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Maturity, young adults and criminal justice: A literature review

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1. Introduction

This report presents findings from a review of research and other literature relating to the issue of the maturity of young adult offenders, its measurement and its relevance to the criminal justice system in England and Wales. Brief details of the methodology used to conduct the review are given in the Appendix.

Two preliminary points need to be made. First, the focus of the review is on young adults, that is, people aged 18-24 years. In the criminal justice system of England and Wales, as in most Western jurisdictions, criminal offenders in that age group are treated simply as adults, and not identified as a distinct age group in law. This contrasts with young people who are above the age of criminal responsibility (10 years in England and Wales) but below the age of 18: they are dealt with through the youth justice system, which provides a range of responses specific to that age group. This distinction is substantially carried through into academic and policy research, with the effect that research tends to focus either on under-18s or on adults as an undifferentiated group. Insofar as the research interest is on the question of maturity, most studies are concerned with young people under the age of 18 and thus with the relationship between maturity and 'juvenile crime'. Although there are exceptions, comparatively little research has focused specifically on the maturity of young adults; where it has, however, some powerful conclusions are drawn and are highlighted in this report.

Second, the review has identified distinct bodies of research literature concerned with maturity and crime, separated by disciplinary boundaries, involving different theoretical models and analytical concepts, and distinctive methodological approaches. In particular we have identified three major bodies of literature that we consider relevant to the review topic: neurological, psychological and criminological. Differences between these approaches are discussed in section 2. Although there are instances of studies and commentaries that make connections across these bodies of work (and these are discussed in our review), for reasons of clarity of presentation this report is largely structured around those three disciplinary headings. There are however two additional sections that deal with the more applied topics of 'support for desistance' and 'tools for assessing maturity', and a brief section on international experiences in responding to young adult offenders.

The concept of maturity

The concept of 'maturity' is central to this review, and it is therefore important to begin with an attempt to understand the meanings that the concept carries in the research and policy literature concerned with crime and criminal justice¹. This is not entirely straightforward. In a review of relevant research published in 1996, two of the leading American scholars in the field noted that maturity is a 'remarkably elusive and ill-defined construct among legal scholars and social scientists' (Steinberg and Cauffman 1996: 251). Since then, a very considerable amount of research-based

¹ There is a much wider academic literature concerned with maturity and its significance for a range of contexts, but we have necessarily limited this review to that which focuses on the relationship between maturity and crime.

literature has been published that, directly or indirectly, engages with the issue of maturity, and this provides the substance of this report. As will be shown, however, the concept does in many ways remain elusive, in large part because 'maturity' cannot be considered a wholly objective, measurable concept but contains an inescapably normative dimension.

A starting-point is with studies of the process of individual human development, which encompasses the categories of physical, intellectual, emotional and social development (Steinberg and Schwartz, 2000). Ideas of 'maturity' and 'immaturity' may be applied to each of these categories. Whilst it is recognised that change and development across these categories occurs throughout the lifespan, introducing the notion of maturity tends to focus attention on the processes through which a young person reaches the status of adulthood.

From the perspective of this review's concern with young adults aged 18-24 years, the different developmental categories are of varying significance. Thus, most young people will become *physically* mature during mid-adolescence; some will be physically mature at age 12 or 13, although others may not complete puberty until they are 18 or 19 (Vizard 2006). Generally speaking, the issue of physical maturity/immaturity is not likely to be a significant factor in the criminal justice response to young adult offenders. A similar point can be made about *intellectual maturity*. Although the potential for 'lifelong learning' is a reality, the most profound changes in intellectual capacities occur in the period from birth to late adolescence (Vizard 2006), and there is a broadly accepted view that an individual's intellectual abilities will have matured to adult levels before the age of 18 (Steinberg and Schwartz 2000). It is of course the case that young adults may have intellectual capacities significantly below the adult norm, indicated by low IQ scores and a range of potential learning disabilities. Given the research evidence of a strong association between low IQ and delinquency (Rutter et al 1998), this is a major issue for the criminal justice system in its own right.

It is the remaining categories of *emotional* and *social* development that seem to be of greatest relevance to the way the maturity of young adults should be considered within the criminal justice system, for reasons that are set out below. They are also categories of considerable complexity and, often, ambiguity; in part because of their interaction with each other and with the process of intellectual/cognitive development. Much of this report is concerned with an exploration of what different types of research tell us about the emotional and social maturity of young adult offenders, as reflected in forms of behaviour. The neuroscientific research, discussed in section 3, is different in that its focus is not on overt behaviour, but on processes of physiological maturation in the cognitive functions of the brain which regulate responses to emotional impulses and social interactions.

Key messages:

- ❖ Maturity can be understood as a developmental concept, including the categories of physical, intellectual, emotional and social development.
- ❖ Processes of physical and intellectual development are usually completed during adolescence; it is the categories of emotional and social development that are of most relevance in considering the maturity of young adults.

2. Maturity and offending: the research literatures

It became apparent quite early in the review process that the concept of maturity is used *explicitly* in two distinct bodies of research literature concerned with antisocial or criminal behaviour. These are, firstly, neurological studies of brain development, highlighting the structural and functional changes that occur as the human brain matures and the implications of this for understanding behaviour; and secondly, psychological studies of the development of maturity in adolescents and young adults and its relationship to attitudes and behaviours. Thus, in both these bodies of work, 'maturity' is a core developmental concept and the direct focus of research attention. Key findings from the neuroscientific and psychological studies of maturity are presented below in sections 3 and 4.

However, it also became clear that while other approaches to the study of offending by young adults, and of the response of the criminal justice system to such offending, do not use an explicit concept of maturity as part of their explanatory framework, they do use concepts that seem to be closely related to, or stand as surrogates for, ideas and meanings contained in the psychological concept of maturity. Two of these approaches are extremely influential in criminological research:

- The 'general theory of crime' developed by Gottfredson and Hirschi (1990), which proposes that 'self-control' is the key explanatory concept in accounting for criminal behaviour.
- The 'risk factors' approach of developmental criminology, in which individual or 'personality' factors such as 'impulsivity', 'empathy' or 'moral judgement' are deployed alongside social and cultural factors such as socialization processes, peer relations and neighbourhood influences.

These approaches, their relationship to the concept of maturity and their implications for criminal justice responses to young adult offenders are considered in section 5.

It is important to be aware that these different bodies of research – the neurological, psychological and criminological – tend to use quite different research designs and methodologies to generate their findings, i.e. they often have different understandings of the objects of scientific investigation, of the techniques that should be used to produce evidence, of what counts as valid evidence and of the kinds of theories that can explain that evidence. Thus, to over-simplify rather crudely, psychological approaches focus on individual behaviour, the mental processes that influence that behaviour and the reasons why those behaviours and mental processes vary between individuals; and typically use either experimental methods of investigation (involving statistical comparisons of outcomes between experimental groups and control groups) or statistical analysis of differences between distinct groups identified within large scale surveys. Sociological approaches (which have tended to dominate criminological research), on the other hand, focus on the social contexts in which individuals function and seek to identify the effects of familial, social, economic and cultural factors on individual action; sociological research rarely uses experimental methods and favours longitudinal studies of sample populations in which effects can be observed over time, generally combining statistical analysis with qualitative interviews in order to understand individuals' own

perceptions of their experiences. The disciplinary divide between psychology and sociological criminology has been quite profound, with often little cross-reference between the two approaches (see Hollin 2002: 149 on what he refers to as 'the parting of the ways' between psychology and criminology). Neurological research is different again, focusing on the physiological structure and functions of the human brain and the extent to which this can account for behaviour, and in recent times has made particular use of the method of magnetic resource imaging to observe brain functions.

These differences in research methodology between disciplines can make comparison of evidence, and the drawing of overall conclusions, difficult. However, there are instances in the different literatures where connections are made, and evidence from one type of approach is considered alongside evidence from another. We have drawn attention to such instances in what follows.

Key messages:

- ❖ Maturity is an explicit object of study in neuroscientific and psychological research; it is less of a focus in mainstream criminology, where sociological approaches dominate.
- ❖ The different research literatures reveal different theoretical and methodological assumptions, which can make comparisons between bodies of evidence difficult.

3. Maturity in neuroscientific research

This section is concerned with neuroscientific studies of physiological brain development or the science of 'neuromaturation' (Johnson et al 2009). The neuroscience literature is very substantial, often highly technical and specialized, and, given recent developments in brain scanning technology (magnetic resonance imaging or MRI), rapidly evolving. For the purposes of this review, therefore, we are relying on a small number of recent articles that summarise the current state of neuroscientific knowledge in relation to brain maturity in adolescence and young adulthood and which discuss the policy implications of that knowledge, particularly in relation to criminal justice policy (Edwards 2009; Johnson et al 2009; Walsh 2010). It is worth noting that some of the psychological research considered below makes reference to conclusions emerging from neuroscience, and attempts to accommodate them. For example, aspects of the relationships between psychological, neuropsychological and physiological factors in adolescent offending are discussed in Cauffman, Steinberg and Piquero (2005), and the importance of relating neuroscientific evidence on the development of cognitive skills to findings from psychological research on maturity is emphasised by Iselin et al (2009).

