



Australian Government
Australian Institute of Criminology

Employment risks in a security-sensitive environment

A review of the literature for the Australian Government Attorney-General's Department

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Executive summary

AusCheck is a division of the Attorney-General's Department (Australia) responsible for providing background checking services for organisations that issue Aviation Security Identification Cards (ASICs) and Maritime Security Identification Cards (MSICs). ASICs and MSICs are required to be displayed by individuals working in a security controlled area of, respectively, an airport and maritime port/offshore facility. AusCheck is contemplating a more general national security background check that may be required where an individual is required to work either in other security sensitive places, or with a security sensitive substance or thing.

AusCheck is interested in increasing its knowledge of the linkages between criminal activity and risks to national security generally and, in particular, in relation to the threats posed by a 'culture of criminality' and by a 'trusted insider' who breaches that trust.

This review is for the purpose of expanding AusCheck's understanding of what an individual's criminal history and other available information can tell us about whether that person presents a risk in a security sensitive environment.

This report seeks to provide a review of the current academic, criminological literature published in English world-wide, relating to all types of security risks in secure environments, along with an analytical assessment of the effectiveness of current risk-based approaches.

Research questions:

These are the particular questions posed by AusCheck:

- Are there particular offences, convictions for which offences represent a risk in a secure environment?
- Are there particular types of criminal behaviour that would indicate that an individual is at increased risk of re-offending or otherwise actively contributing to a culture of criminality in a secure environment?
- Are there particular types of criminal behaviour that would indicate that an individual is unsuitable to be placed in a position of trust in a secure environment?
- Are particular patterns of criminal behaviour relevant to the above questions?
- What regard should be had to conviction free periods?
- What regard should be had to the age of the individual at the time the offence was committed?
- What factors in an individual's criminal background are indicators that they might facilitate creating a criminal culture?

The lack of relevant research studies

The reviewed literatures revealed no studies that related directly to the issues and questions of concern. This was despite casting a broad net of research terms across a range of databases, inclusive of major journals, as well as trawling journals and sourcing articles from reference lists as these came to hand. Hence, it was necessary to examine the most relevant available studies and to extrapolate any of their findings that bear as closely as possible upon the research aims and questions.

The trusted insider and a culture of criminality

As an initial and basic observation, from recent studies and thinking in relation to employment risks in a security sensitive context - including the risk of planned placement of terrorists and criminals - it is crucial that the classification of 'trusted insiders' encompasses not only staff of operational areas but also members of the wider security sensitive community including, for example, AusCheck and issuing body staff, direct response personnel, among others. That is,

it is wise to prevent subversion of checking processes by an exempt person, and to protect against other security attacks, from within the system itself. Such pre-emptive considerations accord with the notion of Australian security arrangements being highly agile and adaptable within an 'all-hazards approach'.

In general terms, both past Australian experience and the criminological literature warn of the potential for malicious trusted insiders to contribute to a culture of criminality, thus providing for criminal and terrorist intrusions into a security sensitive environment. Furthermore, in examining the literature on white-collar criminals in particular, it is evident that criminal history checks alone do not suffice to identify employee risks of these sorts.

Variables most often associated with recidivism: criminal history and background

Discovery of the most useful materials in relation to employee risks in a security sensitive sense came predominantly from the literatures on recidivism and risk-based approaches generally, and from the body of work on the debate between self-control theory and life course/criminal career research in particular.

From these literatures, this review's principal findings include the following criminal history and background variables that are most often associated with criminal recidivism and hence that might serve as predictors of employee risks in a security sensitive environment. These are elaborated and qualified in the report.

- criminal history
 - number of prior offences
 - type of offending
 - severity of conviction offence(s)
 - number of prior convictions
 - criminal sanctions
 - prior imprisonment
 - number of prior custodial episodes
 - parole
 - re-arrest
- age
- gender
- race/ethnicity/Indigenous status
- education
- employment
- housing
- marital status/partner
- social bonds, including school
- family networks
- peer and personal associations, including criminal associates
- military service
- mental illness
- drug (eg heroin)/alcohol misuse
- physical health

Findings from the life course/criminal career theory-based research aid understanding how these factors operate in relation to initial offending, reoffending and desistance from further offending.

The significance of life course/criminal career research

The significance of life course/criminal career research is three-fold. First, it is the most widely accepted explanatory approach to understanding criminal recidivism. Thus, it is the best basis for understanding employment risks in a security sensitive environment, especially given the lack of specific research studies. Secondly, it provides a theoretical frame and rationale for combining static factors of a criminal history check with dynamic variables of an individual's broader background in order to assess risk in any instance. Thirdly, it alerts us to critical life-stage variables that might reduce or enhance such risks.

A decision framework for security identification cards is supported by research findings within this paradigm. A suggested framework is detailed shortly.

Types and patterns of crime - specific offence convictions

Aside from criminal history and background variables, this report covers findings in relation to other research questions that are extrapolated from the most relevant research, again with discovery of no studies directly germane in a security sense.

The issues of types and patterns of crime, along with that of specific offence convictions, need to be considered together as these are often merged in the research literature. As well, studies are inconsistent in offence definitions; the relationship to recidivism of 'specific' offence convictions is complicated by age variations and shifts over time; and there are criticisms of the use of particular offence convictions in relation to employment. Thus, for example, it is worth reconsidering offences such as 'dishonesty' as exclusionary criteria for security identification cards to take account of the severity and type of offending involved.

Whether an individual will re-offend, much less commit a particular type of crime, cannot be ascertained from records of types of crime taken in isolation - whether 'street' versus 'white-collar' crime, 'traditional crime' versus 'cybercrime,' or 'interpersonal' versus 'property' crime.

A major inference here is that the available evidence reinforces the need to make decisions across levels and functions of the security sensitive industry. The evidence suggests security identification card decisions should be negative the earlier the age of onset of offending, the more there are indications of a criminal history spread across interpersonal, property and other offences, and for both males and females. In general, these and other decision criteria need to be considered collectively not singly.

Issues of age and conviction-free periods

In respect to the research questions on age and conviction-free periods, although there are uncertainties concerning the age-crime relationship, it is evident that age matters (although not in a simplistic fashion) and that conviction-free periods are inextricably linked to issues of age. Conviction-free periods of two, five and ten years appear to be important benchmarks.

The core research agreements and insights are these:

- onset at or before age 14 results in significantly more court appearances, much more likely to be reconvicted and reimprisoned
- most people begin offending between ages 15 and 17, when offending is also most intense
- onset at 18 years or older signifies (much) less likely to be reconvicted and reimprisoned
- most offenders cease offending by early adulthood (early 20s)
- career duration (period of active criminality) is short (little more than 5 years)

Regarding 'white-collar' crime, there is a more limited body of research evidence, however the following are notable findings.

- the average age of onset (defined as an arrest) was 35; for repeat offenders only 18 months younger; and for first-time offenders 40.9
- offenders with a prior record were on average 24 years old
- repeat offenders desisted (last arrest) at age 43
- offenders had relatively few arrests

There is a discussion in the text of a number of other notable though less commonly cited results that enhance understanding of age and age related predictors of reoffending.

Problematic aspects of the literature

Throughout this report care is taken to point to the many problematic aspects of the literature. Among the key noted difficulties are the numerous definitions and measures employed in relation to both what is understood by recidivism and its correlates; and the inapplicability of probabilistic, aggregate data findings to individuals. These and other considerations, including especially the absence of directly relevant security sensitive studies, serve to place into perspective the following framework of decision-making in relation to who should hold a security identification card.

A framework for a national security background check

From the above findings of the most relevant though indirectly related research discovered in this review, a tentative framework is proffered for making decisions about employment risks in a security sensitive context. Key components of this framework are as follows.

- A criminal history check is a basic requirement to determine the fitness of an existing or potential employee to possess a security identification card.
- It is also necessary to conduct a broader investigation into the individual's socio-personal milieu to examine and measure dynamic life course variables impacting pathways into criminal versus law-abiding lifestyles.
- Additionally, a range of interview questions can be utilised to inquire into the individual's specific threat potential in a security sensitive context, targeted to the individual's particular organisational position and responsibilities.
- In select instances, an individual could be interviewed by a person trained in psycho-social assessments, along with the administration of appropriate tests, which may include a validated psychopathy scale and/or other personality instruments.

A set of decision criteria for who should hold a security identification card

Within this framework, a package of decision criteria can be employed for determining who should hold a security identification card. It is emphasised that judicious interpretation of the circumstances of any given individual is required to guard against errors of both over- and under-estimation. Further, to apply these criteria, judgements are required about whether a decision should be made on the basis of a single criterion or a combination of criteria in any specific case. As a general rule, decision criteria are best considered collectively, although that presents its own difficulties of comprehension. The following criteria are divided into two tiers and they are elaborated in the report.

On the first tier, a negative decision is indicated if the individual is characterised by:

- many prior convictions
- a diversity of offences across the three categories of property; interpersonal/violence; and any 'other'

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- convictions for extra-familial child molestation (especially if focused on a type of victim or behaviour); breach of parole; and breach of a drug court order
 - imprisonment in the past two years
 - many prison terms
 - paroled and still within two years of release date
 - commenced offending before the age of 14
 - have a continuing criminal history after the age of 25 and have not reached the age of 40
 - committed a 'white-collar' crime and have a prior record before the age of 24
 - first committed a 'white-collar' crime after the age of 24 and not older than 43 years

By contrast, security card decision-makers could consider favourably individuals who:

- have no criminal history
- do not fit into the preceding exclusionary criteria
- started offending at the age of 18 years
- successfully completed a community corrections program with a rehabilitative emphasis
- have a 'white-collar' criminal record, but now at least 43 years old
- have a conviction-free period of at least 10 years and no intervening term of incarceration

On the second tier of considerations, a marginal negative decision is reinforced the more the individual is characterised by:

- a history of unemployment, under-employment or unstable employment
- a low level of education
- unstable housing
- unmarried and unattached
- weak family network
- absence of other pro-social bonds
- criminal associates
- mental illness
- drug (eg heroin) misuse
- alcohol misuse
- poor physical health
- gambling problems (although the reviewed research is largely silent on this)

By contrast, a marginal positive decision is reinforced the more the individual is characterised by:

- a history of stable employment
- a high level of education
- military service
- stable housing
- married or otherwise attached to a partner
- strong family network
- presence of other pro-social bonds

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- successful rehabilitation/treatment outcome for any identified criminogenic need
 - sound physical health

To enable full application of these decision criteria, an interview will be necessary to ascertain information especially pertinent to the second tier. In this regard, some examples of interview questions are suggested in the text.

The need for original research

To validate this framework and directly address the security sensitive concerns at issue, it is evident that original research is necessary. That is because, as discovered through this review, there is no such research currently available in the criminological or related literatures. There is a need for recidivism research specifically in relation to employment risks arising within a security sensitive environment. To decide confidently who should hold a security identification card requires investigating agency databases and records to discover the recidivism characteristics of that specific population of offenders. The most apposite research design for this purpose would be one of a longitudinal, retrospective, quasi-experimental kind.

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Introduction

Background

Because airports attract such crowds of people, because of the high value of goods available at and filtering through airports, and because they are such conspicuous symbols of our technologies and societies, airports are obvious targets both for those who wish to attack us and for those bent on illegal personal gain (Wheeler 2005: 6).

Sir John Wheeler (2005), in his Independent Review of Airport Security and Policing for the Government of Australia, described the threats and risks from terrorism and criminal activities to airport security in Australia, and reviewed the question of the issue, use and management of Aviation Security Identification Cards as a risk reduction measure (ASICs) (Wheeler 2005: 44-47). Similar risks also arise in other security-sensitive workplaces such as maritime facilities and offshore oil and gas industry sites.

