenson, 1972). This is a self-report questionnaire that assesses the extent to which a participant believes what happens to him is determined by external influences or whether he has control over his experiences. It is an 18 item scale where participant’s respond on a five point likert scale from 0=strongly disagree to 4=strongly agree.

Psychological Inventory of Criminal Thinking Styles (PICTS; Walters, 2002). The PICTS is a self-report questionnaire consisting of 80 items measuring the eight (over-lapping) primary cognitive features of lifestyle criminality. These are; Mollification, cut-off, entitlements, power orientation, sentimentality, super-optimism, cognitive indolen

Additional assessment measures

Historical, Clinical, Risk Management tool (HCR-20)

The HCR-20 (Webster et al. 1997) is a set of structured professional guidelines for the evaluation of violence risk, and was initially designed for assessing the potential for violence in individuals suffering from mental and personality disorders. It forms a checklist of 20 risk factors for violent behaviour, which are categorised into past/present/future. There are 10 'Historical' items (past, relatively static), 5 'Clinical' items (current, dynamic), and 5 'Risk Management' items (future, dynamic and situational).

Violence Risk Scale (VRS)

The VRS (Wong and Gordon, 2000) measures a variety of static and dynamic risk factors for violence. There are 6 static factors and the 20 dynamic factors rated on a four-point scale to reflect the extent of the problems identified. Dynamic risk factors are rated according to the degree to which they are present, and the individual's preparedness and motivation to change.

Psychopathy Checklist Revised (PCL-R)

The PCL-R (Hare, 2003) is a 20 item tool assessing personality traits associated with psychopathy in a range of settings. It uses interviews, files and information from third parties to assess personality traits and behaviours related to the concept of psychopathy. Each item is scored on a three point scale with 0 indicating the absence of the trait, 1 indicating a potentially or partly applicable trait and 2 indicating a definitely applicable trait. Total scores range from 0 to 40. Hare (2003) developed a two factor model for the PCL-R where the superordinate factor of psychopathy divides into two factors. Factor 1 is characterized by selfishness, callousness and remorseless use of others, and Factor 2 is characterized by a chronic unstable and anti-social lifestyle and social deviance.

International Personality Disorder Examination (IPDE)

The IPDE (Loranger, 1999) assess the personality disorders described in the Diagnostic and Statistical Manual of Mental Disorder 4th Edition and the International Classification of Diseases 10th Edition. It is also still compatible with the 5th edition of the Diagnostic and Statistical Manual of Mental Disorder. It consists of a self-administered screening questionnaire and a semi-structured interview. The screening questionnaire helps to identify individuals where there is a suggestion of the presence of a personality disorder for further assessment with the clinical interview. Scoring guidelines are provided with the interview and assessors assign a definite, probable or negative diagnosis for each personality disorder.

The Working Alliance Inventory (WAI)

The WAI (Horvath, 1994) is a 36 item questionnaire with items measured on a 7 point scale ranging from 'never applies' to 'always applies'. There is a client version, a therapist

version and an observer version of the measure. Where possible the therapist and client versions were completed for each individual.

Definitions for data coding

Coding of Engagement data

<i>Aspect of Engagement</i>	<i>Definition</i>
Attendance	Records of attendance for each Chromis component. From session logs the number of attended sessions and the number of sessions missed and rearranged due to the offender. Where session logs were not available post programme reports were consulted to get an overview of attendance for the component.
Completion on time	Record of the number of completed Chromis components based on post programme reports.
Completion of between session tasks	Taken from Chronis component session logs. The number of completed and non-completed tasks. This is about physically completing the task and not about the quality of the work produced. Where session logs were not available post programme reports were consulted to get an overview for the component.
Expected contribution to therapy sessions	Taken from Chromis component session logs. The number of positive and negative comments regarding personal disclosure, and contribution to tasks.

supportive and helpful to other participants.	Session notes and post treatment reports. Marking number of positive and negative comments regarding being supportive and helpful to other participants in each session within each component.
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Grading of Engagement data

<i>Grade</i>	<i>Definition</i>
Excellent	only positive comments, attended all sessions,
Good	More positive comments than negative ones, missed no more than 8 sessions over all
Average	The same number of positive and negative comments (within 2)
Poor	More negative comments than positive comments
Unacceptable	only negative comments
Completed on time	Yes = Completed all identified components during time in treatment. No = Failed to complete all identified components during time in treatment.