A key finding of the neurological research is that the 'higher executive functions' of the brain – functions such as planning, verbal memory and impulse control – are located in the frontal lobes and that these are 'among the last areas of the brain to mature; they may not be fully developed until halfway through the third decade of life' (Johnson et al 2009: 216). Frontal lobe development involves several linked physiological processes:

- the production of 'grey matter' (brain cells, in lay terms), which reaches a peak at average age 11 for girls and 12 for boys;
- selective pruning of rarely used connections affected by environmental factors, resulting in loss of grey matter and increasing brain specialization which progresses from the back to the front of the brain and may not be complete until early adulthood;
- the sheathing of surviving connections with myelin, a substance that insulates neural pathways and facilitates more efficient transmission of information and integration of brain activity.

Current evidence indicates that in the prefrontal cortex, which coordinates higher-order cognitive processes and executive functions, myelination does not occur until the stage of young adulthood (ibid: 217). Completion of the three stages – production, pruning and sheathing – leads to consistent ability to carry out executive functions such as the control of impulses. Emotional maturity (the ability to regulate and interpret emotions) is associated with the establishment of robust connections between the cognitive processes of the prefrontal cortex and the emotional processing performed by another part of the brain known as the amygdala. According to Johnson et al, evidence shows that this process of cognitive and emotional integration 'continues to develop well into adulthood' (2009: 218).

Edwards (2009) discusses evidence that demonstrates different rates of growth in these different parts of the brain between individuals during adolescence, and variations between boys and girls which may indicate gender differences in brain capacity to process reactions to fear and threat and empathic responses. For the purposes of this review, however, Edwards' key claim, echoing Johnson et al, is that the development of the frontal lobes in the prefrontal cortex show marked differences

as people mature, particularly in the area affecting inhibitory control. These differences are implicated in explanations of attitudes, abilities and behaviour during adolescence: 'changes within the frontal lobe, hippocampus and amygdala ... are the most profound and most likely to account for teenage behaviour, mood and cognition' (2009: 432).

The authors referred to here are strongly aware of the potential policy implications arising from the findings of neuro-imaging research, and broadly advise caution in drawing direct conclusions for policy. Johnson et al (2009), for instance, warn that neuroscience does not translate easily into prescriptions for policy or forms of intervention, because a brain's behaviour in a scanner is not an indicator of 'real world' performance: it cannot detect lies, innocence, true intentions, and so on. Nevertheless, Walsh (2010) in a review of the emerging neuroscientific evidence and its relevance to considerations of youth justice notes the potentially progressive implications:

Neuroscience could reasonably be conscripted in defence of a diversionary model of youth justice, one in which all but the most serious are routed out of the system due to a belief that their offending is likely to be adolescence limited reconfiguring the bulk of youth crime as developmental in nature and thus, by definition, transient (Walsh 2010: 4).

Walsh suggests that more sophisticated understandings are needed of 'what is going on inside young minds', so as to develop more creative responses to offending, such as restorative justice, on the grounds that 'brains can be moulded (and remoulded) by social experience' (ibid: 9). Given the findings reported by Johnson et al (2009) and Edwards (2009), outlined above, such arguments could presumably be extended to young adult offenders. However, Walsh is also alert to potentially regressive uses of neuroscience in the justice field, in particular that it might be used as a predictive tool to detect the criminogenic brain and could lead policymakers away from a focus on social and environmental factors such as poverty, schooling, housing, etc. She points to neuroscience as an example of a 'dual use dilemma', where research findings may be utilised in support of conflicting policy objectives.

Key messages:

- ❖ Development of those areas of the brain concerned with higher order cognitive processes and executive functions, including control of impulses and regulation and interpretation of emotions, continues into early adulthood; the human brain is not 'mature' until the early to mid-twenties.
- ❖ While the neuroscientific evidence is highly relevant to the concerns of criminal justice, policy makers should be alert to the dangers of drawing easy conclusions for policy and practice.

4. Maturity in psychological research

Two main lines of inquiry are pursued in the psychological research literature on maturity and offending: the role of ‘psychosocial factors’ in decision making (often referred to as ‘maturity of judgement’), and the role of ‘moral reasoning’ in offending behaviour². There are some conceptual parallels between these two approaches, but for clarity of exposition they are discussed separately here. The section concludes by considering attempts to link psychological studies of offending with more sociological accounts.

4.1 Maturity of judgement and psychosocial factors

A distinction is made in the psychological research literature between *cognitive maturity* and *psychosocial maturity*, where the former refers to an individual’s ‘capacity for thinking, reasoning, understanding’ and the latter to ‘aspects of development and behaviour that involve personality traits, interpersonal relations and affective experience’ (Steinberg and Cauffman 1996: 250). In a later article, Cauffman and Steinberg (2000) argue that cognitive abilities become fully developed in or before adolescence, so that there is little variation in ‘cognitive maturity’ between adolescents and young adults³. Levels of psychosocial maturity, on the other hand, are seen as differentiating adolescents from adults, and much of the more recent research is concerned with identifying different psychosocial factors and exploring their influence on decision-making by adolescents and young adults. These psychosocial factors involve elements of both the categories of emotional and social development referred to above.

Maturity, in this psychological research, is primarily viewed as a measure of the capacity to take decisions that would be regarded as appropriate to adults (and is thus fundamentally a normative construct). This is referred to as ‘socially responsible decision making’ (Cauffman and Steinberg 2000) or ‘maturity of judgement’ (Modecki 2008). The literature identifies three main psychosocial factors that are held to influence the maturity with which young people judge situations and make decisions about how to act: responsibility, temperance and perspective (Steinberg and Cauffman 1996; Cauffman and Steinberg 2000; Cruise et al 2008; Bryan-Hancock and Casey 2010; and others).

In their 1996 review, Steinberg and Cauffman broke these three categories down into component parts in order to examine in detail what the existing body of research had to say about them. Their findings are shown in Box 1.

² It should be noted that the psychological research literature on offending behaviour is vast, and we have been selective in focusing on what we take to be the core issues regarding maturity. There is, for instance, a whole subset of studies concerned with the impact of adolescent substance misuse on psychosocial maturity, which we have omitted from this report (see Chassin et al 2010).

³ As already noted, there are of course differences in cognitive abilities between individuals, and a substantial amount of research points to the existence of ‘cognitive deficits’ or intellectual disability as a factor distinguishing offenders from non-offenders (see Herrington 2009, for discussion in the context of UK prisoners). However, such deficits in cognitive capacity are caused by forms of brain injury or by social or environmental factors, such as poor nutrition, experience of physical abuse, substance abuse and so on. While the behavioural effects of such deficits may be exacerbated by the physiological changes associated with adolescence, they are not primarily related to the development of ‘maturity’ in individuals (see Cauffman, Steinberg and Piquero 2005).

Box 1: Summary of Steinberg & Cauffman (1996) Review of Research on Psychosocial Factors

Responsibility is variably defined across the literature as including:

- *Autonomy and independence* – becoming less influenced by advice of others (e.g. peer influence). Varies depending on situation: e.g. advice from parents re work and employment, and peers re clothing and music may persist. Lack of resistance to peer influence affects offending, but research on self-reliance is less evident. Also research re autonomy as a key factor may underplay the importance of appropriate advice-seeking as a key component of maturity of judgment.
- *Identity* – no work noted that examines relationship between identity development and maturity of judgment. Identity forming is seen to ‘not occur much before age 18’. Identity linked to self-confidence and self-esteem, and therefore to confidence in decision-making – although again, no empirical research is identified.
- *Ego development* – individuated sense of self, disassociated from bond with parents. Can mean an increasing desire to break from compliance with parents’ wishes, which can manifest in oppositionalism, rebellion or rejection of advice. This phase needs to be ‘worked through’ to enable individual judgement to occur. Research suggests this occurs up until 17, but not after.

Temperance is variably defined as including:

- *Sensation seeking* – ‘a tendency to seek out intense, varied and novel activities’. May influence decision-making. Seen to be higher in middle and late adolescence, though few studies exist.
- *Pubertal maturation and judgment* – i.e. effects of puberty on mood. However a recent review found few links between puberty, hormones and moodiness, and these few links were in early puberty. Suggests at best an indirect link between hormones and judgement via emotional state.
- *Adolescent moodiness and judgement* – adolescents’ moods found to fluctuate more and they are more likely to experience greater stress and fluctuations – i.e. more extreme and more vulnerable emotional states. But this relates to mid-adolescents rather than adults.

Perspective is variably defined as including:

- *Decentration* – ‘the ability to shift one’s focus away from the center of a problem’ (i.e. oneself or the most apparent benefits and costs). Piaget argues that this cognitive ability occurs during adolescence.
- *Adolescent egocentricism* – converse of decentration – seen to be a trait of early adolescence.
- *Social perspective taking and moral development* – i.e. Kohlberg’s theory of a stage-sequential development of social cognition – development of mutual perspective (enabling an objective third party stance) in mid adolescence, and societal perspective (recognising the complexity of perspectives people hold) in late adolescence. Research suggests changes up until 16, but not after.
- *Future time perspective* – the ‘ability to project events to more distant points in the future’ and therefore (in theory) make judgments based on long-term consequences. Research suggests this takes place between childhood and adolescence (11 to 18) and adolescence and young adulthood (16 to 22). Concludes that current research is hard to apply to decision-making.

Since 1996, a substantial amount of research has refined the definition and understanding of these three psychosocial factors and examined how they affect individual decision making. They now tend to be defined more succinctly as:

- **Responsibility:** the ability to act independently, be self-reliant and have a clear sense of personal identity.
- **Temperance:** the ability to evaluate the consequences of different courses of action before making a decision to act in response to the assessment of a situation; to limit impulsivity and

control aggressive responses and risk-taking.

- Perspective: the ability to understand and consider the views of others before taking a decision to act and to understand the wider context in which the decision to act is made.