AusCheck, a division of the Attorney-General's Department (Australia), is responsible for providing background information checking services for organisations (issuing bodies) that issue ASICs and Maritime Security Identification Cards (MSICs). ASICs are required to be displayed by people working in a security controlled area of an airport. MSICs are required to be displayed by individuals working in security controlled areas of a maritime port or offshore facility.

In undertaking background checks for these purposes, AusCheck obtains the criminal history records of people who have applied for an ASIC or MSIC and examines these against specific criteria to determine whether they are eligible to be issued with a card. These criteria are specified in the Aviation Transport Security Regulations 2005 and the Maritime Transport and Offshore Facilities Security Regulations 2003 respectively (see Appendices 1 and 2). If a person has a conviction resulting in imprisonment for one of these offences, they will be assessed as not eligible for an ASIC/MSIC. A full list of the information that is available to AusCheck is set out at Appendix 3.

At present, AusCheck only conducts background checks for ASICs and MSICs. AusCheck is contemplating a more general national security background check that may be required where an individual is required to work:

- in other security-sensitive places (eg. critical infrastructure, nuclear facilities, defence installations)
- with a security-sensitive substance or thing (eg. explosive substances, dangerous materials, firearms).

AusCheck is interested in increasing its knowledge of the linkages between criminal activity and risks to national security. AusCheck accepts that a culture of criminality in a secure environment is a security risk. Wheeler (2005) notes that 'terrorism, organised crime and opportunistic crime constitute the major security threats to Australia's airports' (para 1) and that 'terrorism and crime do run together' (para 10). Further, 'circumstances that foster criminality still leave the door ajar for terrorist activity' (para 12).

The threats that the national security background check seeks to address are the 'culture of criminality' referred to by Sir John Wheeler and the trusted insider who breaches that trust.

Aims and terms of reference

The purpose of this report is to expand AusCheck's understanding of what a person's criminal history and other available information can tell about whether they present a risk in a security-sensitive environment.

This report provides a review of the current academic, criminological literature published in English, world-wide, relating to all types of security risks in secure environments.

This report further provides an analytical assessment of the effectiveness of current risk-based approaches.

Research questions:

The particular questions that AusCheck has posed relate to how the information available in a background check might be used to address both the threat of a culture of criminality and the trusted insider:

- Are there particular offences, convictions for which offences represent a risk in a secure environment?
- Are there particular types of criminal behaviour that would indicate that an individual is at increased risk of reoffending or otherwise actively contributing to a culture of criminality in a secure environment?
- Are there particular types of criminal behaviour that would indicate that an individual is unsuitable to be placed in a position of trust in a secure environment?
- Are particular patterns of criminal behaviour relevant to the above questions?
- What regard should be had to conviction free periods?
- What regard should be had to the age of the individual at the time the offence was committed?
- What factors in an individual's criminal background are indicators that they might facilitate creating a criminal culture?

Scope and definitions

The scope of the review was limited to academic, criminal justice literature published in English world-wide. The review sought to examine mainly the literature published in Australia, New Zealand, Great Britain, United States and Canada, among other English language publications.

The reviewed literature related to all types of security risks in secure environments, with a primary focus on employment. Particular attention was paid to literature on the threats of a culture of criminality and the trusted insider relating to the above research questions. The investigation focused on prior research concerning recidivism, prediction and dangerousness, transnational and organised crime, terrorism, security issues and personnel, risk management, and risk assessment tools and procedures.

Definitions of key terms and concepts are provided throughout the text.

Structure of report

This report focuses on the risks in a security-sensitive environment associated with a culture of criminality and the trusted insider, namely someone who betrays trust that derives from their employment, with reference to the posed research questions. The report provides a background and commentary leading to an argument that best addresses those security-sensitive concerns.

After outlining the methodology and limitations of the present review, a discussion is presented of the considerations concerning the trusted insider and 'culture of criminality' relevant to the research questions. This shows that any framework of decision-making in regard to security identification cards must take into account those linkages and their institutional implications.

The report is concerned mainly with prior research on recidivism and risk-based approaches. This includes an account of the necessity for and limitations of criminal background checks in relation to security identification cards. It then outlines general recidivism research and risk assessment instruments that have been developed in various contexts. There is a brief commentary on psychological scales for prediction of dangerousness. The concern is not only to describe research studies and their key findings, but also to indicate problematic aspects. It includes an analysis of the effectiveness of risk-based approaches. The intent is to provide a sound information basis for policy-making regarding security-sensitive matters.

The report then discusses some specific theoretical research relevant to the issues in question, including the critical debate in the literature between static and dynamic accounts of causation of crime and criminal recidivism. Three related issues are also reviewed, namely, the relevance of types and patterns of criminal behaviour; particular offence convictions; and issues of age and conviction-free periods. The aim is to determine who should, and who should not, hold a security identification card and related employment security risks.

Finally, a framework for decision-making in terms of employment risks in a security-sensitive environment is presented. This framework is seen as a beginning for development of a comprehensive and robust system to reduce apparent risks.

Methodology

This report is based on a desk-based review of academic, criminological literature undertaken using a range of strategies to locate information

A keyword search was made of several databases, inclusive of the following: CINCH, Factiva, APAFT (Australian Public Affairs), Expanded Academic ASAP (Gale), Australian Federal Police Digest, Criminal Justice Periodicals, Criminology Sage, Proquest Psychology Journals, Proquest Research Library, Proquest Social Science Journals, Proquest Dissertations and Theses, EbscoHost, Academic Research Library (Proquest), HeinOnline, and SpringerLink.

Keywords and phrases used were: 'criminal history', 'criminal records', 'criminal checks', 'criminal behaviour', 'criminal profiling/profiles', 'crime and security', 'security risk checks', 'security guards', 'culture of criminality', 'criminal culture', 'trusted insider', 'recidivism', 'reoffend/re-offend', 'repeat offend', 'crime/criminal patterns', 'dangerousness', 'prediction', 'risk assessment', 'terrorism', 'organised crime', 'white-collar crime', as well as other combinations of these and similar terms.

A more limited keyword search was made using the Google search engine.

Several major journals were also examined comprehensively for the past five to ten years. These included journals in the fields of criminology, psychology, risk, security management,

In addition, there was an examination of resources held by the Australian Institute of Criminology, including works on recidivism. A limited examination of relevant website resources within Australia and other English-speaking countries produced a number of publications of interest. Further sources were discovered through the reference lists of reviewed materials.

Limitations

This review has several limitations.

First, the scope of the review is restricted to the publicly available literatures, without access to classified documents and the knowledge bases - such as the Australian Criminal Intelligence Database (ACID) - that help to inform intelligence understandings of threats and responses relevant to the central concerns of the review. That restriction is assumed to result in some gaps of discovery of relevant literature that might have enhanced review findings.

Secondly, the literatures of potential relevance to this review are extensive. These cover separate bodies of work on criminal recidivism, life course research, risk-based assessment, psychological scales on dangerousness, security, and risk management, among others. Each of these literatures is copious and they typically involve complex materials of analysis.

Thirdly, related to the size of the literatures and the complexity of much of the materials covered, it is noted that research for this review was undertaken within quite challenging timelines (cf. Wheeler 2005). Any cited lack of evidence needs to be understood within this context.

Fourthly, and most significantly, this review did not discover studies that were directly germane to the research questions posed. Consequently, this report is concerned with the most relevant literatures and how their research findings and theoretical insights might be used to shed light on those questions.

The trusted insider and a culture of criminality

In the United States, all airport personnel must now undergo background checks and critical infrastructure protection involves a community-based approach that includes, for example, anyone who acquires explosives being subjected to a background check (Hampton Roads 2003). The concern with terrorism and how, when, where and by whom it might be perpetrated has seen the US response reach into every corner of society, including 'soft target' areas such as shopping malls, entertainment venues, sports stadiums, and other public gathering areas (Hampton Roads 2003).

A similar response has occurred and will continue to occur in Australia.

Wheeler (2005: 45) notes that

the system for criminal background checking will not necessarily register the fact that a holder has done something since obtaining an ASIC that would have made him or her ineligible when first applying, because there is no 'live' system for updating criminal records, no ongoing consent to check, and new checks are only required when ASICs are reissued (every 2 years).

The Attorney-General, the Hon Robert McClelland spoke at the Security in Government Conference in Canberra on 16 September 2008. He pointed out that the national security agenda has evolved and broadened to encompass an 'all hazards approach' that recognises that terrorism (and criminal acts) now potentially target transport infrastructure, institutions of national significance, places of mass gathering, the food chain, communications and banking. These are now all part of the critical infrastructure landscape (McClelland 2008).

These considerations commend thinking more broadly about how criminal history checks need to be undertaken, together with supplementary procedures, and who should be the subject of vetting processes.

Who are security-sensitive trusted insiders and where are they located in the organisational structure?

In Australia, background checking was extended to pilots in July 2004 and security identification coverage was due to be required 'by all aviation industry personnel with a legitimate reason to access landside and airside security zones at security controlled airports' from 1 January 2006 (Wheeler 2005: 101). Further, 'a person has an operational need to hold an MSIC if his or her occupation or business interests require, or will require, him or her to have unmonitored access to a maritime security zone at least once a year', including:

- port, port facility and port service workers

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- stevedores
 - transport operators such as train and truck drivers
 - seafarers on Australian regulated ships
 - people who work on and/or supply offshore oil and gas facilities
(<http://www.infrastructure.gov.au/transport/security/maritime/msic.aspx>, accessed 15 September 2008).

Clearly, there is a wide range of operational personnel who require background checking and regular monitoring as trusted insiders. Yet these are not the only persons with whom there should be a regulatory concern.

A recent US study came to this conclusion concerning 'malicious' insiders who conducted computer system sabotage in critical infrastructure sectors:

Although insiders in this report tended to be former technical employees, there is no demographic "profile" of a malicious insider. Ages of perpetrators ranged from late teens to retirement. Both men and women were malicious insiders. Their positions included programmers, graphic artists, system and network administrators, managers, and executives. They were currently employed and recently terminated employees, contractors, and temporary employees. (Keeney et al. 2005: 34).

A companion study that focused upon the banking and finance sector came to a similar conclusion (Randazzo et al. 2004). Moreover, they noted that the:

President's Critical Infrastructure Protection Board identified several critical infrastructure sectors:

- banking and finance
- information and telecommunications
- transportation
- postal and shipping
- emergency services
- continuity of government
- public health
- food
- energy
- water
- chemical industry and hazardous materials
- agriculture
- defense industrial base

(Randazzo et al. 2004: 3).

Another recent study noted that

[i]nsider threats can be further divided into two categories: threats of insider attack on behalf of, and controlled by, an outsider; and self motivated insider attacks. As critical systems are increasingly dependent on software and are connected to the internet, insider threats belonging to the first category will be of ongoing concern. Corrupt insiders could deliberately introduce vulnerabilities during the coding of inhouse software that is used to manage sensitive military or intelligence networks. This could allow terrorists or foreign intelligence agents to exploit the vulnerabilities and surreptitiously enter systems, gain control, and launch online attacks via and against compromised systems (Choo, Smith & McCusker 2007: xvii).

The report then argued that '[a]s information security increases, risks of insiders collaborating with external offenders, or becoming offenders themselves are likely to increase. This will require organisations to use more extensive and intensive personnel checks to monitor the activities of existing staff and to verify the credentials and backgrounds of new staff' (Choo, Smith & McCusker 2007: 69).

It is very important to identify the range of personnel who need to be classified as trusted insiders, and their location. Only with an accurate and comprehensive classification is it possible to take appropriate steps to circumvent the threat and risks associated with a potential betrayal of trust.

It is suggested that such a classification needs to extend beyond personnel who could be obviously thought of as routinely or occasionally accessing security-sensitive environments and/or dealing with security-sensitive matters such as those who occupy operational positions (security officers, aircraft technicians, pilots, cleaners, etc). The classification needs to include members of AusCheck itself, Airport Security Committees (ASCs)/Airport Security Consultative Groups (ASCGs), airport CEOs, issuing body staff and others who are involved in confidential security-related tasks of management, policy development and procedural matters; as well as police, customs and military personnel who might participate in direct response to threats and incidents. Similar personnel identifications are required in maritime and other security-sensitive environments.