Alliance	Measured using the Working Alliance Inventory (WAI). Total is out of 252. Scale is out of 84. The overview takes the average where both participant and facilitator scores were available. Also compared strength of participant and staff views. Overview is based on total score: Excellent 252 – 189 Good 188 – 125 Average 124 – 61 Poor – below 60
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Coding of data for institutional behaviour

<i>Term</i>	<i>Source</i>	<i>Coding</i>
Anger and Aggression	Incidents of verbal aggression from contact logs from date of sentence to date of data collection	<p>An entry was counted if it included comments relating to raised voice, shouting, swearing, being abusive, being argumentative, agitated towards a particular individual, threats of future consequences, ranting, angrily challenging, having an outburst, having a confrontation with someone. Also, specific allegations of bullying unless specifying a physical element, verbal incidents that include an individual walking or storming off and written threats.</p> <p>A count was then made of the number of entries in each time period and the expected number of incidents during and post treatment were calculated as per Cooke's equation below.</p>

Incidents of physical aggression from contact logs from date of sentence to date of data collection

An entry was counted if it related to a physical acts towards another individual including actual hitting, physical acts towards belongings including smashing up belongings, throwing belongings, slamming doors, hitting tables, incidents that result in the individual needing to be restrained by staff.

A count was then made of the number of entries in each time period and the expected number of incidents during and post treatment were calculated as per Cooke's equation below.

NAS-PI

Whether or not there was clinically significant change on the anger scale and the provocation scale pre and post treatment as a whole was noted. Other testing sessions were checked to see what could be learnt about where any change occurred (e.g. pre and post cognitive skills components and pre and post CST component).

VRS item D6	Score and stage of change for initial
Interpersonal aggression	<p>assessment and subsequent re-scores was noted.</p> <p>Code as slight improvement if move from Pre Contemplation to Contemplation between first and last assessment (no score change) and code as improvement if move from Pre Contemplation or Contemplation to Preparation, Action or Maintenance between first and last assessment (score reduction).</p>
VRS item D7	Score and stage of change for initial
Emotional control	<p>assessment and subsequent re-scores noted.</p> <p>Code as slight improvement if move from Pre Contemplation to Contemplation between first and last assessment (no score change) and code as improvement if move from Pre Contemplation or Contemplation to Preparation, Action or Maintenance between first and last assessment (score reduction).</p>

Self-Harm	Incidents of self-harm from contact logs from date of sentence to date of data collection	<p>An entry was counted if it was about an actual act of self-harm including cutting and hitting. Does not include discussions with staff about thoughts of self-harm unless accompanied by an actual act of self-harm as this is seen as gaining support in a positive manner. Does include using threats of self-harm (e.g. saying you are going to self-harm while locked up if staff don't do X).</p> <p>A count was then made of the number of entries in each time period and the expected number of incidents during and post treatment were calculated as per Cooke's equation below</p>
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Poor Attitude	Incidents of poor attitude from contact logs from date of sentence to date of data collection	<p>Entries were counted if they were comments about being rude to staff when asked to do things, being derogatory and disrespectful to others, being described as showing an unacceptable attitude in activities, having to be challenged about his attitude by staff, refusing to do things asked of him,</p> <p>A count was then made of the number of entries in each time period and the expected number of incidents during and post treatment were calculated as per Cooke's equation below.</p>
VRS item D3 criminal attitudes	<p>Score and stage of change for initial assessment and subsequent re-scores was noted.</p> <p>Code as slight improvement if move from Pre Contemplation to Contemplation between first and last assessment (no score change) and code as improvement if move from Pre Contemplation or Contemplation to Preparation, Action or Maintenance between first and last assessment (score reduction).</p>	

PICTS	<p>The number of scales that showed clinically significant change pre and post treatment as a whole was noted. Other testing sessions were checked to see what could be learnt about where any change occurred (e.g. pre and post cognitive skills components and pre and post CST component).</p>	
<p>Rule and boundary breaking</p>	<p>Incidents of rule and boundary breaking from contact logs from date of sentence to date of data collection</p>	<p>Entries were counted if they were comments about incidents relating to actually breaking rules or trying to push boundaries (e.g. asking different people to try and get to do something not allowed to do), doing things against what asked to do by staff (e.g. going to use the phone when told to return to his cell).</p> <p>A count was then made of the number of entries in each time period and the expected number of incidents during and post treatment were calculated as per Cooke's equation below.</p>

Incidents	Incidents related to	Entries were counted if they were entries
related to drug	drug use from contact	relating to the use of any non-prescribed
use	logs from date of	drugs, trying to manipulate access to
	sentence to date of data	prescribed medication, suspicion behaviour
	collection	(e.g. seeming under the influence or seen
		passing packages to known drug associates),
		admittance of drug use, positive drug tests,
		and refusing to take drug tests. Does not
		include entries where talk about managing
		urges to use drugs and relapse prevention as
		these were seen as seeking support in a
		positive way. These times were counted if
		they included an admission of drug use.
		Entries related to the use of hooch were
		included.
		A count was then made of the number of
		entries in each time period and the expected
		number of incidents during and post
		treatment were calculated as per Cooke's
		equation below.