Various research studies have been concerned with how each of the psychosocial abilities develop at different rates through adolescence and young adulthood, and with differences between different groups of young people, including between males and females, and between young people who are exposed to certain 'risk factors' and those who are not. A number of these studies reach explicit conclusions that levels of psychosocial maturity continue to vary between individuals during the phase of 'young adulthood' (18-25 years) and that, in particular, those at the lower end of this age range are closer in their psychosocial functioning to under-18s than they are to 25 year olds (Grisso et al 2003; Cauffman and Steinberg 2000; Colwell et al 2005; Monahan et al 2009; Bryan-Hancock and Casey 2010). In a useful and very recent summary article, Bryan-Hancock and Casey conclude that 'young people do not all mature at the same time, but do so within the ages surrounding the arbitrary cut-off for adult court at 18' (2011: 74) – i.e. some do not mature until they are past the age of 18.

All of the studies mentioned above are explicitly concerned with the relationship between the level of maturity exhibited by individuals and their propensity to engage in crime, or what is sometimes referred to as antisocial or delinquent behaviour (in the American context, these terms tend to mean criminal offending). Research broadly points to the conclusion that lack of full psychosocial development, as found in adolescents, generates a greater likelihood of 'immature judgement' or decisions to engage in offending behaviour, and that this can extend into young adulthood. Thus, Modecki offers the general observation that 'Young adults may be more akin to adolescents than adults in their inclination to engage in antisocial decision making' (Modecki 2008: 89). Moreover, the research suggests that while the three psychosocial factors of responsibility, temperance and perspective develop towards maturity (leading to less likelihood of influencing decisions to offend) at different rates, with responsibility and perspective becoming relatively settled after around 18 years, emotional factors may continue to influence the ability to exercise temperance in decision making through into the mid to late twenties (Modecki 2008). In a major US study of convicted young people aged 11-17 years, Cruise et al (2008) also highlighted the importance of 'temperance' in influencing offending behaviour. They found that this was 'the significant maturity variable in predicting violent, non-violent and total delinquent behaviour for boys and holds promise as a significant predictor of similar behaviour among girls' (ibid: 189).

While this body of research appears to move towards a clearer definition of 'maturity', and to begin to identify the critical element of psychosocial capacity that affects individual decisions to engage in offending behaviour, some ambiguity remains. Thus, the distinction noted above between the *cognitive* and the *psychosocial* does not always appear watertight, since some of the factors held to constitute psychosocial maturity evidently also involve cognitive processes; moreover, there is an inter-relationship between the psychosocial factors themselves. For instance, it is noted that

The ability to appreciate the long term consequence of an action, for example, is an important element of *perspective*, but requires the *cognitive* ability to weigh risks and benefits, and is related to the ability to forego immediate gratification, which is an element

of *temperance* (Cauffman and Steinberg 2000: 745, emphases added. Other studies noting links between cognitive and psychosocial factors include Fried and Reppucci 2001; Grisso et al 2003; Galambos et al 2005; Cruise et al 2008; Pan 2010).

In a development of this kind of approach, and on the basis of a study involving both juveniles and young adults, Iselin et al (2009) proposed a complex concept of maturity. This recognised that as psychosocial capacities or 'maturity skills' develop, they may enable positive pro-social behaviours or they may be used to improve the ability to commit crimes. Thus maturity may find its expression in antisocial forms of behaviour, and this eliminates some aspects of the normative element found in most understandings of 'maturity'. The study considered how these two variants of psychosocial maturity interacted with two modes of cognitive control, proactive (which draws on accumulated knowledge and experience to respond to situations) and reactive (which responds directly to environmental cues). This enables 'more precise claims about the relations between specific facets of cognitive control and psychosocial maturity' which 'helps scientists and clinicians identify more precise points for remediating both cognitive and psychosocial deficits' (Iselin et al 2009: 458). However, it is arguable that such complexity poses a substantial challenge for the development of an analytical tool to enable legal assessment of an individual's maturity as a factor in their offending behaviour. Indeed, Cauffman and Steinberg seem to doubt the very possibility of such tools: 'We do not (nor *can* one) measure maturity of judgement directly' (2000: 745, emphasis in original).

Key messages:

- ❖ Three psychosocial factors are identified as central to the 'maturity of judgement' exercised by individuals: responsibility (independence, self-reliance), temperance (evaluating consequences of actions, limiting impulsivity and risk taking) and perspective (considering views of others and understanding wider context).
- ❖ Levels of psychosocial maturity vary between individuals into young adulthood, and some young adults are more like under-18s in their maturity of judgement than they are like older adults.
- ❖ Temperance is identified as the significant maturity factor that continues to influence antisocial decision making among young adults.
- ❖ However, overall, psychological research demonstrates the complexity of 'maturity' as an operational concept, with some doubt about whether it can be measured directly.

4.2 Maturity and moral reasoning

In this approach, the capacity to engage in moral reasoning (or moral judgement) is seen to be the key factor distinguishing offenders from non-offenders. The emphasis here is on the *process* of moral reasoning: there is little evidence of a strong relationship between moral knowledge in itself (i.e. knowledge of what is right and wrong, or is socially acceptable) and behaviour (Palmer 2003b). The nature of people's attitudes to the laws and morals of society, whether they accept and value those laws and norms and whether they influence behaviour is a complex set of questions.

Behaviour cannot be accurately predicted from attitudes. Personal and situational factors, such as competing attitudes, motives, emotions, presence and influence of other people, mediate the relationship between attitudes and behaviour. Thus people may be pressed to commit an offence by peers, but may not have done so on their own (ibid).

Palmer (2003a; 2003b) argues on the basis of a number of research studies that offenders have less mature moral reasoning than non-offenders. However, the capacity for moral reasoning needs to be understood developmentally, as the causal relationship between moral reasoning and offending is not invariant: not all offenders will display immature moral reasoning and not all individuals with moral reasoning at immature levels will be offenders. The capacity for mature moral reasoning develops through a series of stages, from immature reasoning based on an egocentric viewpoint with little understanding of the need for social conventions and rules, through to reasoning based on an understanding of interpersonal relationships, the needs of others and the moral principles governing social life. Individuals vary in terms of their progression through the different stages, and there are significant variations between individuals particularly during adolescence and young adulthood. Such variations are the result of the influence of social interactions, such as the child/parent relationship, parenting practices and wider family and peer relations, in shaping an individual's development through the stages of moral reasoning (Palmer 2003a: 124-152).

As with the psychosocial approach, the moral reasoning perspective is also concerned with the relationship between cognitive and emotional development. Both Palmer (2003a and b) and Barriga et al (2009) argue that immaturity in moral judgement is characterised by 'cognitive distortions'. For Palmer, these distortions are found in the individual's capacity for social information processing, i.e. with the individual's perception of and response to their social world. Cognitive distortions typically take the form of inappropriate attribution of blame and intent to others, and the minimization or mislabelling of behaviour and its consequences; such responses are influenced by complex interactions with social and environmental factors, particularly the effects of parenting. Evidence to support this analysis is provided in a comparative study of 97 young male offenders and 77 male non-offenders by Palmer and Hollin (2000).

In Barriga et al (2009), the focus is slightly different. For them, maturity in moral judgement is associated with greater capacity for empathy, which facilitates pro-social behaviour. Their study of 78 offenders aged 13-21 found a strong relationship between moral judgement maturity and empathy. However, they also identified what they refer to as 'self-serving cognitive distortions' which impair the development of moral judgement maturity and have the effect of neutralising the capacity for empathy. Like Palmer, they characterise these distortions as self-centredness, blaming others and minimising or mislabelling their own behaviours (Barriga et al 2009: 261). The development of empathy and of maturity in moral decision making is not directly related to age, and it is possible that young adults and other older offenders may have habitualised cognitive distortions (immature judgement has become embedded, to put it another way).

There are some parallels between the concepts explored in the 'moral reasoning' studies by Palmer and Barriga et al and those of responsibility, temperance and perspective proposed by the psychosocial theorists above. The concepts concern people's capacity to make moral decisions, have a clear sense of personal identity, to recognise and respond to the feelings of others and to think through/evaluate different choices. Both sets of approaches employ these concepts within a

developmental view of maturity. Arguably, however, the use of a further set of explanatory factors in the moral reasoning approach, such as ‘social information processing’, ‘empathy’ and ‘cognitive distortions’, serves to add to the conceptual ambiguity and complexity in the psychological literature noted above, and to increase the challenge of developing effective instruments for measuring maturity.

Key messages:

- ❖ Offenders can be distinguished from non-offenders by their less mature capacity for moral reasoning.
- ❖ Individuals vary in the development of their moral reasoning capacity, with significant variations between individuals during adolescence and early adulthood.
- ❖ Immaturity in moral reasoning results from cognitive distortions, which, for some individuals, can become habituated and persist into adulthood.
- ❖ While there are similarities to the psychosocial factors discussed above, the moral reasoning approach adds further complexity to the concept of maturity.

4.3 Personal development and the transition to adulthood

There are some studies within the psychological literature that offer a broader perspective on individual development. For example, Davis and Vander Stoep (1997) focus on the ‘transition to adulthood’ as involving both personal developmental processes and aspects of social functioning. They report on a number of studies of 16-25 year olds with ‘serious emotional disturbance’. Rather than focusing on the achievement of ‘maturity’, they outline a number of ‘developmental tasks’ that have to be accomplished in the transition to adulthood, involving changes in cognitive and moral reasoning, in the management of social relationships and in identity formation. They suggest that assessment of successful transition to adulthood is measured by the individual’s status in relation to certain social factors: employment, residential environment and social and interpersonal networks. The core claim is that ‘this review highlights the biological, psychological and cultural movement of humans from adolescence to adulthood’ and that this movement cannot be understood in terms of ‘arbitrary age distinctions among mandated target populations’ (Davis and Vander Stoep 1997: 422). In similar vein, Osgood et al (2010) criticise the abrupt termination of services for vulnerable young people as they become legally defined adults, and argue for creation of young-adult oriented support systems that are both developmentally appropriate and socially inclusive (see National Care Advisory Service (2010) for current guidance on this in England).