There is also an issue in background checking and regular monitoring of trusted insiders that is a well known problem in the criminology literature: who polices the police? There have been a number of instances in Australia over the years to warrant this concern. The relevance of this issue was once again highlighted in Victoria in recent criminal charges laid against senior police officers, as widely reported in the Australian news media in July 2008 (for example, AAP <http://www.news.com.au/story/0,,24096144-2,00.html>, accessed 22 October 2008).

There is little point in having robust processes of background checking and regular monitoring if those processes can be subverted by an exempt person within the system itself. It is noted that the background checking process for an ASIC includes:

- a criminal records check undertaken by the Australian Federal Police, to determine if an applicant has an adverse criminal record
- a security assessment conducted by the Australian Security Intelligence Organisation (ASIO)
- An unlawful non-citizen check conducted by the Department of Immigration and Citizenship (DIAC), if relevant.
<http://www.infrastructure.gov.au/transport/security/aviation/factsheet/fact13.aspx>, accessed 15 September 2008).

It is also noted that:

The extension of the ASIC system will counter attempts to place terrorists as employees in the aviation industry and will ensure wider coverage of background checking of people

working in security sensitive areas in Australia's airport environment.
(<http://www.infrastructure.gov.au/transport/security/aviation/package.aspx>, accessed 15 September 2008).

This observation can equally apply to the placement of terrorists (or criminals) - or to the subversion of existing employees - within any part of security-sensitive environments and their oversight bodies. If we are mindful of McClelland's (2008) observations that terrorists are constantly evolving their strategies and that Australian security arrangements need also to be highly adaptable and agile within an 'all-hazards approach', then personnel from the AFP, ASIO, DIAC and other oversight agencies need to be brought within the ambit of criminal history and any supplementary checking procedures.

In short the notion of a trusted insider must be carefully considered to enable appropriate background checking and regular monitoring to guard against associated threats and risks. The following comments on culture and motivation aim to provide a further basis for policy decisions in this area.

A culture of criminality: opportunities for terrorists

The phrase 'a culture of criminality' was popularised in the seminal work on delinquent subcultures by Sutherland and Cressey (1977) and more recently associated with police corruption studies (for example, Kleinig 1996).

The notion of culture associated with criminals is also associated with descriptions and studies of organised crime. Recent attention to problems in Russia is instructive for security-sensitive considerations:

Russian organised crime has not only benefited immensely from the protection, weapons, and skills it can buy from corrupted members of the security forces, it has also infected it. Actual organised crime groups within the police and military are still relatively small and few, and the main relationship of criminalised members of the security apparatus with the underworld is as facilitators, suppliers, and consumers. However, while they represent only a small fraction of the 'mafiya', organised criminal groupings within the police and security apparatus are disproportionately important in the way they further undermine public confidence in the state, create alternative chains of command, and have access to specialised and dangerous powers, weapons and skills. Polled in 2005, only 2% of respondents said that there was no problem of lawlessness and the abuse of office by Russian police, while 83% characterised it as one of the country's biggest problems. (Galeotti 2006: 485).

This quotation illustrates the notion of a security system that is 'infected' by a culture of criminality. Although it could be argued to have little application in Australia today, it serves as a warning of the implications of allowing such a culture to take root in security-sensitive environments. Further, such cultures - albeit arguably of a lesser magnitude - have not been entirely unheard of in Australia, as witnessed in a number of Royal Commissions (for instance, Fitzgerald 1989). An example was that of the Painters and Dockers Union in the 1980s and early 1990s, which was investigated by the Costigan Royal Commission 1980-1984. For that matter, it has been argued that Western societies are not immune to the possibility of following the same path recently taken by Russia (Rawlinson 1998).

Moreover, it is worth considering how a criminal culture might arise within a security sensitive setting independently of any deliberate intrusion by a criminal or terrorist organisation. Thus, Spahr and Allison (2004) refer to the theoretical bases of criminal culture in the workplace. They say 'socio-cultural approaches support the notion that group norms act as the major contributory factor in workplace crime' (Spahr and Allison 2004: 96). For instance, crime in the workplace has been postulated to arise as a survival mechanism to maintain position or

company profits (Reed and Cleary 1996). It has also been theorised that theft is not necessarily meant to harm, nor perceived as illegal, and often considered victimless (Ditton 1977; Robertson A 2001). A similar logic is evident in illegal downloading of music from the internet, which any university student these days will defend as acceptable as 'everyone does it' and 'it doesn't really hurt anyone'. Such questionable logic can lead even fundamentally law-abiding individuals into more serious criminal behaviours. It does not take a criminal or a terrorist organisation to sow the seeds of a culture of criminality. Rather, they might take advantage of an existing or embryonic one and, indeed, that would be a simpler and surer means of entry.

It is easy enough to see how criminals or terrorists can penetrate a security environment in such a fashion, manipulating an existing culture that has criminalistic beliefs and further corrupting existing employees. Further, linkages between the problem of the trusted insider and the threat posed by a culture of criminality are supported by extrapolations from studies of white-collar criminals (for example, Benson and Moore 1992; Piquero and Benson 2004). (See further discussion on this aspect under the head of 'particular patterns of criminal behaviour').

An instructive example is provided by Will, Ponting and Cheung (1998). They contend that inadequate regulatory safeguards promoted a criminogenic organisational environment that allowed the commission of the fraudulent activities leading to the 1994 Orange County bankruptcy. These authors argue that the 'code of silence ... that permeated the Orange County governmental offices facilitated unlawful behaviour by providing an atmosphere that discouraged questions and criticisms' (Will, Ponting and Cheung 1998: 379). This argument has been demonstrated repeatedly in the corporate world and elsewhere, and on lesser occasions but even more worryingly within the criminal justice system. It is an argument that is reminiscent of the cultural arguments concerning past police corruption in Australia, and the commentary of the Fitzgerald Royal Commission remains forceful in this respect (Fitzgerald 1989: 200-212).

The potential threat within a security sensitive environment is suggested in these comments from Fitzgerald (1989):

Organized crime cannot get its massive power, or the opportunity to use its illicit wealth in 'legitimate' undertakings, without corrupt officials who aid and shield its activities, and corrupt or unethical professional advisers to guide it.

The greater the spread of organized crime and the more obvious its disproportionate wealth, the greater the pressure on honest people to help it or take part in it. Organized crime is subversive. It erodes the ethical standards of those on the periphery and encourages disrespect for the law.

The corruption of law enforcement officers, officials in criminal justice administration, other administrators and politicians and judges is a basic stratagem of organized crime. If such corruption is successful and frequent, the criminal justice system is crippled.

(Fitzgerald 1989: 163).

A testament to these kinds of concerns is the Australian Crime Commission with its mandate to work nationally with other federal, state and territory agencies to counter serious and organised crime. Such concerns can be readily extended to include terrorist endeavours.

Moreover, the United Nations and national authorities around the globe now routinely address transnational linkages between terrorism and criminal activities. It has been argued that terrorists both engage in criminal activities such as the illicit drug trade ('narco-terrorism') and manipulate organised crime syndicates for their own ends (Gakhokidze 2001; Mylonaki 2002). It has also been argued that terrorist and criminal groups co-prosper in areas of mutual interests and complementary skill-sets (Shelley and Picarelli 2005). As well, criminal networks have been identified as significant threats even without terrorist links and aims (James 2001:

205). These concerns have been discussed in terms of border security and external attacks (Gakhokidze 2001; James 2001; Shelley and Picarelli 2005), but not in terms of criminal cultures and trusted insiders within security sensitive organisations themselves.

Despite these concerns and the evidence of linkages between terrorists and organised criminals, this review has not discovered any empirical studies in the criminological literatures on organised crime or terrorism that have directly demonstrated or discussed criminals or terrorists placing their personnel, planning such placement, or sponsoring other employment risks within a security sensitive context. Presumably one of the difficulties here is the lack of easy access for criminologists to the kinds of intelligence data possessed by law enforcement authorities. It is also partly due to the ephemeral, cellular nature of much of what is called 'organised' crime (James 2001: 224; Paoli and Fijnaut 2006: 314).

It can be surmised as due also to the very different ideological motivations of terrorists as distinct from those of criminals. In this respect, news media coverage of who are terrorists, especially of those who are 'home grown', emphasises how they maintain otherwise 'normal' daily lives (Horgan 2008). Horgan (2008: 81) points out that there is 'a clear need to identify the significance of the group and organizational context that maintains involvement and sustains behavior and eventually contributes to the commission of acts of terrorism'. Profiling attempts have failed, he argues, and '[i]t may thus seem warranted to consider actual terrorists as different or special in some way' Horgan (2008: 82). It is not surprising, therefore, that this review has discovered no evidentiary base for identifying risk characteristics that might alert us to who should hold security identification cards in the sense of protecting against terrorist motivated individuals in particular. In lieu of studies on this sort of before-the-fact risk profiling, the best available evidence has been discovered in the criminal recidivism literatures.

Notwithstanding this lack of evidence, there is reason to be alert to the potential for malicious trusted insiders to contribute to a culture of criminality within institutional arrangements, and hence to provide pathways for criminal and terrorist intrusions into a security sensitive environment.

Reasons for abuse of trust: the inadequacy of criminal history checks

There are a wide range of motivations for trusted insiders to attack their organisation. Aside from the obvious intents of organised criminals and terrorists, Piquero and Benson (2004) propose that white collar criminals who abuse their position of trust might do so for 'fear of falling' rather than a 'fear of failing'. That is, the individual motivation might be a feared loss of what they have attained in life, as distinct from the usual imputations of simple greed or the motives attributed to street criminals such as lack of inhibition, impoverished upbringing and so forth.

Keeney and colleagues (2005) cite cases of trusted insiders committing sabotage due to being ignored for promotion, having diminished role expectations at the end of successful projects, becoming redundant, and receiving no action on sexual harassment complaints. Revenge was found to be the most frequent motive. There are also the well known problems of alcohol and other drug abuse, marital breakdown, gambling debts, and so on.

Further, Piquero and Benson (2004) point out that there is often no criminal record for white collar criminals, who commence offending relatively late in life (see below under the head of 'does age matter?'). Wheeler, Weisburd, Waring and Bode (1988: 354) also indicate most white-collar criminals are first offenders. Weisburd and Waring (2001) found white-collar criminals had relatively few arrests. In the Antipodes, Smith (2003) found over half of the studied serious fraud offenders had no prior criminal record. Notably, such criminals can wreak considerable damage to an employing organisation, and more so in the context of trusted insiders within a security sensitive environment.

Clearly, criminal history checks alone cannot prevent insider crime. Keeney and colleagues (2005) suggest a range of ways of identifying, assessing and managing individuals who

represent potential insider threats. (These are not all listed here and their report is worth consultation). A key finding in terms of the present review was that most insiders had behaved abnormally or even made threats before the incident and that risk behaviour was observed but not necessarily acted upon. Another finding of interest was that detection of the actual incident was usually made by non-security staff. Perhaps most importantly, these authors suggest that insider threats can often be prevented by ensuring that there are reliable and well publicised policies and procedures for paying attention to employees who experience negative work-related events.

A recent article also pointed out that

[i]n several countries within the South East Asia region, there is a presumption statutory obligation in their anti-corruption legislation to explain unexplained wealth for public civil servants – illicit enrichment ... The defendant would need to provide a satisfactory explanation to the court as to how he/she was able to maintain such a standard of living or how such pecuniary resources or property came under his control, and this effectively shifts the burden to the defendant to prove to the Court that the unexplained wealth is not given or received corruptly as an inducement or reward. (Choo 2008b: unpaginated).