VRS item D12 substance abuse	Score and stage of change for initial assessment and subsequent re-scores was noted. Code as slight improvement if move from Pre Contemplation to Contemplation between first and last assessment (no score change) and code as improvement if move from Pre Contemplation or Contemplation to Preparation, Action or Maintenance between first and last assessment (score reduction).
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Impulsivity	Incidents related to impulsivity from contact logs from date of sentence to date of data collection	<p>Entries were counted if they related to cognitive or behavioural impulsivity.</p> <p>Includes entries relating to not completing tasks, changing plans suddenly (e.g. attending things and then deciding to leave or not attending as a response to something else happening on the unit), doing things not compatible with longer term goals (i.e. comments on not reflecting on consequences), demanding things when they want them, packing their kit to move when not actually moving, comments from staff about impulsivity e.g. ‘wants everything done yesterday’. Behavioural outcomes driven by anger were not counted (e.g. throwing property) as they were coded under physical aggression.</p> <p>A count was then made of the number of entries in each time period and the expected number of incidents during and post treatment were calculated as per Cooke’s equation below.</p>
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HCR-20 item C4 Impulsivity	<p>Score was noted for initial assessment and subsequent re-scores were noted.</p> <p>Coded as improved if reduced from being coded to being not present. Coded as some improvement if reduced but was still coded as partly present. Coded as the same if there was no change in scores.</p>
VRS item D17 Impulsivity	<p>Score and stage of change for initial assessment and subsequent re-scores was noted.</p> <p>Code as slight improvement if move from Pre Contemplation to Contemplation between first and last assessment (no score change) and code as improvement if move from Pre Contemplation or Contemplation to Preparation, Action or Maintenance between first and last assessment (score reduction).</p>

BIS	<p>The number of scales that showed clinically significant change pre and post treatment as a whole was noted. Other testing sessions were checked to see what could be learnt about where any change occurred (e.g. pre and post cognitive skills components and pre and post CST component).</p>
<p>Poor problem Solving</p>	<p>Incidents related to poor problem solving from contact logs from date of sentence to date of data collection</p> <p>Entries were counted if they related to manipulation and rule breaking. Included threats (e.g. if I can't have / get X I will do Y). Included negative comments about finding ways around things to get what he wants when told no.</p> <p>A count was then made of the number of entries in each time period and the expected number of incidents during and post treatment were calculated as per Cooke's equation below.</p>

Adjudications	Custody adjudication record	<p>A count was made of adjudications pre transfer to the unit, while on the unit and post transfer from the unit. The expected number of incidents during and post treatment were calculated as per Cooke's equation below.</p> <p>A note was also made to the number of incidents during each phase of treatment to see if the rate changed over time during treatment.</p>
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Grading of institutional behaviour data

<i>Grade</i>	<i>Definition</i>
Improved	All sources show improvement.
Some improvement	There are more sources showing improvement than no change or deterioration combined.
No change	All sources show no change or there is an even split between positive and negative change being seen.
Some deterioration	There are more sources showing deterioration than no change or improvement combined.
Deteriorated	All sources shows deterioration.

Cooke's equation to find the expected number of incidents based on pre-treatment behaviour.

This was used with counts of incidents coded from individuals contact logs.

$$Ae = T2. A0 / T1$$

Ae = expected number of episodes post entry into the unit,

A0 = observed number of incidents before transfer to the unit,

T1 = time in previous setting

T2 = time in the unit.

Grading Risk data

<i>Data</i>	<i>Grade</i>	<i>Definition</i>
Psychometrics	Improved	All measures showing scales with clinically significant change
	Some improvement	More measures showing scales with clinically significant change than ones showing not.
	Same	all measures showing the same or more showing the same than those with some clinically significant change
HCR-20 and VRS	Improved	Reduced by at least 6 points
	Some improvement	Reduced by at least 3 points
	Same	Stayed the same or reduced or increased by less than 3 points

Some deterioration	Increase of at least 3 points
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Deteriorated	Increase of at least 6 points
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