Key message:

- ❖ Individual development from adolescence to adulthood involves multiple transitions on a range of personal and social dimensions, which cannot be captured by an arbitrary age distinction, and, especially for vulnerable young people, requires responsive support systems.

4.4 The 'maturity gap' and life-course persistent v. adolescence-limited offending

A highly influential, much-cited proposition about the relationship between maturity and crime, known as the 'maturity gap thesis', was developed by Moffitt (1993). Moffitt proposed a strong distinction between two types of offenders: life-course persistent (LCP) and adolescence-limited (AL). LCP offenders behave anti-socially in childhood, offend during adolescence and continue as serious offenders during adulthood. Conversely, AL offenders only start to offend as they enter adolescence and stop as they become mature adults. Overwhelmingly, youth crime is committed by AL offenders – and this is the phenomenon of the age-crime curve that is a fundamental finding of criminology across cultures (Farrington 1986; Gottfredson and Hirschi 1990; Agnew 2003). The causes of LCP offending are traced to neuropsychological and environmental factors combining in early childhood. The analysis is therefore compatible with the 'risk factors' approach, discussed below, and points to the need for policies and services directed at early identification and intervention. AL offending, on the other hand, is explained by Moffitt in terms of the 'maturity gap' – the difference between an adolescent's level of biological maturity (which may be that of an adult) and their social maturity (which means they are subject to social, cultural and legal restrictions preventing them from doing many of the things an adult is permitted to do). Moffitt's thesis is that AL offenders become involved in crime by copying the actions of their LCP peers, who ignore the social restrictions and engage in adult-like behaviours that result in offending. For ALs, following the 'lead' given by the LCP group in pursuing illicit activities is a way of demonstrating independence and autonomy, i.e. it is a way of closing the maturity gap. But as those adolescents get older, the social restrictions are gradually lifted, they are able to act legitimately like independent adults, and the anti-social behaviour ceases.

Subsequent studies have examined, refined and adapted the 'maturity gap' thesis, and while some have questioned its basic theoretical and empirical soundness (Skardhamer 2009), others find broad evidence for the existence of a maturity gap in adolescence (Barker et al 2003). In a review of various research studies designed to test aspects of her theory, Moffitt (2006) found general support for the proposition that LCP offending originates in neuropsychological issues such as low IQ or hyperactivity, which are inappropriately dealt with by poor parenting practices and rejection at school, leading to a reinforcement of offending behaviour that continues throughout the individual's life. In a subsequent study directly testing the 'maturity gap' thesis, involving a large-scale US survey of young people up to age 18, Barnes and Beaver (2010) found that the existence of a maturity gap did predict minor forms of delinquency among males, but did not predict serious offending. This, then, supported Moffitt's original hypothesis that a clear distinction could be made between the two groups of AL and LCP male offenders. It did not, however, find evidence to support the application of the 'maturity gap' to offending by females.

Key messages:

- ❖ A distinction can be made between two categories of offender: 'life-course persistent' and 'adolescence limited', with the bulk of adolescent and young adult offending committed by the latter.
- ❖ While LCP offending is rooted in neuropsychological issues, AL offending results from the conflict (the 'maturity gap') between physical maturity and social and legal restrictions on freedom of behaviour, which is eliminated as the individual progresses into independent adulthood.
- ❖ While research shows the maturity gap explanation to be valid for offending by boys, it does not support its application to offending by girls.

5. Maturity in criminological research

In contrast to the above, the concept of maturity appears to be much less established in what might be referred to as 'mainstream' criminological research on offending behaviour. Two major influential strands of criminological research will be identified here: the 'general theory of crime' advanced by Gottfredson and Hirschi (1990), which proposes 'self-control' as the pre-eminent explanatory factor in accounting for individual involvement in criminal activity; and the approach of 'developmental criminology' in identifying a range of risk and protective factors that are predictive of offending.

5.1 *Two criminological themes: self-control and risk factors*

Gottfredson and Hirschi's claim is that it is the level of self-control exercised by an individual that distinguishes offenders from non-offenders, and that this is, 'for all intents and purposes, *the* individual-level cause of crime' (1990: 232; emphasis in original). They define low self-control as the 'tendency to pursue short-term, immediate pleasure' rather than give consideration to the long-term consequences of actions (1990: 93). The individual's capacity for self-control is, they suggest, formed early in childhood through the effectiveness or otherwise of parental socialization, and becomes fairly stable from the age of eight to ten years. The theory that level of self-control is the crucial factor in offending behaviour is controversial and has been much tested by other researchers; it has received a fair degree of evidential support, although is less often found to be significant as a predictor of criminality in isolation from other factors (Pratt and Cullen 2000).

For this review, two points about the self-control theory seem relevant. First, as will be evident from the socialization hypothesis, the concept of 'maturity' is not in itself important to the theory: individual capacity for self-control is not determined by the process of maturation. Second, however, the concept of self-control as defined by Gottfredson and Hirschi appears very similar to aspects of the psychosocial construct discussed above; indeed, Cauffman, Steinberg and Piquero (2005) suggest that 'self-control' bears a 'striking resemblance to the operationalization of psychosocial maturity' which they themselves have employed. In particular, they consider that the psychosocial concepts of 'temperance' (regulation of impulsivity) and 'perspective' (orientation to future consequences and the perspectives of others) closely coincide with elements of Gottfredson and Hirschi's description of self-control (Cauffman, Steinberg and Piquero 2005: 150).

Developmental criminology is particularly characteristic of British criminology and criminal justice studies, reflecting a dominance of sociological, rather than psychological, approaches in the UK. Two of the major large-scale longitudinal UK studies of the relationship between individual development and criminal behaviour are the Cambridge Study in Delinquent Development (Farrington and West 1993) and the current Edinburgh Study of Youth Transitions and Crime (McAra and McVie 2010). (For a US example of this kind of longitudinal study, see Loeber et al 1998.) Both employ a wide range of social and environmental factors in seeking to explain the development of criminal behaviour in individuals, yet neither seem to explicitly identify maturity/immaturity as a variable. The closest they get is with the notions of 'impulsivity' and 'empathy', though these are treated more as personality traits than as reflecting a state of development. The British tradition has been much more concerned with identifying 'risk factors' in a child or young person's life, which should then trigger preventive interventions, and 'protective factors' which should attract support (Farrington 2002; YJB 2001). Even overviews by British academics of research on personal developmental factors as contributors

to offending behaviour, which draw on the American psychological literature, make little explicit reference to 'maturity' as a significant concept in its own right (Rutter et al 1998; Smith 2002).

Key messages:

- ❖ In contrast to neuroscientific and psychological research on offending behaviour, 'maturity' has not featured as an explicit concept in criminological research.
- ❖ The criminological theory that 'self-control' is the single explanatory factor distinguishing offenders from non-offenders has similarities to the psychosocial approach discussed above, but traces the capacity for self-control to socialization processes in childhood, not to a process of individual maturation.
- ❖ Developmental criminology employs a wide range of 'risk and protective factors' in accounting for individual variations in offending behaviour; these include psychological constructs such as impulsivity and empathy, but not related to a developmental concept of maturity.

5.2 Maturity and social context

There is a question concerning the extent of interaction between 'maturity' (as understood and measured in the psychological research literature) and the 'risk factors' or 'vulnerabilities' that criminological research tends to focus on in seeking explanations for offending behaviour by young people (for example, McAra and McVie 2010). As noted above, there is some acknowledgement in the psychological research of the significance of exposure to risk factors as a feature distinguishing some young people from others, and affecting the propensity towards offending and desistance (see section 7 for discussion of literature on desistance). Meanwhile, in the criminological research there is reference to 'personality factors', such as impulsivity and empathy (which are related to temperance and perspective), as indicating one type of risk factor or vulnerability (Farrington 2002; Smith 2002; Soothill et al 2002).

However, a larger issue is how far the range of risks or vulnerabilities identified by criminological research as potential variables explaining offending behaviour might themselves also provide an explanation for 'lack of maturity' in decision making. In other words, to what extent can 'maturity' as a factor in understanding criminal behaviour be separated from the influence of family, social and cultural factors? Modecki (2008), for instance, states that maturity of judgement interacts with the contexts in which particular decisions are made; i.e. maturity of judgement varies according to the social context in which the individual finds him/herself at the time of making a decision to act. This accords with the earlier insight of Steinberg and Cauffman (1996), who recognised that people may exhibit varying levels on each of the three psychosocial factors of responsibility, perspective and temperance, depending on the situation or context; and thus that it may not be possible to identify a general level of 'maturity of judgement' for a person.