Such a provision, as pointed out by the author, criminalises illicit enrichment – when the living standards of public officials exceed their known lawful income or if they control or possess pecuniary resources or property, that are disproportionate to their present or past known sources of income, and when they are unable or unwilling to account for the discrepancy. The provision can also be an effective tool against corrupted 'trusted' insiders.

Kandiah and Kiong (2000) describe a program that reaches beyond criminal records checks to train and utilise non-security staff to assist in the detection of criminal activities at Singapore's Changi International Airport. The program teaches employees to see themselves as security officers, with managers as their security supervisors. It covers threats to airports such as hijackings, bombings, thefts, and robberies. They also discuss the problem of employee theft of company property and resources. It is noted that while terrorism is always a concern at Changi, security's major daily job is investigating 'normal' crime, some of which is committed by airport and airline employees and contract staff. However, there is no mention of any risk or threat posed by security employees themselves.

This brief article by Kandiah and Kiong is one of the very few found in the security and risk management literatures to even verge upon this review's central concerns. Indeed, those of closest relevance typically concern human resource management smart hiring procedures that utilise criminal history checks and available database searches, along with the practical problems of access in that regard - for example Giles (2004).

Summary

First, it is necessary to adequately classify the personnel who need to be vetted as trusted insiders. Secondly, the 'malicious insider' and a 'culture of criminality' are twin threats to security sensitive environments. Prior research is silent on clear linkages between such employment risks and criminal or terrorist organisations. It appears that risks are usually those of isolated trusted insiders who commit crimes. As well, criminal cultures most often have relatively minor consequences. Yet, the real threat is that criminal and/or terrorist organisations might take advantage of criminal cultures and trusted insiders, and penetrate security environments via existing or newly recruited employees. The rest of this report is concerned with what the most relevant, available literatures offer to facilitate the prevention of such employment risks by ensuring security identification cards are held only by trustworthy individuals.

Recidivism and risk-based approaches

The following discussion is not concerned with the broad notion of a 'risk society', although aspects of that concept are at issue. Nor is it confined to considerations of dangerousness in the criminological literature, even though it overlaps with those as well. Further, it does not cover all aspects of risk or threat assessment even in a security-sensitive sense. For example, it does not discuss models concerned with strategic analysis of risk of attacks on security-sensitive sites (for instance, McGill, Ayyub & Kaminskiy 2007), or risk analysis in relation to allocation of defensive resources or the aftermath of terrorist events (Bier & Winterfeldt 2007).

Rather the focus is upon risk-based approaches that might have application specifically to sound employment policy in a security-sensitive environment. The main aim is to discover ways of identifying individuals who are a potential threat as future or existing employees. To a large extent this is a matter of predicting and hence preventing recidivism. Prevention is very often seen in terms of targeted rehabilitation programs within a correctional setting, but prediction of this kind can facilitate crime prevention measures like ensuring security identification cards are not issued to potential recidivists. No studies were located that were directly relevant to the issues of concern in a security sensitive context.

The legalities of criminal record checks by employers in Australia are summarised by Naylor, Paterson and Pittard (2008), who note current efforts on the issue of spent convictions, as well as the Commonwealth Human Rights and Equal Opportunity Commission (HREOC) guideline that employers should confine enquiries to criminal convictions related to the inherent requirements of the job.

With regard to criminal record checks for these purposes, Flesher (2000: 8) observes:

Currently, the more accepted theories of crime are social in nature. That is, the primary causes are found in the social contexts in which people live and the person-in-context interactions. Yet, most practitioners still look to the individual as the source of the problem as well as the solution.

Decisions about issuing security identification cards nonetheless necessarily rely to a significant degree on the practical application of background checks - and for good reason since, for instance, a criminal record has been often found to be a strong predictor of re-offending (for example see below, Makkai et al. 2004: 17). In turn, these checks reflect measures of recidivism such as re-arrest, re-appearance in court, re-conviction and/or re-imprisonment. Although it is often confounded with one or more of its operational measures, recidivism itself can be defined simply as offending further after an initial offence (Drabsch 2006) or 'any and all repeated criminal events over the life course' (Payne 2007: 13).

Flaws and problems in background checks

The examination of criminal history is a central component of recidivism studies. Yet, as noted by Wheeler (2005: 44-46), background checks can be problematic for several reasons, which include:

- fraudulent identification may be used to enable an applicant to avoid scrutiny of his or her identity and past background
- background checks for applicants turn up only those who are already assessed to be national security threats or who are already on record as having served sentences for serious crimes
- (background checks) may not uncover robust evidence of criminality or security concerns overseas

- the criminal records against which backgrounds are checked depend on the consistency, thoroughness and speed with which all State, Territory and Federal courts provide information on their custodial verdicts to databases
- spent convictions are treated differently by different Jurisdictions
- the CrimTrac database does not include data on criminal charges laid or criminal associations
- (issuing authorities have) difficulty in interpreting criminal history assessment criteria
- there is no central body that can access all relevant databases
- it can take up to eight weeks for a background check to be completed
- criminal associations and backgrounds that are not reflected in convictions.

The first of these is of particular concern as it is a growing global crime of some sophistication and it requires ongoing vigilant investigation by law enforcement authorities with subsequent appropriate sharing of information to issuing authorities to prevent criminal or terrorist penetration of security-sensitive defences. The second problem area is a limiting boundary of criminal history and related background checking. The third area is a matter of cooperation and efficiency between Australian authorities and their overseas counterparts. Remaining problem areas largely require Australian authorities to upgrade their administrative efficiencies and information sharing processes.

Additionally, a significant problem for background checks that rely solely on criminal records is the omission of offences committed by an individual who is not charged, prosecuted or convicted on those offences. That is, official records do not reflect the 'dark figure of crime'.

As Naylor, Paterson and Pittard (2008) observe: 'On their own, criminal records are blunt instruments for avoiding risk. They are too broad, but at the same time too narrow, because they identify only people whose behaviour has previously been prosecuted when it is widely recognised that much abusive behaviour has historically gone unreported' (Naylor, Paterson and Pittard 2008: 197).

An example of the deficiency of criminal checks is given by Straw (2007). He reports that a former baggage handler was one of four men arrested in an alleged plot to blow up fuel lines servicing New York City's John F Kennedy International Airport. He points out that none of the alleged plotters had prior criminal records. He also refers to growing support for requiring all airport workers to go through a physical screening station each time they enter a secure area.

Again, a major US study found that only thirty percent of insiders who committed offences against their organisations or former employers had an arrest history (Keeney et al.2005:12).

Recidivism studies

Although central to most recidivism studies, the examination of an individual's criminal history is not the only source of data relevant to predicting whether offenders will reoffend. Nor do 'criminal associations and backgrounds' exhaust the list.

Drabsch (2006: executive summary) observes that:

there are many factors that contribute to the reoffending behaviour of an individual ... amongst other things, the effect education, employment, housing and family networks have on the risk of recidivism. Many prisoners have poor education and employment histories, experience greater rates of mental illness and bad physical health, and have issues associated with drug and alcohol misuse.

Further she comments:

A correlation has generally been found between the risk of reoffending and: the number of prior custodial episodes; age (the younger the offender, the more likely he or she is to reoffend); Indigenous status; and gender (the risk of recidivism is generally greater with males). However, the findings of the studies are not unanimous and some differ on these points. Drabsch (2006: 2)

She also observes the commonly acknowledged problem of accurately predicting the likelihood of reoffending by an individual, as distinct from probabilistic prediction rates that apply to groups (based on aggregated data). Netter (2007) provides an incisive critique of this in his discussion of the Commonwealth of Virginia's program of nonviolent offender risk assessment, which uses predictions of recidivism to make recommendations for the imprisonment of individuals.

Drabsch (2006) concludes:

Recidivism rates are generally influenced by gender, Indigenous status, age, and the number of prior offences. The risk of recidivism is also shaped by a number of other factors such as education, employment, housing stability, links with family, physical and mental health, and drug and alcohol issues. Drabsch (2006: 61).

Again, however, note that she refers to recidivism rates, which apply to groups and cannot be strictly translated to individuals

Drabsch (2006) also summarises nine recidivism studies conducted in Australia. One was by Ross and Guarnieri (1996), who examined 'recidivism patterns of 838 offenders for 7.5 years following their release from Victorian prisons between May 1985 and December 1986' (Drabsch 2006: 7). She reports two findings by these authors of interest for this review:

- Releasees who committed their first offence when aged 14 years or younger were much more likely to be reconvicted and reimprisoned than those whose criminal careers started after they were 18.
- Releasees with many prior offences were much more likely to be reconvicted and reimprisoned than those who had only a few prior convictions. (Drabsch 2006: 8).

Without overestimating the significance of these two results - especially as they are produced from a single, small and time-limited study - they represent the sort of warning signs in any criminal history check that might be of concern for purposes of security identification cards. In making this suggestion, the previously noted cautions by Wheeler (2005) about criminal history checks are worth bearing in mind. Yet these warning signs are consistent with much of the literatures on risk assessment instruments (see next section) and on life course research (see later section on this research and 'does age matter?'), although those literatures are also problematic.

Other interesting research results for present purposes are those of Thompson's (1995) study of prisoners released from New South Wales prisons in 1990–91. Among other results, she found that recidivism was higher for those re-imprisoned quickly and for ex-prisoners who had higher prison security classifications. She also attempted to develop a model of recidivism using statistical tests such as regression analysis, but this effort met with little success. She concluded that:

research designs where the recidivism at different times is used to look at the effect of a particular program should be treated with caution. Some groups with high or low recidivism can be identified for special targeting ... However, not all the inmates in each group had a corresponding high or low probability of recidivism (Thompson 1995: 44).

Makkai and colleagues (2004) evaluated an intelligence-led ACT 16 week policing operation targeting known, high volume property-offenders. Some 64 percent of apprehended offenders reoffended within 18 months. As one might expect from the nature of the offenders examined, the most significant factor in time to reoffending was being a high volume offender.

Further analyses found four significant predictors of high volume offending:

- being a heroin user;
- being male;
- breaching orders; and
- had a violent offence. (Makkai et al. 2004: ix).

More generally, in reviewing other literature, these authors note that:

Studies into recidivism vastly differ in terms of their methodology, operational definition of 'recidivism', and the offender group of focus. However underlying these studies are a number of factors commonly examined — gender, race/ethnicity, age, type of offending, age of first offence, criminal history and sanctioning. (Makkai et al. 2004: 15).

They report that men are more likely to recidivate, although there is evidence that this is a spurious research finding, with some studies suggesting age and criminal history differences are the real factors at work. Yet there is some debate as to this (Payne 2007). Similarly race and ethnicity correlates of reoffending - for example, high rates of Indigenous recidivism in Australia - are debatable, with some writers saying these are better explained as products of criminal justice system processes such as overpolicing or socioeconomic factors such as lack of employment opportunities (for instance, Cunneen 2001; Daly & Lincoln 2003). In relation to the influence of type of offence, they point to evidence linking higher rates of recidivism with property offences (for example, theft, burglary). They also state that 'the strongest predictor of rearrest and its severity is prior criminal record' (Makkai et al. 2004: 17). Finally, they provide a useful appendix summarising recidivism research from a total of 24 references, several but not all of which were reviewed and are cited in this report

Payne (2007) reviewed literature on recidivism in Australia from 1995 to 2004, which largely corroborates the findings of Makkai et al. (2004). He employed a keyword search of the CINCH database to discover a total of 416 items. He qualified this expansive collection in these terms:

Despite the seemingly high number of general Australian research items, these were most likely to have been of a commentary nature. The general paucity of national recidivism research using data from across Australian jurisdictions is noted (Payne 2007: 53).

Nonetheless, his review is the most sizeable concerning robust research within an Australian context discovered for this report. From that review his principal results of interest to current considerations - apart from any noted directly in this report from original sources - were as follows.