This kind of contextual approach is promoted by Wikström and Treiber (2008) in a report for the Youth Justice Board, which draws on a substantial existing body of research by Wikström and colleagues. They make the important point that while a great many 'risk factors' have been

identified in criminological research as correlated with youth offending, these are not necessarily *causes* of offending behaviour; they are more likely to be symptoms or markers of offending. Drawing on research by, among others, Moffitt (1993), Gottfredson and Hirschi (1990), Pratt and Cullen (2000) and Farrington (1996), as well as their own, they argue that the direct causes of an individual's involvement in offending are to be found in the individual's morality and self-control:

the current knowledge base indicates that key individual factors, which directly influence young people's propensity to engage in crime, are their moral values (their conception of what it is right or wrong to do in given situations), and their ability to exercise self-control (to inhibit and redirect their actions) (Wikström and Treiber 2008: 11).

While this understanding of 'moral values' and 'self-control' appears to relate quite closely to both the analysis of psychosocial maturity factors and the 'moral reasoning' approach, Wikström and Treiber insist on the significance of the *context* in which moral decision-making occurs and self-control is exercised. They thus make a clear link to the sociological or environmental factors that influence offending: 'The involvement of a young person in crime may be regarded as the outcome of the interaction of his/her morality and ability to exercise self-control on the one hand, and his/her exposure to criminogenic moral contexts on the other' (ibid: 12.) Such criminogenic contexts include social settings characterised by social disorder, disorganization, weak social cohesion and poor collective efficacy (ibid: 12-13). The significance of neighbourhood context in moderating individual impulsivity has also been noted by Lynam et al (2000), in a study showing that boys in better-off neighbourhoods were less likely to behave impulsively than boys with otherwise similar personal and social characteristics who lived in poor neighbourhoods.

Subsequent articles by Wikström expand aspects of the argument for the importance of context to individual decision making. Wikström (2009) uses findings from the UK-based Peterborough Adolescents and Young Adults Development Study (PADS+, see: www.pads.ac.uk). This shows that – perhaps unsurprisingly – young people with weakest morality and poorest self-control, and who spend more time unsupervised in areas of poor collective efficacy with peers who tend to be delinquent, are likely to be most involved in crime. The effect of exposure to a criminogenic environment on actual crime involvement is, however, dependent on the individual's *propensity* to offend. Propensity is defined as 'the tendency to see crime ... as an action alternative and to choose to act on such an alternative' (ibid: 254), which itself is the outcome of interaction between the individual's morality and self-control. Changes in the amount of exposure of an individual to criminogenic settings are most important for those with a higher propensity to commit crime. However, in both Wikström (2009) and Wikström and Svensson (2010), morality appears as both an individual and a collective factor, since criminogenic settings are defined by their moral rules and level of enforcement of those rules:

An individual's acts of crime are fundamentally seen as the outcome of his or her moral engagement with the moral context of a setting [...] A moral context of a setting (for example, a school yard, a bar or a back-street corner) may be defined as the moral rules that apply to the setting and their levels of enforcement (monitoring and intervention) and the severity of likely sanctions (Wikström and Svensson 2010: 397).

A couple of points can be made about this analysis. First, as already noted, there are conceptual resonances with the psychosocial and moral reasoning approaches developed through psychological

research. Second, it suggests that both the individual and social contexts of young people should be taken into consideration when making judgements about their relative maturity or immaturity. At the same time, this appears to add another layer of complexity to the challenge of developing practical systems for assessing maturity within a legal process.

Key messages:

- ❖ An individual's exercise of maturity of judgement varies according to the social context of the judgement.
- ❖ Involvement in offending depends on complex interactions between the individual's moral values and capacity for self-control, and the moral characteristics of the social context (which are shaped by social factors such as poverty, unemployment, lack of cohesion, etc).
- ❖ This adds a further layer of complexity to the legal assessment of maturity.

6. Gender and ethnicity in maturity research

The significance of gender as a factor influencing offending behaviour is of particular interest in this review because of the general scientific finding that girls mature earlier than boys, both physiologically and psychologically. However, reflecting the fact that criminal offending is overwhelmingly carried out by males, there are few studies that focus specifically on the relationship between maturity and female offending. A number of the psychological studies cited in this report researched exclusively male samples; others (for example, Grisso et al 2003; Cauffman, Steinberg and Piquero 2005; Modecki 2008; Bryan-Hancock and Casey 2010) worked with samples of mixed gender, but provided little or no analysis and commentary on the significance of gender as a variable. One limited exception is Cauffman and Steinberg (2000), where a mixed male/female sample was analysed with the findings that females were less likely to engage in antisocial decision making than males (which would be expected) and exhibited higher levels of psychosocial maturity than males in the same age group. However the authors offer no substantive commentary on these findings.

Some studies have investigated the relationship between aspects of maturity and interaction with social factors among girls, particularly those who achieve early physical maturity (i.e. pass through puberty) and their susceptibility to social factors such as peer influence (Caspi et al 1993; Haynie 2003; Ge et al 2006; Sumter et al 2009). Findings broadly point to a stronger likelihood of early physically maturing girls becoming involved in offending behaviour, in large part through closer associations with boys than their less physically mature female peers. At the same time, because of earlier psychosocial development, adolescent girls tend overall to be more resistant to peer group influences than boys of the same age. Meanwhile, Barnes and Beaver (2010) found no evidence to support the application of the maturity gap thesis to offending by girls. Overall, it is not clear whether such findings on gender differences among adolescents have significant implications for young adults.

The criminological research literature reveals a not dissimilar picture. The Cambridge Study in Delinquent Development (Farrington 2000) was concerned exclusively with males. The Edinburgh Youth Transitions and Crime Study (McAra and McVie 2010) has a mixed sample and is generating some findings on gender differences in offending and its relationship to risks and vulnerabilities; however there is no clear indication that 'maturity' is a factor in such differences. The Peterborough Adolescent and Young Adult Development Study (Wikström 2009; Wikström and Svensson 2010) also has a mixed sample but appears not to use gender as a variable in the analysis.

Ethnicity appears to feature even less than gender as a factor in the studies reviewed in this report. Although many of them report mixed-ethnicity samples, ethnicity is either not applied as a variable in analysis, or, when it is (for example, Modecki 2008) is found to be of little significance in relation to the issue of maturity. One US study (Haynie et al 2008) examined the question whether differences in employment and economic well-being in young adulthood could account for the difference in levels of offending between Black (African-American) and White young people. The findings indicated that it was indeed poorer economic and employment prospects, rather than ethnicity itself, that accounted for higher levels of Black offending. This correlates with findings from the 'risk factors' research, which points to factors associated with deprivation and well-being as

being strongly associated with offending. In another US study, Vazsonyi and Chen (2010) examined the extent to which age of entry into the juvenile justice system varied across five distinct ethnic groups (African American, American Indian, Asian American, European American and Hispanic). There were no differences between 4 out of the 5 groups, with only Hispanics being substantially more at risk of early entry into the system. No clear explanation for this difference was offered, but this study is probably of limited value to the UK context anyway.

Key messages:

- ❖ Little attention has been paid in the research literature on maturity and offending to gender or ethnicity as significant variables.
- ❖ There is some evidence that early maturing adolescent girls are more susceptible to involvement in offending than girls who mature later, but it is not clear whether this has implications for young adults.
- ❖ It is the impact of social factors, such as deprivation, that explains over-representation of ethnic minority groups in offending, rather than ethnicity itself.

7. Supporting desistance from offending

Much of the research reviewed so far in this report is concerned with maturity/immaturity, and related concepts, as contributing to explanations of why and how adolescents and young adults engage in offending behaviour. However, as we have seen, ideas about the development of maturity are also drawn upon to understand why and how some young offenders *desist* from future offending. This section addresses that issue in more detail, and in particular considers the kinds of interventions that may support desistance from offending.

As part of a large-scale longitudinal study in the US, the 'Pathways to Desistance' project, Mulvey et al (2004) reviewed the current state of theories of desistance from offending. Their objective was to improve knowledge of how adolescents get out of trouble or desist from anti-social behaviour, and in particular how desistance occurs with serious adolescent offenders and what factors substantially influence this process. They suggest that recognising the 'turning points' in offending behaviours among different groups of offenders is essential for designing sanctioning and intervention policies. 'If we can identify those factors that contribute to the naturally occurring desistance from crime that takes place during individuals' early 20s, we may be able to structure policies and practices that promote this process' (Mulvey et al 2004: 217). Box 2 summarises the main approaches to desistance theory that they identified, showing some close connections to the kinds of explanations about why individuals offend considered above.

Box 2: Summary of Mulvey et al (2004): Four Main Theories of Desistance

1. *Personal development*: 'developmental change in late adolescence and early adulthood facilitates the acquisition or refinement of competencies or values that make criminal behaviour less attractive or less acceptable. As individuals become more mature socially, emotionally, and intellectually, changes in their moral reasoning, future orientation, impulse control, or susceptibility to peer influence may steer them away from antisocial, risky, and dangerous behaviour and toward more socially desirable and safer activities' (Mulvey et al 2004: 217)

2. *Transitions to adulthood*: 'transition to adult roles of work, family and citizenship promotes new behavioural patterns and demands that make involvement in crime less acceptable and useful' (ibid: 217) Individuals have less time, energy and opportunity to commit crime because of work and relationship commitments, and changes in capacities, demands and social context (for example, less association with criminal peers).

3. *Social investment*: the new roles and opportunities associated with adulthood create valued experiences and become worth protecting as individuals recognise they have something precious to lose. 'The strength of attachment and commitment to these new roles and opportunities plays a large part in whether antisocial activities continue' (ibid: 217/8).

4. *Formation of new self-identity*: in addition to the preceding processes, it is argued that successful desistance requires 'an internal psychological realignment of one's self-conceptions. [In this process] negative experiences bring about a resolve to change and subsequent positive experiences get integrated over time into a new formulation of a law-abiding self-identity. [It] is reasonable to posit that any long term re-orientation away from antisocial activity toward more socially acceptable behaviours requires an enduring shift in how one sees oneself' (ibid: 218).

Overall, Mulvey et al conclude that the desistance process involves interactions among dynamic changes in offenders' psychological states, developmental capacities and social contexts.

In their review, Mulvey et al sought to identify the factors that promote positive change among adolescent offenders, but concluded that current research on the topic was 'sparse' (2004: 223). They suggested, on the basis of conceptual analysis, that the following factors were likely to be relevant:

- A sense of personal agency – 'the confidence that [individuals] have control over the activities in which they engage and the people with whom they associate' (ibid: 223).
- Changes in capacities – continuing development of the kinds of cognitive and psychosocial abilities discussed above; 'these skills affect how adolescents make decisions about involvement in crime, their goals and aspirations, and their adjustment to new social roles and responsibilities' (ibid: 224).
- Changes in attitudes and beliefs – 'as adolescents develop a stronger sense of identity and increased psychosocial maturity, attitudes about personal responsibility, altruism, consideration of the viewpoints of others, and the value of risk taking and sensation seeking behaviour may change' (ibid: 224). Likewise, perceptions of and attitudes towards the criminal justice system may change.
- Changes in social contexts – the varied experiences involved in establishing a more independent lifestyle associated with the transition to adulthood.

Building on the above, and taking what they describe as a broader view, Mulvey et al suggest that

Desistance from antisocial activity requires a supporting structure for positive activities, and this can exist only if the adolescent has the necessary building blocks for its construction. One way to think about how the individual and contextual changes outlined above might promote desistance is to see them as generating assets that facilitate the transition to young adulthood. In other words, it is the accumulation of human and social capital during late adolescence that makes the transition to young adulthood, and desistance from antisocial activity, possible (2004: 226).

This then provides a framework for assessing the effects of legal sanctions and interventions on the offender – do they support the accumulation of human and social capital, or do they hinder it? – and for designing more effective sanctions and interventions.

In a later paper, reporting on a large-scale study that, importantly, included 18-22-year olds, three of the same group of scholars involved in the Mulvey et al review focus more precisely on the significance of psychosocial factors in desistance (Monahan et al 2009). They identify such factors as explaining the distinction between Moffitt's categories of 'adolescence-limited' and 'life-course persistent' offenders, arguing that desistance from antisocial behaviour in ALs is 'due to increases in psychosocial maturity' and that LCPs who continue to offend as adults 'do not experience the normative increases in psychosocial maturity that typically take place as individuals mature into adulthood' (Monahan et al 2009: 1656). More fully, they found that:

Different patterns of development in psychosocial maturity from adolescence to early adulthood, especially with respect to impulse control and suppression of aggression, distinguished among individuals who followed different trajectories of antisocial behavior. Compared with individuals who desisted from antisocial behavior, youths who persisted in

antisocial behavior exhibited deficits in elements of psychosocial maturity, particularly in impulse control, suppression of aggression, and future orientation (2009: 1654).

This implies that temperance (impulse control and suppression of aggression) is the key indicator of desistance. Indeed, those youths who were found to persist in antisocial behaviour into adulthood were also found to 'become less temperate as they age' (ibid: 1665). In addition, whilst those who offended in early adolescence and then desisted in later adolescence had a particularly marked increase in temperance over that period, those whose patterns of offending were more stable over this period had no such rise in temperance.

This approach to understanding desistance appears to provide some theoretical justification for the 'growing out of crime' idea that influenced diversionary youth justice policies in the 80s and early 90s in the UK, but with the more sharply conceptualized factor of 'temperance' identified as the key driver of change.

The Sheffield Desistance Study is an important and substantial British study of desistance among young men. Early findings reported by Bottoms and Shapland (2011) broadly support the conclusions of Mulvey et al (2004), discussed above, on the importance of human and social capital in supporting individual moves toward desistance, although with perhaps more emphasis on the significance of individual agency, i.e. the individual's understanding of himself and his response to opportunities for change. Importantly, they argue on the basis of evidence from the study, that desistance must be understood as a gradual and often faltering process, rather than a sudden wholesale change in attitudes and behaviours. Their study suggests an 'interactive' model of the early stages of desistance among young adult male offenders, which

... presents a complex picture of the continuing importance of criminal history and habits, and the desistance inducing potential of fresh employment and personal ties, but all held together by the individual agent, who must attempt to negotiate a new way of living, breaking with the habits of the past with the support of whoever is willing and able to act as a 'significant other' (including, interestingly, parents), all within a shifting surrounding social context (Bottoms and Shapland 2011: 70).

Implications of this study for the criminal justice system are still being developed, but potential supportive roles are suggested by the conclusion that 'the lived experience of desistance is primarily a process of learning new ways of living in the community' (ibid: 70).

An important element of the theoretical perspective adopted by Bottoms and Shapland is the idea of the individual developing a sense of agency that is oriented towards desistance, and is driven by 'cognitive transformations' in the individual's understanding of self and their engagement with their social environment. This perspective is taken from Giordano et al (2002), which is a significant study in that it focuses principally on desistance among young women offenders (albeit in an American context). While both male and female respondents in the study shared similar experiences of attempting to desist in social situations marked by high levels of deprivation and social exclusion, the authors point to certain gender differences, including statements by women highlighting religious transformations and the importance of their children as catalysts for change (men gave more emphasis to prison or treatment experiences and to more general family relations). Giordano et al also note that many women who had managed to stop offending through the creation of new kinds

of identity for themselves (such as 'child of God' or 'good wife'), had used their agency 'only to become enmeshed in life circumstances that could be characterized as highly repressive and lacking any means to become economically self-sustaining/independent' (2002: 1063). This suggests that we should be wary of seeing desistance from offending as necessarily marking a wholly positive life-changing experience if unaccompanied by other kinds of transformations.

An approach that provides a further means of thinking about the relationship between maturity and desistance among young adult offenders, and which seems to chime with the findings from Bottoms and Shapland (2011), is based on the concept of 'generativity' (Maruna et al 2004). The approach starts from the position that most young offenders (the AL group) begin to desist from crime in their early 20s, in part through the influence of informal social institutions such as employment, marriage and family ties, and proposes ways of supporting such institutions. This is in contrast to typical criminal justice system interventions, such as prison, which operate to undermine the prospects of offenders' positive involvement in family life, caring relationships, constructive activities, and so on. Generativity is proposed as a personal capacity or orientation that can provide a focus for positive support to offenders. It is defined as:

The concern for and commitment to promoting the next generation, manifested through parenting, teaching, mentoring, and generating products and outcomes that aim to benefit youth and foster the development and well-being of individuals and social systems that will outlive the self (McAdams and de St. Aubin, 1998, cited in Maruna et al 2004: 132).

Generativity is seen to develop at the same time as criminal behaviour starts to dissipate, and can therefore be associated with the achievement of maturity (although this association is not made explicitly in the literature considered here). It is seen to 'fill a particular void', providing 'a sense of purpose and meaning', a chance of redemption, and legitimization to claims to have changed in attitude and behaviour (Maruna et al 2004: 133). Its effect is to make criminal behaviour seem 'pointless (its role in establishing one's masculinity or toughness no longer needed) or else too risky in the sense that it could jeopardize the person's generative self-identity' (ibid: 133). Generativity may take the form of various activities that help to reduce offending:

- providing or caring for a family / family member through employment, marriage, family creation, care commitments, etc (see also Graham et al (2004) on the effectiveness of parenting classes for young men in prison in the UK);
- voluntary work / civic engagement;
- acting on desire to make sure others do not follow the same path – for example, by using one's own life stories to persuade others out of crime.

Maruna et al directly address the role of the criminal justice system, especially prison, in relation to such activities:

If generativity is indeed linked to reduced criminal behavior, it seems reasonable that the correctional system might seek out every opportunity, then, to support and hasten the development of these desires among its clients (2004: 137).

This requires, they suggest, the adoption of a strength-based approach to rehabilitative work with offenders: 'The strength-based approach asks not what a person's deficits are but rather what positive contributions the person can make' (2004: 140). Such contributions might include:

- Community service – there is evidence this can aid ‘moral development and personal growth’ though not when based on intent to be menial and arduous, but rather voluntarily agreed, challenging and visible to the community – examples from US that have engaged prisoners include: house building; forest fire fighting; respite care.
- Involvement in mutual help societies to support the recovery of others, such as Alcoholics Anonymous and Narcotics Anonymous.
- Encouraging active parenting while in prison, including parenting programmes. This is seen to provide a ‘bridging’ support network for rehabilitation, rather than setting parenting as a further challenge that an ex-prisoner is not prepared for.

The authors note that this kind of approach needs to be a ‘two-way process’ in that ‘The ex-convict must be willing to contribute, and society (or at least generative subcultures within society) must be willing to accept and recognize those contributions and consequently reaccept the convict.’ (2004: 146).

Key messages:

- ❖ Young adulthood is a crucial period when many individuals naturally stop offending. Desistance tends to occur as a result of the individual’s accumulation of human and social capital that is a core element of the transition to adulthood.
- ❖ Individuals who do not desist from offending during early adulthood are likely to be psychosocially immature, particularly showing deficits in temperance.
- ❖ The agency of the individual, reflected in their self-perception and mode of engagement with their social environment, is crucial to successful desistance.
- ❖ Policies and services should be designed to support desistance processes. This should include building on the strengths (and not just addressing the deficits) of individuals through enabling their positive involvement in family and wider social relationships, including caring for and supporting others.