The data presented by Payne suggests that an offender who has experienced imprisonment has a 35 to 60 percent chance of returning to prison and within a period of two to five years. Further, it is inferred that the percentage probability of re-incarceration is at the upper level. Payne (2007: 62) himself concludes that 'about two in every three prisoners have been previously imprisoned', 'about one in four prisoners would be reconvicted within three months of being released from prison', and 'that between 35 and 41 percent of prisoners would be reimprisoned within two years of being released'.

Coumarelos (1994) tracked a cohort of 33,900 juveniles who had their first Children's Court appearance between 1982 and 1986. She reported that 69.7 percent of the studied juvenile offenders did not reappear in the Children's Court following their first court appearance and almost half of those were for theft offences. She concluded that reappearance in the Children's Court was predicted by age and most serious offence at first proven appearance, as well as by the number of appearances to date.

Chen and colleagues (2005) studied the transition from juvenile to adult criminal careers to discover that 68 percent of juveniles re-appeared in court; 43 percent reappeared at least once in the children's court; 57 percent reappeared at least once as an adult in the magistrates court; and 13 percent were later incarcerated as adults. The significance of these authors' results has been noted mainly in terms of the 68 percent recidivism rate which contradicts the 'long held belief that most juveniles do not reappear in court after their first criminal conviction' Payne (2007: 48). This belief had been supported by Coumarelos' (1994) study, and it was challenged by virtue of the research design adopted by Chen et al (2005), which took account of the adult court jurisdiction.

Piquero and colleagues (2002: 147) observe that two variables associated with recidivism are heroin and alcohol dependence, whereas two variables associated with non-recidivism are steady (full-time) employment and marriage. It is unusual for studies concerned with recidivism to explicitly focus upon the latter kind of factors, yet those are of equal import to criminal justice policy, including in terms of decisions such as who should hold a security identification card

A focus on variables that induce cessation of offending is important because these are not identical to those that promote recidivism (for example, Blumstein, Cohen, and Farrington 1988a; Laub and Sampson 2001). More is said about this aspect in the next part of this report, however, for instance, one of the factors observed to reduce recidivism is that of successful treatments such as cognitive-behavioural interventions Pearson, Lipton, Cleland and Yee (2002).

Ulmer (2001) cites several comprehensive reviews of recidivism to show:

that the likelihood of recidivism (measured in a variety of ways) is conditioned by offenders' prior record age, gender, race/ethnicity, education, prior record, peer and personal associations, level and quality of employment, and type and severity of the convicted offense. Specifically, this literature shows that women, older offenders, less serious offenders, those with less serious or no prior criminal records, those who are married, those with conventional social bonds, and those with more education tend toward less recidivism, while men, serious drug and property offenders, the less educated, the unmarried and unattached, and those with extensive prior records, the un- or underemployed, and those with criminal associates are more likely to recidivate. (Ulmer 2001: 168).

Ulmer (2001) cites research evidence that sanctions combining supervision and rehabilitative opportunities may discourage recidivism, but that the level of surveillance and control increases the likelihood of probation or program revocation.

He then describes his own study of the role of intermediate sanctions - alternatively known as community corrections - in the probability and severity of recidivism. He selected a stratified random sample of 528 adult felony offenders from a medium-sized Indiana county between 1991 and 1995. The offenders varied in demographic characteristics, offence types and severity levels, prior criminal records, sentences and other characteristics.

He found, generally consistent with previous research, that prior record, sex, offense type and education were consistently and significantly related to the probability and severity of rearrest. Prior record was the strongest predictor of rearrest and its severity - offenders with more extensive prior records were more likely to be rearrested, and for more severe offences. The

same held for property offenders and auto/traffic offenders. Women and the more educated were less likely to be rearrested and then for less serious offenses.

In regard to sentence combinations, rearrest was least likely for offenders subjected to house arrest/probation. The combinations of work release/house arrest and incarceration/house arrest were also significantly associated with decreased chances of rearrest compared to traditional probation. Only house arrest/probation was significantly related to rearrest.

He concludes that intermediate sanctions of any type may potentially reduce recidivism, but only to the extent that they include a rehabilitative emphasis that promotes social bonds to work and family.

Yet recidivism studies, as with other criminological and social science research endeavours, are never free of qualifications. Thus, Ulmer (2001: 184) concedes limitations to his own research to include: 'Rearrest and its severity and probation revocation are not only measures of offender behavior, but also of the activities of police, house arrest surveillance officers, and probation officers'. Also, he reminds us that re-arrest and probation revocations - two measures of recidivism - might represent very different offender behaviours. The former reflect police definitions of criminal behaviour; whereas the latter might or might not do so, or await a court definition (conviction), or only non-criminal violation of probation conditions. Further, his study - concerning the relative performance of community correctional options as a predictor of recidivism - was conducted in a US county that seemed to have a social structural milieu favouring community correctional success; and an offender had to be employed, seeking employment or attending education to be eligible for the program in the first instance Ulmer (2001: 186). In short, as is common in recidivism studies, there were uncontrolled contextual biases affecting study outcomes.

The New South Wales study by Jones et al (2006) focused upon the recidivism prospects of parolees in particular. The principal finding of interest here was that of the influence of prior custodial episodes: some 91 percent of parolees who had at least four prior imprisonments were re-offenders within two years; and 79 percent had re-offended within 12 months. Notably, some 57 percent of those without a prior custodial episode were also re-offenders within two years. It is interesting also to consider this last finding in the reverse fashion: some 43 percent of parolees without a prior prison term did not re-offend within two years. More generally, 23 percent of parolees reoffended within three months of release, 52 percent within a year, and 64 percent within two years.

Also of interest were their findings on influence of prior custody on likelihood of recidivism:

Offenders with one prior custody episode were estimated to be 1.59 times more likely to re-offend at any time than those with no prior custodial history. Those with two to three prior custody episodes were two times as likely as those with no prior custody episodes to re-offend, while those with four or more prior custody episodes were estimated to be 2.84 times more likely to re-offend at any time than offenders with no prior episodes of custody. Jones, Hua, Donnelly, McHutchison and Heggie (2006: 6)

These authors used only static predictor variables in their study - see below 'are criminal background factors truly significant?' Further, they analysed a limited number of predictors and mainly ones of criminal history: that is, aside from age, sex and Indigenous status, the factors were parole type, length of time spent in custody, index offence type, prior convictions, prior full-time custody, and prior drug conviction. Again, their study is limited to a quite specific offender population (2001/2002 parolees in New South Wales). These are some of the typical limitations of recidivism studies.

Jones et al (2006) comment that future research needs to explore the reasons for re-offending. This implicitly acknowledges that their study lacks an explanatory framework and the factors they found to be predictive of recidivism are not reasons as such, but instead are indicators of more basic motivators. For example, the fact of being at a certain age in itself is not an explanation - it is not what brings an individual to offend or re-offend, otherwise

everyone of that age would engage in criminal activities. Rather age is an indicator of an underlying causal process. This lack of explanatory focus is also characteristic of much of the recidivism research, and it is discussed further in the next part of this report.

Lievore (2004) identified a number of risk factors specific to sex offenders and likely recidivism. These include:

- sexual deviancy;
- a history of sex offending, especially early onset of offending and engaging in a range of sexual crimes;
- diversity in offending, including violent and general crimes;
- psychological maladjustment, including substance use or abuse, antisocial attitudes and personality disorders;
- prior sexual victimisation; and
- failure to complete treatment. (Lievore 2004: 60).

Lievore (2004: 39-40) also points out the value of identifying dynamic variables that are amenable to change interventions, as well as that the 'combined use of clinical and actuarial methods provides the most reliable means of assessing risk and understanding the aetiology of sex offending'. These important issues are further examined at some length in later parts of this report, where there is also mention of additional recidivism studies.

Overall, the recidivism literature, including that about Australia, does not contribute directly to an understanding of risk factors and processes in offenders who are likely to reoffend specifically within a security-sensitive context - see, for instance Drabsch's (2006) review of nine recent studies.

However, there are some limited and tentative lessons that can be drawn from that literature. These are discussed below in the concluding remarks of this part of the report, after addressing related bodies of literature.

Risk assessment instruments

Within the stable of recidivism research, risk-based instruments have been developed to make decisions about probabilities of reoffending. Recidivism studies employing such instruments tend to be distinguished by more sophisticated probabilistic methods of statistical testing if not sampling procedures - although much of the 'non-instrument' recidivism research employs statistically sophisticated techniques as well, especially in recent years. There is also more often at least a model (or models) in terms of a set of variables, and sometimes there is an articulated theory that attempts to explain reoffending. However, the main distinction is the fact that there is a focus on prediction by means of a defined risk instrument or model.

Bakker, Riley and O'Malley (1999) conducted a large scale study on the risk of reconviction. They employed sophisticated statistical procedures to examine the relationships between reoffending and criminal histories, as well as social and demographic variables. They developed predictive models for four types of reoffending. The models were subsequently validated using different data sets.

Bakker, Riley and O'Malley (1999: 7) state:

Scales developed to predict recidivism are still imperfect. Nevertheless, the most significant conclusion to be drawn from research is that statistical or actuarial scales consistently outperform the judgements of experts in almost every investigation comparing these two approaches to risk assessment.

However, this conclusion is not universally accepted (Borum et al. 1999), and it remains true that risk assessment instruments are imperfect. Thus, for instance, Bakker, Riley and O'Malley (1999: 9) themselves cite a number of criticisms of risk assessment devices that aim to predict recidivism. These criticisms include poor psychometric properties, inadequate yield of information and methodological weaknesses. For instance, the failure of information refers to a frequent neglect of such important questions as to whether reoffending is likely to be violent (however, see below in the section on 'predicting dangerousness'). Again, a key methodological problem is often the inability of predictive devices to take account of interactive relationships among variables (but see, for example, Wright et al. 2001). This produces an apparent, though unsubstantiated and unlikely, simple linear relationship between any given predictive variable and reoffending. Other methodological issues include small samples, lack of validation, oversimplified scaling (for instance, simple yes/no categories), restrictive outcomes and follow-up issues.

Follow-up issues are most often cited in terms of difficulties in tracking and determining outcomes for individuals who travel interstate and beyond the reach of the study concerned. This is especially a problem in North America where most prediction research has been undertaken (Bakker, Riley & O'Malley 1999).

However, as several writers have noted (for example Payne 2007) an even more fundamental problem in recidivism research and associated risk prediction instruments is determining a period for follow-up. This has a number of aspects. First, different studies adopt different length periods for follow-up, which precludes accurate comparison of results from one to another and restrains an overview of the weight of research evidence. Secondly, follow-up periods are usually quite short, often being no more than twelve months and typically two years. Payne (2007) observes that the optimal period depends on several factors, including study costs and research purpose. From a security-sensitive viewpoint, a period of at least five years is more reasonable and increases recidivism rates - see Payne (2007); Lievore (2004); as well as 'life course research' and 'does age matter?' A longer follow-up period increases recidivism rates.

Further, offenders are apprehended and convicted at different times; sentenced and, if applicable, paroled for differing periods; then re-imprisoned for differing terms for unexpired portions of any parole-able sentence, as well as for any new sentence due to conviction breaches. Hence, there can be important disjunctions across offenders even within the same study. These aspects present real difficulties in operational measures of recidivism and the tools that are devised for the purpose of predicting recidivism. This set of methodological problems is often ignored in research efforts. (However, see Payne's work under the head of 'the effectiveness of risk-based approaches').