8. Assessing Maturity in the Criminal Justice System

As will be apparent from much of the literature discussed in this report, developing tools that can provide a definitive assessment of an individual offender's maturity in the context of legal proceedings is extremely challenging. 'Maturity' is a highly complex conceptual construct whose meaning is not settled even in those research literatures that make extensive use of it; moreover, it contains strong normative elements that are likely to undermine attempts to render it objectively measurable. Thus, in a US study of psychologists who specialize in conducting evaluations of the competence of young offenders to stand trial, 'Beliefs and practices regarding the assessment and influence of maturity as it related to competency varied dramatically across respondents' (Ryba et al 2003: 23). The psychological research literature itself uses a vast array of scales and other instruments to measure aspects of maturity, and frequently the instruments vary across studies, making comparisons difficult. A study examining the validity, reliability and administrative ease of use of some of the psychological assessment scales used to measure aspects of maturity implies that many different instruments would be necessary to achieve a full assessment of individual maturity, and that some of these are very lengthy and demanding to use (Soderstrom et al 2001).

For this review, we have not attempted to examine further the suitability of any of the psychological research assessment instruments for their potential practical use in criminal justice proceedings (some of them will of course be in use by British psychologists engaged in forensic work). Rather, our focus is on official assessment tools currently in widespread use in the criminal justice systems in England and Wales and the USA, and their specific relevance to the assessment of maturity.

8.1 Current Assessment Tools in England and Wales

The two principal assessment tools used in the criminal justice system are Asset, for offenders under 18 years, and OAsys for over 18s. Both tools adopt a structured professional judgment approach in assessing dynamic risk factors, that is, they are not based on the idea that these concepts can be easily measured with simple ratings but require the judgement of the assessor (Baker et al n/d). This has implications for any attempt to develop an 'objective' approach to measuring maturity.

Asset

The Asset assessment tool has 12 sections in the core profile, each asking about specific clusters of risk factors; no one section is specifically about maturity, but questions relevant to concepts of maturity developed in the research literature are found in a number of sections. Examples are also found in the section on positive factors, also part of the core profile. The assessor is asked to make a judgement about each of the areas of dynamic risk and to decide, using these elements among others, to what extent that section as a whole is relevant to the offending behaviour. In addition assessors are provided with guidance which sometimes clarifies the concepts further. Table 1 provides a summary of the sections and specific questions that have some relevance to maturity, an indication of the relevant maturity factor identified in the research literature, and, in some instance, relevant comment from the official Asset guidance.

Table 1: Asset assessment and maturity factors

Asset section and question	Relevant maturity factors in research literature	Comment
Section 5. Lifestyle Participation in reckless activity.	Impulsivity	Asset guidance makes it plain this is not just about offending behaviour
Section 7. Physical Health Physical immaturity / delayed development. Health put at risk through own behaviour (e.g. hard drug use, unsafe sex, prostitution).	Temperance	Guidance talks about decisions to ignore known consequences of behaviour
Section 9. Perception of Self and Others S/he has difficulties with self-identity. S/he has difficulties with self-esteem (e.g. too high or too low). S/he displays discriminatory attitudes.	Responsibility Perspective	Guidance links in part to effects of family Guidance gives racism as an example
Section 10 Thinking and Behaviour Lack of understanding of consequences (e.g. immediate and longer term outcomes, direct and indirect consequences, proximal and distal consequences). Impulsiveness. Need for excitement. Poor control of temper. Aggression to others.	Temperance Temperance	Guidance differentiates between what is to be expected of younger and older young people but is not precise about this.
Section 11 Attitudes to offending Lack of understanding of the effect of his/her behaviour on victims (if victimless on society). Lack of understanding about the effects of behaviour on family/carers. Motivation to Change Understand the consequences for self of further offending. Positive Factors A sense of self efficacy (e.g. that she/he can take action to change things, displays optimism). Resilience (e.g. copes well with difficulties, knows when to seek help, and seems to spring back quickly from adversity). Vulnerability Risk Taking.	Perspective Temperance Responsibility Temperance	Guidance differentiates between lack of understanding and understanding but not caring. ASSET is largely deficit focused but this section does take a more positive approach; these strengths may indicate greater maturity.

OASys

The OASys tool is used for offenders aged 18 and over, and asks similar questions to those in the Asset tool. Again, the approach relies heavily on the professional judgement of the individual assessor. Table 2 shows the relevant OASys section and questions, the link to research-based maturity factors, and comment from the official guidance.

Table 2: OASys assessment and maturity factors

OASys section and question	Relevant maturity factors in research literature	Comment
Section 2 Offending Behaviour Q 2.6 Does the offender recognise the impact and consequences of offending on victim, community / wider society?	Perspective	Guidance suggests that although the word consequences is used, the question it is more about perspective and the ability to understand the likely views and experiences of others.
Section 7 Lifestyle and associates Q 7.5 asks for a judgment to be made about reckless/risk taking behaviour	Temperance	
Section 10 Emotional Well Being Q 10.4 asks for judgement about the offender's attitudes to themselves and whether they have appropriate self-efficacy and self-confidence.	Responsibility	
Section 11 Thinking and Behaviour Q 11.2 asks for a judgement to be made about impulsivity with examples including not thinking things through offending on the 'spur of the moment'. Q 11.4 asks for a judgement to be made about temper control. Q 11.6 asks for a judgement to be made about problem solving skills. Q 11.7 asks for a judgement to be made about the offenders awareness of consequences. Q 11.9 asks for a judgment to be made about the offenders understanding of other people's views.	Temperance Temperance Cognitive abilities Temperance Perspective	Guidance makes clear this has elements within it that cut across the concepts of maturity above, particularly that of impulsivity

This analysis suggests that Asset and OASys do offer a partial means of assessing the maturity of offenders, and that further development might provide an instrument to assist professional assessors in reaching reliable judgements about the maturity of young adult offenders. It is likely,

however, that there would remain potential issues of inconsistency in the application of such an instrument, as noted by Baker et al (n/d) in the national evaluation of Asset.

8.2 Assessment tools in the USA

Andrews, Bonta and Wormith (2006) review successive generations of offender assessment instruments as used in professional practice in the US, and suggest the current 4th generation has the advantage of enabling assessment to be integrated with service provision and supervision from intake through to case closure. They support the widespread adoption of a Risk-Needs-Responsivity (RNR) model of assessment, based on distinctions between 'criminogenic needs' (i.e. those needs experienced by the offender that are directly associated with offending behaviour) and 'non-criminogenic needs' (which may be important but do not lead to offending); and they suggest that the focus should be clearly on addressing criminogenic needs if the aim is to prevent further offending. Responsivity means services targeted at the identified risks and needs of individuals, and is particularly effective for offenders assessed as high risk. However, they acknowledge criticism that the RNR approach is too focused on risks and needs, ignores strengths that offenders possess and is not concerned with enhancing potential and achievement. It may be that other principles, aimed at promoting rehabilitation, could complement RNR, and one possibility is the 'Good Lives' model described in Ward and Maruna (2007).

Key messages:

- ❖ Maturity is a highly complex concept. There is a vast range of psychological assessment tools and scales used by researchers for measuring different aspects of maturity, but it is likely that no single instrument could ever provide an objective assessment of individual maturity.
- ❖ Asset and OAsys are risk-based tools that address a number of aspects of psychosocial maturity, but rely fundamentally on the professional judgement of the assessor.
- ❖ In any assessment process, a balance should be sought between the identification of 'deficits' that indicate risk of future offending and identification of 'strengths' that provide a basis for rehabilitation.

9. International Practices

There is very little literature available (in English, at least) on international practices specifically in relation to young adults in criminal justice systems. Most comparative studies focus either on youth or juvenile justice systems dealing with under-18s (for example, Muncie and Goldson 2006) or with criminal justice systems in general (for example, Dammer and Albanese, 2010).

The one relevant source we have found is Dünkel and Pruin (2010: 1558-9), which provides a comprehensive account of the various international legislation and guidance that stipulates or encourages specific criminal justice practices for young adult offenders. Of central importance is Rule 3.3 of the United Nations Standard Minimal Rules for the Administration of Juvenile Justice ('The Beijing Rules'), which states that 'efforts should be made to extend the principles embodied in the Rules to young adult offenders'. Bryan-Hancock and Casey (2011: 71) argue that this suggests young adults should be treated as juveniles, particularly 'where the individuals' age and maturity are similar to that of juveniles'. This interpretation is supported by Rule 11 of Recommendation (2003) 20 of the Committee of Ministers of the Council of Europe on 'the role of juvenile justice', which suggests that:

Reflecting the extended transition to adulthood, it should be possible for young adults under the age of 21 to be treated in a way comparable to juveniles and to be subject to the same interventions, when the judge is of the opinion that they are not as mature and responsible for their actions as full adults (cited by Dünkel and Pruin 2010: 155).

Whilst these Rules are recommendations rather than requirements for national governments, and therefore are not automatically transferred to national law, it is apparent that there is a growing international trend towards agreement with and acceptance of these recommendations. A previous review published by T2A (2010) identified isolated instances of 'norms' and 'practices' regarding young adults in the criminal justice system in a number of countries, including Germany and some states in the US and Australia. In this section we supplement that review with further detail and additional examples identified through our own research, including consideration of the comparative analysis undertaken by Dünkel and Pruin (2010).