Thus, for example, the otherwise impressive work by Bakker, Riley and O'Malley (1999) does not clearly address these issues, notwithstanding their mention of a five year follow-up period. Another weakness in their research was the 'trial-and-error' approach (instead of a clear theoretical and hypothetical framework) to defining and selecting variables. Their claimed success for their four models therefore deserves further research work. Further research is warranted in any event given the uniqueness of their study, despite their confidence in their validation procedures. It is notable that their instrument continues to form the basis of the New Zealand Department of Correction's allocation of resources for treatment programs (accessed 20 September 2008, <http://www.corrections.govt.nz/research/census-of-prison-inmates-and-home-detainees/census-of-prison-inmates-and-home-detainees-2003/4-current-sentence/4-7.html>).

Flesher (2000) conducted a content analysis on 34 risk assessment instruments and found four major deficiencies: only arrested offenders were used in validation; instruments were comprised of variables not subject to change over time; outcome measures were based on agency mandates; and methodology involved marginal rigor. The current state of offending prediction among criminal justice practitioners was deemed to be poor.

In particular she criticises typical criminal justice risk assessment for its limited focus on offenders who have been arrested or imprisoned: only a small percentage of the total number of actual offenders.

The criticism of static variables refers to the inclusion of age of first conviction, number of prison sentences and escape history in an individual's risk assessment. Hence, someone once assessed as high risk retains that status despite subsequent positive lifestyle changes. In this respect, Borum and colleagues (1999: 324) assert that 'dangerousness or "risk" as a construct is now predominantly viewed as contextual (highly dependent on situations and circumstances), dynamic (subject to change) and continuous (varying along a continuum of probability)'. Although the word 'predominantly' is perhaps an overstatement, there has been a shift in this direction.

Hence, the static variables criticism has been alleviated to the extent that more recent research has examined the role of dynamic correlates of subsequent offending such as education, employment, criminal attitudes and associates, and alcohol and drug use. Including these sorts of variables in scales allows for change to an individual's risk rating consequent to their own efforts and/or treatment. Still, some researchers regard these efforts as premature, pointing to a lack of clear supportive evidence in this regard (Bakker, Riley and O'Malley 1999). Of course, unless research is conducted along these lines, the evidence will never be forthcoming.

Finally, Delisi (2001) has constructed a predictive instrument - based on Moffitt's theory discussed under the later head of 'life course research' - that is designed to differentiate serious, high rate offenders from benign, low-level offenders. This scale of career/serious criminality is offered as following on from earlier scales that have attempted to predict recidivism, especially of serious/high-rate offenders, and often with a policy view of incapacitation. These scales have utilised predictive factors such as arrest/conviction prior to age 16, juvenile incarceration, prior incarceration, incarceration-free periods, narcotic use and employment, among others. Delisi points out that 'scholars were quick to address the methodological shortcomings and ethical dilemmas posed by selecting individual offenders for punishment' Delisi (2001: 79). Indeed, the various efforts to devise such scales over the years have met with failure, resulting in the sorts of severe problems that will be addressed shortly.

Nonetheless, Delisi considers it both premature to abandon the endeavour, noting that a primary goal of crime control policy is to correctly identify a small group of active criminals. (That is also largely the policy aim that sponsors this review). Consequently, he devised and tested an additive scale comprised of these seven items: sex (males deemed as the fundamental risk compared to females), age of onset at first arrest (set at age 14), juvenile predatory arrest (eg for rape, murder), juvenile serious property arrest (eg burglary, auto theft), juvenile felony conviction, juvenile violation of non-incarceration sentence, and juvenile commitment to prison. He chose the four outcome variables of violent Index arrests, property Index arrests, felony convictions, and prison sentences during adulthood, because, he argued, they measure the likely adult outcomes of life-course persistent offenders. Notably, this scale consists of static variables.

Leaving aside several other methodological limitations - some of which Delisi himself acknowledges - his study results showed that the scale outperformed earlier ones in some important respects. For instance, it surpassed the ability of earlier scales to correctly identify low-rate offenders. However, it was not very useful in identifying medium-rate and high-rate offenders, who are of greater concern in a criminal justice and security sensitive sense. Also, it suffered from false positive and false negative problems (see below).

Delisi's study is notable for three main reasons. First, it is indicative of the continuing search for recidivism prediction instruments. Thus, it suggests the possibility of a similar instrument in relation to a security sensitive environment. Secondly, it nevertheless illustrates that this search has not reached a successful conclusion, and it might well not do so to a satisfactory degree in terms of the ethical and practical issues involved (see discussion shortly). Thirdly, therefore, any such instruments that might be employed in security sensitive contexts will need to be conjoined with other procedures to help arrive at reasonable decisions about holders of security identification cards.

Predicting 'dangerousness'

At this point, it is notable that there is a broad collection of psychological instruments available for assessing and predicting whether someone might engage in antisocial behaviours, including criminal conduct and especially in relation to 'dangerousness' (usually meaning some form of interpersonal violence). Williams' (2004) textbook on criminology provides a brief account of some of these instruments within the frame of recidivism. She notes the 'modicum of success' of recidivism studies, but points out that 'the general presumption is that past behaviour alone predicts future behaviour' (Williams 2004: 194) and 'psychological prediction of dangerousness is problematic and unreliable' (199). Still, she avers that the more personalised psychological predictors might be useful.

Some examples of these instruments and related research evidence are worth mention here.

Salekin, Ziegler, Larrea, Anthony and Bennett (2003) developed and investigated a 16 item psychopathy scale (the P-16 scale) with a view to its capacity to predict both general and violent recidivism of adolescent offenders over a two year follow-up period. The scale comprised three subscales that were designed to tap traits of egocentricity, callousness, and antisociality. These dimensions were measured by 'yes/no' answers to items such as 'enjoy teasing others', 'hurt others' feelings without concern', 'did not mind seeing others suffer', and items reflecting conceit and superiority.

General recidivism was defined as any crime that was of a nonviolent nature. Violent recidivism referred to any crime such as battery, assault, or attempting to injure another person. Recidivism was operationally measured in terms of arrest. The P-16 scale had strong statistical analysis support in terms of internal consistency and factor analysis of the subscales. Results showed the P-16 scale predicted both general and violent recidivism, with statistically significant positive correlations.

According to Gretton, Hare and Catchpole (2004: 637), the 20-item Hare Psychopathy Checklist— Revised (PCL–R) is the instrument of choice for researchers and clinicians assessing psychopathy in adults. The significance of this assertion in respect to this review's core concerns is contained in their following statement:

An extensive literature indicates that, when properly assessed, the construct of psychopathy has major implications for criminal justice system professionals' understanding and predicting of long term criminality and violence among adults. This body of research has found that psychopathic criminals and patients, as assessed by the PCL–R, reoffend more quickly, more often, and more violently following release from custody than do other offenders. Further, the PCL–R predicts general and violent recidivism across several cultures, underlining the importance of this clinical construct for criminal justice and mental health settings. (Citations removed). (Gretton, Hare and Catchpole 2004: 637).

This would seem to suggest that, for instance, criminal history checks are unnecessary or of less importance at least in respect to the most concerning potential criminal and terrorist threats from prospective and existing employees in a security-sensitive context. All that needs to be done is to apply the instrument and its companion interviewing procedure to discover the likelihood that any given individual is a psychopath, and if so then appropriate action can be taken. (Of course, other candidates for security clearance might still be checked for a criminal past to provide reassurance against more 'normal' threat motivations as well as presumably non-psychopathic terrorist agendas).

Gretton, Hare and Catchpole (2004) further investigated the ability of the Hare Psychopathy Checklist: Youth Version (PCL:YV) to predict long-term violent, nonviolent, and sexual offending over 10 years from adolescence into adulthood in a sample of 157 court-referred 12 to 18 year old male offenders. They found that the PCL:YV discriminated between high and low risk scorers to predict violence into early adulthood, even after controlling for conduct

disorder, age at first offence, and history of violent and nonviolent offending. That is, the instrument successfully predicted the probability of engaging in violent behaviours, at least among the members of this highly selective offence group.

In addition, they observe:

There are relatively few adolescents who manifest the range of affective, interpersonal, and behavioral characteristics in sufficient intensity, frequency, and duration to warrant a high psychopathy rating. (Gretton, Hare and Catchpole 2004: 638).

Loza and colleagues (2004) undertook a cross-validation study of the Self-Appraisal Questionnaire (SAQ), which is a 72-item, multimethod-multitrait, self-report measure designed to predict violent and nonviolent recidivism among adult criminal offenders. They employed samples from Australia, Canada, England, Singapore, and two from the United States. Sample sizes were 75, 86, 116, 520, 600 and 2,730, all male subjects. This assessment tool includes subscales designed to measure criminal history, criminal tendencies, antisocial associates, alcohol and drug abuse, and anger, among others. Results validated the SAQ across culturally diverse offenders, with no significant differences between research and decision-making applications. The authors argue that, in the case of the SAQ, their results also refute the common criticism of self-report measures that they are susceptible to lying, and self-presentation biases.

However, additional to the typically small and selective samples involved, it is notable that none of these instruments provide certainty in relation to specific individuals. Consider, for instance, the following.

Prediction of 'dangerousness' is an issue that arises particularly within the context of courts imposing indefinite sentences. An example in that regard contextualises some critical issues.

Scott (2008) reports a case of serious sexual violence by an offender where the psychiatric opinion was divided despite clear and agreed facts of the case showing extreme sexual violence by the appellant. The appellant was challenging the imposition of a sentence of indefinite confinement based on the assessed risk of serious physical harm to members of the community. Three aspects of this case are notable in relation to this review's concerns.

First, the first expert considered that there were no signs of conduct disorder in the appellant's childhood that supported a diagnosis of antisocial personality disorder (ASPD). The second and third experts diagnosed an antisocial personality disorder 'equated' with psychopathy.

Secondly, the view of the third psychiatrist was that, despite the diagnosis and even though the appellant fitted into a high risk group, it was very difficult to say what that meant and to predict an outcome for him as an individual.

Finally, prior to his conviction for the index offences, the appellant had a relatively minor criminal history of summary offences such as wilful damage, assault police, and assault occasioning bodily harm. The only prior criminal history signs were two voyeuristic offences of being found in an enclosed yard without lawful excuse.

Important inferences can be drawn from this case. First, the application of risk-based assessment to individuals remains fraught with difficulty. This is so even when there are a number of experts who are presumably very knowledgeable about the research and literature on predicting dangerousness. It is also true even where those experts have detailed ex post facto information about the individual in question. Finally, the criminal history evidence was not considered a clearly reliable predictor of recidivism, especially the nature and level of violent reoffending - although some would argue that any pattern of violence and sexual offending is worrying.

Although there are clear contextual differences, these inferences encourage caution in the easy application of even strongly validated risk assessment instruments to decisions about security identification cards. As with the general recidivism literature, moreover, the literature

on dangerousness and psychopathy does not specifically address the ideologically motivated terrorist. Indeed, the foregoing risk assessment instruments are unlikely to be useful except in cases of terrorists who coincidentally have psychopathic characteristics.

The false positive problem

Additionally, risk profiles are built upon probabilistic foundations. As a result, a proportion of those people who are identified in a high-risk category will not engage in any harmful activity: these are the 'false positive' cases (for instance, Netter 2007; O'Malley 2006; William 2004). That is, risk-based background checking will exclude erroneously some number of applicants for security identification cards. This problem is exacerbated because risk depends on the adequacy of the information creating the predictive instruments. As O'Malley indicates, conviction rates are partly shaped by such factors as police 'working culture', the assumptions of judges and prosecutors, and the social distribution of resources that determine the quality of legal representation for defendants.

Actuarial data do not equate with the diagnosis of a particular individual as criminally inclined or otherwise dangerous. That is rather a matter of complex assessment utilising psychological techniques to interpret the specifics of an individual's presenting symptoms, current verbal and non-verbal communications, past behaviours, personality expressions and social milieu. Even then, disagreement and error are quite possible, as illustrated under the previous head.

The false negative problem

Furthermore, as O'Malley (2006) points out, risk techniques offer no protection against those who are not included as members of a high risk category. That is, risk-based approaches provide no guarantees that those who have no criminal record, for example, will not have, in fact, committed offences, much less have criminal or terrorist intents in gaining security clearance. Applicants for security identification cards need to be scrutinised therefore using supplementary risk assessment procedures.

Ethical, political and cultural issues

Risk profiling can also generate spirals of insecurity, with other unintended and unwanted consequences for broader society. O'Malley (2006) argues that the more risk-related research is carried out, the more previously unknown risks will be identified, leading to demands for greater security, in turn creating lower and lower thresholds of risk. This produces a climate of fear, resulting in increasing efforts to obtain protection, exemplified in gated communities and the 'politics of exclusion'. Ethnically and culturally diverse countries such as Australia are especially prone to this phenomenon, O'Malley argues, and there has been some evidence of this in terms especially of incidents involving members of Australia's Arabic and Muslim communities in recent times. Others have made similar arguments in respect to civil liberties and the criminogenic disadvantaging of offenders from obtaining legitimate life opportunities in a free society (Kurlychek, Brame and Bushway 2007; Naylor, Paterson and Pittard 2008).

In respect to background checking procedures for purposes of security identification cards, it is therefore important to consider and avoid these sorts of consequences. That is, it is wise to ensure that racial and ethnic discrimination does not occur in checking procedures and, indeed, to institute positive discrimination programs alongside them. Given their high rates of imprisonment, Indigenous Australians are particular candidates for positive discrimination in the context of criminal justice background checks. It is equally important to avoid placing obstacles in the path of offenders who wish to pursue a law-abiding lifestyle - see the earlier noted role of employment as a variable negatively associated with recidivism.

The effectiveness of risk-based approaches

As with simple checking of criminal histories, the foregoing research studies and their results are subject to strong qualification, such as indicated in several issues already discussed, as well as the principal riders described by Payne (2007):

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- the purpose and context of recidivism research vary significantly between studies and influence both the methodologies used, the meaning of the research findings, and the level of comparability between different studies
 - the research varies markedly in the ways by which recidivism is measured – researchers focus on different samples of offenders, use different sources of information and data to identify recidivism, apply various counting and quantification rules and use different observational periods. (Payne 2007: 10).

Payne (2007) goes on to discuss several common limits of recidivism research. He observes that the usual interest of policy makers, practitioners and researchers is to assess recidivism in relation to particular population groups or samples. For present purposes, for example, interest is specific to the likelihood that existing or potential employees will engage in criminal or terrorist activities in security-sensitive contexts. Ideally, that interest is best served by conducting research on past security breaches and examining recidivism in such contexts. Unfortunately, this review has discovered no such research to date.

The existing research literature, moreover, deals with a range of different, specific populations of recidivists, which are only broadly comparable. Hence, results from each of these studies can be applied to other contexts of recidivism only in an approximate fashion. The problem here is that of the probabilistic generalisability of results. As Payne (2007: 14) states: 'It is not necessarily the case that research conducted within one jurisdictional or temporal context will be transferable to another'.

Further, Payne (2007) describes another vexed issue of recidivism research:

Those individuals with a higher number of recorded entries are assumed to be more frequent offenders, while those with more severe offences (such as violent offences compared with property offences) are assumed to represent a greater level of offending seriousness. While these two assumptions may hold for the majority of cases, there are situations where administrative data (and indeed self-reported data) contravene these assumptions, generating error in the estimates derived. Should an entry or an event be recorded where no actual offence was committed, offending will be overestimated. Alternatively, should an offence be committed, but never detected or recorded, offending will be underestimated. And finally, should an offence be committed, but not recorded until some time after the actual offence was committed, there is a risk of underestimating recidivism and inflating the estimated time it took for recidivism to occur. (Payne 2007: 19).

Hence, both of the commonly pursued avenues of offending measures - self-reported and administrative data - are only proximal. Payne (2007) provides a succinct account of the many accuracy and reliability issues - at the police, court and corrective services levels - concerning both of these sorts of measures that further illuminates how each is problematic in recidivism research. These various issues result in underestimates and overestimates of offending behaviour that serve as an uncertain basis for recidivism studies and hence for the uses to which those studies are put, including the identification of risk for purposes of security identification cards.

According to Payne (2007: 33), moreover, recidivism studies are unlikely to count inter-jurisdictional offending due to the involvement of administrative data from separate criminal justice systems. He describes a further set of issues around offence definition and counting rules. For instance, an apparent single 'break and enter' crime (to an offender or layman) might be constituted as one or more charges of 'possession of implements with the intent to break and enter', 'wilful damage, unlawful damage or vandalism', 'unlawful entry of a dwelling with the intent to steal', 'stealing', 'possession of, or trading in stolen goods' and 'trespass'.

He also mentions the problem of a variety of definitions and measures of correlates of recidivism such as the term 'juvenile' and the variety of statistical tests that are employed in analysis (Payne 2007: 86). Additionally, he notes the problem of reliance on convenience samples for investigation of recidivism in the adult offender population. Although he discounts this as a major constraint on validity of findings (Payne 2007: 64), it is still an obstacle to generalising results from such studies.

Similarly, Maurutto and Hannah-Moffat (2007) point out that risk tools are logically less effective in predicting 'serious crimes' and violent behaviour in particular, because of the low frequency of such offences. This means that there are small samples from which it is more difficult to draw valid conclusions due to complex and often debated issues such as apply to non-parametric statistical tests.

It is clearly a highly challenging endeavour to integrate results across different studies in the hope of developing a weight of evidence, yet that is the task that is necessary to inform policy development.

Still, the effectiveness of risk-based approaches is evidently superior to clinical assessment according to commentators on the weight of one set of research findings. Yet that does not necessarily mean that risk assessment is indeed superior or that it is best pursued alone without the benefit of clinical insights. There is another body of literature that disputes the wisdom of a singularly risk-based strategy.

Risk-needs assessment

There is a strongly evidenced and argued alternative approach that combines assessment of risk with assessment of need to provide a more comprehensive and dynamic understanding of whether and in what ways an offender is prone to relapse (for example, Birgden & McLachlan 2004; Corrections Victoria 2006; Gendreau 1996; Gendreau & Goggin 1996). This approach has connections with the psychological risk prediction literature, however it is a more broadly applied set of tools and assessment procedures than in the case of psychopathy scales.

For example, a risk-needs approach underpins the allocation of treatment services in Victoria's correctional system, for both prisons and community corrections (Corrections Victoria 2006). It takes account of a broad range of both static and dynamic variables in an offender's background in order to come to a determination of risk of recidivism at any point in the offender's life. Those variables are typically of the range discussed above, but they are taken into account within a particular assessment framework. As Birgden and McLachlan (2004: 6) write: 'Actuarial (or statistical) assessment tools together with structured clinical judgement are considered most accurate in determining risk'. A similar approach is taken in other correctional services, especially in regard to juveniles, as in New South Wales (Drabsch 2006: 26).

The risk-needs approach, however, depends on the quality of training and operational skills of those who put it into practice (Corrections Victoria 2006), as with any assessment procedure. Further, it has been employed to date in correctional services to stream offenders into rehabilitation and treatment programs, rather than in a security-sensitive environment to identify whether potential or existing employees are likely to (re)offend. Accordingly, it would require adaptation to that purpose, although that would be a fairly easy conceptual task. It is also a relatively resource-intensive way of assessing risk of recidivism. So, sizeable resource expenditures could be expected to successfully implement such an approach in the context of security-sensitive recruitment and personnel management. Still, that expenditure must be weighed against the benefits of implementation.

Maurutto and Hannah-Moffat (2007) sound another note of caution here. Someone with a relatively minor offence conviction, but several socio-psychological problems can score higher on a typical scale, thus indicating erroneously that they are likely to recidivate. This is precisely because risk-need assessments incorporate dynamic criminogenic need factors. Instead of reoffending, for instance, a high needs individual may self-harm or engage in other negative non-criminal pursuits.

Re-conceptualisation and validation would accommodate in this regard as 'criminogenic need' would be re-cast in terms of 'criminogenic threat'. The dynamic factors would need to be statistically tested and shown to be predictive of threat potential not treatment requirements. Any particular instrument therefore requires careful construction and then equally careful interpretation when applied to each individual.

Finally, as Gottfredson and Hirschi (1988) pointed out, there remains a critical limitation to risk-based approaches that rely only on statistical modelling and significance tests. A statistically significant result does not alone constitute meaningful significance, as a test of statistical significance does not in itself indicate scientific importance. That is, that limitation is the insignificance of statistical significance in the absence of explanatory theory. In their review of studies that have examined the process of desistance from crime, Laub and Sampson (2001: 30) similarly point out: 'What is not well developed is a coherent framework or theoretical account for explaining desistance'. Accordingly, the next part of this report discusses major theoretical paradigms in this respect. Before proceeding, however, it is timely to draw together the preceding materials.

Summary and concluding remarks

From the research reported above there are several important conclusions.

First, criminal history checks are fundamental to sound hiring and firing procedures, yet they suffer a number of flaws and problems. Further, it is evident that alone they are insufficient to support decisions concerning security identification cards. It is also notable that the recidivism and risk-based research is generally limited in a number of important respects. There is a range of methodological restrictions that prevent unambiguous comparison across studies - such as differences in basic operational definitions, measurement counting rules, offender study groups, and jurisdictional, temporal and socio-cultural contexts, among other variations. Moreover, there are accuracy and reliability issues in both the self-report and administrative data that are necessarily relied upon for operational measures of recidivism. There are also general difficulties of uncontrolled variables such as the influence of activities of criminal justice personnel (police, parole officers etc). Further, studies often simply examine factors without considering possible interrelationships via models. Even where there is statistical analysis, that is too often limited to simple frequency data and correlations. Besides, there are numerous statistical tests employed, each with its own set of assumptions, applications and interpretations of results, and these are neither universally agreed or their results necessarily comparable across studies. Payne (2007) makes a similar point when he notes that what is found to be statistically significant in a simple bivariate test may not be so in a multivariate test that takes account of interactive effects.

There are also problems with the generally more sophisticated recidivism research on risk assessment instruments, which are not immune to the foregoing issues. Criticisms include poor psychometric properties, lack of validation, a narrow focus on risk, small samples, oversimplified scaling (for instance, simple yes/no categories), limited and variable operational measures of recidivism, and several complex follow-up issues. Many of these criticisms also apply to the most sophisticated and validated psychological scales that measure psychopathy and attempt to predict the potential for violent reoffending.

Risk assessment instruments have not been developed with regard to terrorist motivators. Further, it seems unlikely that such predictive devices could be readily devised given that the characters, lifestyles and cultural backgrounds of known terrorists have been often noted not to diverge significantly from the norm of their larger societies. Still, that remains an empirical question open to future dedicated, rigorous research.

The risk-needs approach, which takes account of criminogenic needs as well as risk prediction based on criminal history factors, also has limitations. These include a dependence on quality of training of assessors, resource intensive commitments, and untried application in relation to a security-sensitive environment. Again, a risk-needs instrument can suffer most of

the same problems as those of general recidivism research and risk-based approaches. It requires careful crafting and individual interpretation.

A key general limitation of recidivism and risk-based research (including a risk-needs framework) is that probabilities apply to aggregate data (groups). That is, strictly speaking, statistical and other probabilistic research results do not apply to particular individuals. This produces errors of both over- and under-estimation. As well, there are ethical, political and cultural issues of note. Very significantly, there is also commonly an absence of theory and hence explanatory logic to guide research.

Given these many restrictions and problems, there are serious questions about interpretation of even the weight of available evidence. This is additional to the apparent dearth of studies directly relating to recidivism in a security-sensitive environment. Yet policy and procedure in this regard require the best information base available.

Variables most often associated with recidivism

It is nonetheless not only possible but necessary, for policy reasons, to summarise the variables that are most often associated with criminal recidivism, and that therefore might contribute to decisions about security identification cards. The following list shows these variables and some of the empirical relationships to recidivism found in the research literature, although not necessarily widely so. (Note that some are variants of each other, to illustrate definitional issues).