9.1 A European trend towards special provisions for young adults?

Dünkel and Pruin's (2010: 1569) review suggests that most European countries have 'special measures that can be imposed on young adults that are not applicable to adult offenders', including England and Wales where 18 to 21 year olds can be detained in differentiated Young Offenders Institutes or made subject to an attendance centre order. Of the 35 countries surveyed:

- 20 (57%) 'provide for either the application of educational measures of juvenile law, or special rules concerning specific sanctions for young adults in the general penal law';
- 17 (49%) 'have special rules in the adult criminal law concerning the mitigation of penalties for young adults'; and
- 9 (26%) provide both of these types of measures and sanctions (Dünkel and Pruin, 2010: 1576).

This leaves only seven countries with no such special rules for young adult offenders. These figures mask significant variation, however. For example, in the first category, while Croatia, the Czech

Republic, Germany, Lithuania, the Netherlands, Portugal, Slovenia, Switzerland and Russia allow for the application of a range educational measures available within the respective youth justice systems, elsewhere this is restricted to educational measures available whilst in custody (Dünkel and Pruin, 2010: 1569-70).

Whilst this is seen by Dünkel and Pruin (2010: 1573) as evidence of a growing 'European trend towards broadening the possibilities for incorporating young adults into the special provisions for juveniles', in the majority of cases the application of such sanctions is optional, at the court's discretion, rather than mandatory, and therefore does not meet the demands of the recommendations of the 'Beijing Rules' or the Council of Europe, to which relatively few adhere.

9.2 Germany

The most developed and longstanding distinctive approach to issues of criminal justice for young adults is to be found in Germany. Reforms in 1953 transferred young adults between the ages of 18 and 21 to the jurisdiction of juvenile courts. Subsequent legislation has continued and strengthened this jurisdiction, such that it is now established that 'juvenile' law can be applied to young adults: if 'the offender's personality' or 'social environment' suggest 'the young adult in his moral and psychological development was like a juvenile'; or if it appears that 'the motives and the circumstances of the offence are those of a typical juvenile crime' (Dünkel, 2004: 23). As such a decision as to whether a crime is to be considered under the legislation of the juvenile justice system can be based upon an analysis of either the offender or the offence.

In terms of the offender, consideration is given as to whether the young adult has yet to develop beyond the maturity level expected of a juvenile. Dünkel (2004: 24) argues that this is seen to be the case 'in the majority of young adult offenders.' Indeed, Dünkel (2004: 33) argues that this practice could be usefully extended to 21-24 year olds given that: 'Today the development of personality and integration into the life of adults takes even longer rather than shorter.'

Consideration to the nature and circumstance of the crime committed highlights the potential to take account of the 'maturity of the offence' in both assessing and responding to crime amongst young adults. In Germany, a crime may be considered to be a 'typical juvenile crime' if it is carried out in or under the influence of a group, if it is linked to alcohol abuse, or if it is seen to derive from 'a specific situation'. This final consideration means that even very serious offences (such as murder, rape, or robbery) are considered juvenile in nature, with 90% of young adult offenders charged with such crimes tried as juveniles (Dünkel, 2004: 24). This is seen to be contrary to practice in most other countries, where serious crimes are more likely to be considered as worthy of trial as an adult.

Notwithstanding variation by region and some strong counter arguments regarding perceptions of leniency, Dünkel (2004: 25) argues that the use of juvenile justice interventions with young adult offenders has been fully accepted into the practice of the judiciary and criminal justice practitioners, with approximately two thirds of cases regarding young adults being tried by juvenile court. This is seemingly in contrast to other countries where the provision of sanctions under juvenile law are applicable to all young adults, including Lithuania, Slovenia and Russia where there is apparent reluctance amongst judges to utilise this option (Dünkel and Pruin, 2010: 1570-1).

9.3 Sweden

Dünkel and Pruin, (2010: 1572) suggest that: 'A number of other countries... have introduced the optional possibility of applying special measures from juvenile criminal law to young adults dependent on the existence of specific preconditions.' This might include the requirement for a 'predictive assessment of the effectiveness of the available sanctions in order to determine whether adult or juvenile justice criminal law is to be applied' (as is the case in Germany), or a prior 'social inquiry report' so as to assess whether specific preconditions apply. Sweden appears to provide an example of the latter, where there are at least two examples of specific approaches to addressing crime amongst those aged 18 to 20 using youth justice legislation.

Where, following an assessment of their 'social situation', a young adult is deemed to be in 'special need of care', they may be made subject to 'youth care' and placed under the responsibility of social services. The stated aim of such an intervention is two-fold: 'to contribute to a positive development of the individual and to counteract the risk of further offences' (Axelsson, 2010: v; see also Lindqvist, 2010). This requires the court to agree a 'youth contract' outlining measures seen to be sufficient to both intervene effectively and provide appropriate sanction merited by the offence.

Further to provision for youth care, those aged under 21 can also be made subject to 'youth service': 'unpaid work for 20 to 150 hours under the auspices of the social services' (Axelsson, 2010: v). Such a penalty can be applied to 18 to 20 year olds as an alternative to a fine or imprisonment of up to one year, 'if there are special reasons for this' (Axelsson, 2010: v) – though these special reasons are not described.

Key messages:

- ❖ Both the United Nations and European Council of Ministers have indicated formal support for young adults to be treated like juveniles in criminal justice systems, but few if any countries have followed this fully.
- ❖ However there is evidence of at least some kind of special provision for young adults in most European countries.
- ❖ Germany is the country that has the most developed approach to dealing with young adults (18-21) under the juvenile law, including in relation to very serious crimes; Sweden is an example of a country that allows for the possibility of the application of juvenile law to young adults in specific circumstances.

10. Conclusion

As this review was being completed, the Sentencing Council for England and Wales published new guidelines on sentencing in cases of assault by adults (over 18s). The guidelines state that, when sentencing decisions are made, consideration should be given to 'age and/or lack of maturity where it affects the responsibility of the offender' as one of the 'factors reducing seriousness or reflecting personal mitigation' (Sentencing Council 2011a: 5). In its response to consultation on the proposed new guidelines, and the particular justification for inclusion of the 'age and/or maturity factor', the Sentencing Council quoted the following submission from the T2A Alliance:

The T2A Alliance advocates the recognition of young adults as a distinct group within the criminal justice system, including in sentencing, due to their levels of maturity and the economic, social and structural factors that specifically impact upon them (Sentencing Council 2011b: 16).

A major purpose of this literature review has been to systematically examine and assess the nature of the scientific evidence that can support that claim.

In brief, and without repeating all of the key messages highlighted throughout the report, the main conclusions of the review are supportive of the T2A position. There is strong evidence that, from a neurological perspective, the human brain is not fully developed in its capacity for cognitive functioning and emotional regulation until well into the period of young adulthood. From a psychological perspective, evidence shows that psychosocial capacities and moral reasoning abilities vary considerably between individuals in the young adult age group, so that some remain immature longer than others, including after the legal age of adulthood. From a criminological perspective, research reveals that how an individual demonstrates maturity, for instance in decisions about whether to engage in particular courses of action, is heavily dependent on the social, economic and cultural context in which the decision is made, and in particular on the 'moral rules' that operate in the particular context. In other words, the same individual may act with varying degrees of maturity from one social context to another.

Overall, the research reviewed in this report points emphatically to the inappropriateness of an arbitrary age limit as the key factor determining the kind of judicial response an offender should receive, and that in the young adult group, the level of maturity exhibited by an offender is a valid factor to be considered within the legal process. There are, moreover, indications that this conclusion is becoming accepted in a growing number of national jurisdictions, albeit to varying degrees.

However, the review also demonstrates the very considerable complexity and, at times, ambiguity of the concept of maturity. While this is a challenge for researchers, it is a much more practical difficulty for criminal justice practitioners who will need to be able to produce robust assessments of an offender's level of maturity if this is to be a factor in the judicial process. Given that production of a comprehensive instrument for measuring maturity is unlikely (and probably misconceived), much will depend on the quality of training and guidance available to those charged with making such assessments. Above all, it will be important to guard against overly simplistic notions of what 'maturity' means and how it can be incorporated into the criminal justice system.

Appendix: Review Methodology

The methodology adopted for this literature review was based on the review process advocated by the international Campbell Collaboration for research in the fields of crime and justice, education and social welfare (www.campbellcollaboration.org). The foundation of this approach is the establishment of a clear design for the review involving a set of protocols that must be systematically followed.

The review began with an initial scoping stage, where general search terms were used across databases in order to give an indication of the breadth of material relevant for inclusion and to develop more precise search terms for further detailed searches. A systematic review of international social science databases was then conducted, with the results of search terms recorded and the material collated within an Endnote file.

Bibliographic databases were searched using a wide variety of relevant search terms in different combinations. Search terms included: maturity; young adult*; adolescen*; transition*; develop*; crime; offend*; justice; delinquen*; you* offend*; assessment; measur*.

Electronic databases searched included Assia (CSA); Proquest; Zetoc; Copac; SCIE. We also used Google Scholar, and consulted printed bibliographies such as those for relevant chapters in the Oxford Handbook of Criminology.

This searching generated well in excess of 1,000 items, mostly with abstracts. After eliminating duplicates and items whose title indicated they were clearly not relevant, judgements were made about the potential usefulness of items for the review based on a reading of the abstracts. This process of selection resulted in the attached bibliography, which has formed the basis for this report. The full text of most of these items was obtained.

Further assessment of the core bibliography identified items which appeared to warrant more detailed attention, and different members of the review team, based on their specific expertise, read the full texts of these, summarised them and identified implications for policy and practice. For other items in the bibliography, the published abstracts provided sufficient information for the purposes of the review.

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