- criminal history
 - number of prior offences: eg many priors, (much) more likely to reoffend, to be re-arrested and for more severe offences
 - type of offending (but see later discussions on versatility of offending in the next part of this report):
 - property offences such as theft, burglary associated with higher rates of recidivism; property and auto/traffic offences, more likely to be rearrested and for more severe offences
 - robbery or assault/violence, breach of parole/justice/drug court order, and extra-familial child molestation (especially if focused on a type of victim or behaviour) are all associated with recidivism
 - serious drug and property offenders more likely to recidivate
 - severity of conviction offence(s): more severe, the greater likelihood of recidivism
 - number of prior convictions: eg many priors, (much) more likely to reoffend
 - criminal sanctions:
 - higher prison security classifications associated with higher recidivism
 - community corrections with a rehabilitative emphasis may reduce recidivism
 - prior imprisonment: 35% to 60% chance of reimprisonment within two to five years
 - number of prior custodial episodes: positively related to recidivism
 - parole: 91% of parolees who had at least four prior imprisonments were re-offenders within two years and 79% had re-offended within 12 months; 57% of those without a prior custodial episode were also re-offenders within two years.
 - re-arrest: none within ten years of an arrest, court appearance, conviction or sentence expiry - further officially actioned offending is unlikely

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- age
 - age at first offence: eg younger the offender, the more likely to reoffend
 - onset at 14 years or younger: (much) more likely to be reconvicted and reimprisoned
 - onset at 18 years or older: (much) less likely to be reconvicted and reimprisoned
 - the majority of juvenile offenders re-appear in court (eg 68% in one study)
 - the great majority of juvenile offenders avoid incarceration as an adult (87% in one study)
 - gender: males more likely to offend and reoffend
 - race/ethnicity/ Indigenous status: sometimes found to be a significant indicator but subject to strong qualification as a spurious variable
 - education: less educated more likely to recidivate
 - employment
 - employment stability: steady (full-time) employment associated with non-recidivism
 - level and quality: some evidence but unclear
 - the un- or underemployed are more likely to recidivate
 - housing
 - housing stability: recidivism related to unstable housing
 - marriage: unmarried and unattached are more likely to recidivate
 - social bonds: those with conventional social bonds tend toward less recidivism
 - family networks
 - strength of links: positively associated with recidivism
 - peer and personal associations
 - those with criminal associates are more likely to reoffend
 - mental illness: often found to be associated with recidivism
 - drug misuse: often found to be associated with recidivism
 - alcohol misuse: often found to be associated with recidivism
 - poor physical health: sometimes associated with recidivism

To conclude this part of the report, it is evident that prior criminal history is of fundamental importance to an assessment of the likelihood of reoffending. However, it is equally the case that the research evidence indicates that it is not to be relied upon solely, and that even the most evidenced recidivism relationships are not simple and straightforward. To decide who should hold an identification card in relation to security-sensitive employment demands a more robust and comprehensive procedure. That procedure would best incorporate a criminal history check and assessment of the key dynamic variables listed above within a broader risk-needs framework along with judiciously targeted psychological tests.

The next part of this report is concerned with how these variables can be more meaningfully construed within a theoretical frame and potentially utilised in a policy practical sense in terms of this review's purpose

Are criminal background factors truly significant?

Within the broader criminology literatures, there is a specific body of literature on theory-guided research that investigates the linkages (if any) between criminal background factors and criminal recidivism. This body of literature clearly addresses the broad question of whether criminal background factors - such as the many identified in the preceding part of this

report - are substantively meaningful to reoffending and not merely statistically significant to recidivism.

Two points can be noted. First, the question of whether there are criminal background factors that have been evidenced in some way as conducive to a criminal culture is not an easy one to answer. No studies were discovered in this review bearing directly upon this question or, for that matter, other research questions posed for this review. So it is necessary to take a broader view and to examine secondary discourses that provide insights for this purpose.

Secondly, some specific criminal background issues are identified by Wheeler (2005: xiii) as those of 'major criminal associations', a 'pattern of criminality', and that of 'criminal charges laid' but not yet finalised (Wheeler 2005: 45). Wheeler notes that the CrimTrac database does not include data on these issues.

These and other criminal background issues can be placed in the context of the criminological literature in terms of a crucial theoretical and methodological debate proponents of between self-control theory and proponents of criminal career research. These opposing approaches represent static and dynamic accounts of causation of crime and criminal recidivism. Those who espouse the static, self-control approach reject the role of criminal background factors in favour of explaining criminal (and other anti-social) conduct in terms of a genetic disposition, or 'criminal propensity'. In contrast, proponents of the dynamic, criminal career approach not only accept observed frequencies, correlations or other statistically significant links between those factors and reoffending, but they are also inclined to theoretically explain those relationships in causal terms. That is, sometimes implicitly but more often explicitly, career criminal theorists say that identifiable life stage events induce people to cease or to continue or even start criminal activities.

The following shows how this debate in the recidivism research literature relates to present concerns.

The Gottfredson-Hirschi critique

This debate commenced two decades ago when Gottfredson and Hirschi (1987: 608) rejected the idea that 'major changes in criminal activity are associated with entry into or exit from roles, institutions, or organizations' - a key tenet of the opposing position (outlined below). Instead, they proposed a general theory of crime - known as self-control theory - that asserted low self-control promotes more crime than greater self-control (Gottfredson & Hirschi 1990). That is, variation in an internal trait explains variation in offending. Low self-control individuals are theorised to lack diligence and persistence, have poor social involvement, be unable to maintain responsible employment or to consider long-term consequences, and so are prone to commit crime.

In comparing their approach with that of their competitors on the issue of versatility, moreover, these authors note a fundamental difference between their view and that of criminal career/life course researchers:

Alleged causal connections from one perspective between unemployment and property crime or between marriage failure and drinking are from the other perspective merely illustrations of the versatility of offenders and the enduring consequences of low self-control. (Hirschi and Gottfredson 1995: 134).

Hirschi and Gottfredson apply the term versatility (also known as generalisation or diversity) to not only criminal behaviours but also unemployment, marriage failure, drinking and similar presumed negative if not anti-social activities. In their view all of those socially undesirable outcomes are assumed to be effects of the one latent factor called 'poor self-control'. In contrast, others apply the term more restrictively to refer to offending across a spectrum of offences or a diversity of 'types' of crime. Individuals who commit a range of different sorts of offences are versatile; they are generalists rather than specialists. In this latter view, factors such as marital breakdown and unemployment are potential causes or motivators of offending - and thus require empirical investigation as such.

A correlate of the Gottfredson-Hirschi approach is an invariant age-crime curve: involvement in crime rises steadily in middle adolescence, peaks at early adulthood, and then declines sharply thereafter - and this occurs regardless of social and cultural conditions, demographic or institutional factors, or time and place (Hirschi and Gottfredson 1995: 135-136). All offenders commit fewer crimes as they grow older (desistance is a universal process) and therefore there are no distinctive groups of recidivists. That is, the age-crime relationship operates independently of the influence of life-stage variables and regardless of whether individuals are high or low rate offenders. Delisi and Vaughn (2008) state the essential reasoning thus:

both high-rate and low-rate offenders followed the same general pattern of offending; even high-rate offenders desisted from crime and were generally unproblematic during their adult years ... high-rate offenders always offend more than low-rate offenders. (Delisi and Vaughn 2008: 521).

Another part of the critique launched by Gottfredson and Hirschi involved their assertion that the methodological position of opposing theorists who emphasise dynamic explanations of crime - which essentially involves longitudinal or cohort research - is unnecessary, costly and counter-productive to efficacious policy (Gottfredson & Hirschi 1987; 1988). They declared that cross-sectional studies were substantially less costly and more germane to robust policy formulation. In their view, 'longitudinal data may be excessively complicated and difficult to interpret' (Hirschi and Gottfredson 1995: 132). Longitudinal research was unnecessary and produced illusory results because the evidence did not support age variations and life-stage influences in crime, nor therefore their by-product of a 'criminal career'.

The concept of a career, they stated, has hallmarks of a beginning and an ending, variable duration, specialisation and levels of accomplishment, among other characteristics. They roundly criticised this concept as being untenable in the face of 50 years of research that had demonstrated that offenders do not engage in progressively more serious offences as they grow older; nor specialise in particular types of crime; nor that partitioning offenders into juveniles and adults assists understanding the question of specialisation (Gottfredson & Hirschi 1988: 39). They further stated that the position that crime does not or may not decline with age among active offenders is contrary to the evidence (Gottfredson and Hirschi 1988: 51).

Further, for these authors at least, the law enforcement community and criminal justice policy makers 'appear to believe that the goal of career research is to locate real, live career criminals (whatever they may be called) and to treat them accordingly' (Gottfredson and Hirschi 1988: 52). That does seem a reasonable presumption, as reflected in the security sensitive concerns that have given rise to this review.

What the Gottfredson-Hirschi critique means for security identification card issues

The Gottfredson-Hirschi position suggests three important points for this review. First, since criminal recidivists are essentially driven in their antisocial behaviours by something that is inherent or at least developed in early childhood as a hardened attitudinal disposition, no external factor can impact or reduce those behaviours. Secondly, in any event, criminal conduct will dissipate over time without any external influence. Thirdly, moreover, the most entrenched and serious reoffenders are also subject to those natural dissipation processes and thus they also will not be impacted by external pressures.

In short, interventions aimed at actively modifying criminal behaviours are ineffective, so policy is best directed towards identification and containment of criminals generally and presumably prioritised in these ways to high-volume, serious offenders. Indeed, 'the current fascination with factors affecting post-adolescent crime trajectories is hard to justify on theoretical or policy grounds (especially when we know the decline will occur in any event' (Hirschi and Gottfredson 1995: 136).

(Ironically, Gottfredson and Hirschi (1987; 1988) do not argue for incapacitation policy and, indeed, argue that is the implication of the criminal career position. Yet it is neither embraced nor rejected by prominent advocates of the career view (Blumstein, Cohen, and Farrington 1988a), who point out that criminal justice processes tend to incapacitate 'career criminals' anyway due to their more frequent and more serious offending behaviours).

In terms of this review's focus, the principal inference to be drawn from the Gottfredson-Hirschi position is that the static factors to be found in a criminal history check serve sufficiently well for the purpose of determining who should hold security identification cards. At most, relatively inexpensive cross-sectional research is indicated as adjunctive for this purpose. The only policy relevant needs are to identify the serious and repeat offenders, then take account of the uniform reduction effect associated with the age-crime curve. In the context of security identification cards, that effectively means a blanket rejection of offenders with an early and repeated criminal history, which might be shored-up or supplemented through simple design studies to discover specific offending patterns and so on.

The criminal career paradigm

In contrast to the Gottfredson-Hirschi approach, other theorists point to developmental processes over time. This school of thought brings into play a much wider set of variables than simply a static, inherent propensity to be law-abiding or to engage in criminal conduct. That set of variables include especially those of a dynamic nature listed in the preceding part of this report. This view commends adopting a criminal career paradigm for investigating elements such as onset, career length or span, continuity, escalation, versatility and specialisation, desistance, and termination (Blumstein, Cohen, & Farrington (1988a, 1988b); Blumstein et al. 1986).

In this view, a key distinction has been drawn between incidence or frequency of offending and prevalence of offending (or participation in offending). The latter signifies the fact that the overwhelming majority of citizens do not engage in criminal conduct. The former is taken as the focus of interest, partly to establish subtypes of criminality (Hagan & Palloni 1988: 88). That is, the aim is to investigate the possible existence of a group of offenders who are 'sufficiently persistent in their criminality as to offend at a near constant rate', as operationally measured by an age-specific ratio called 'lambda' (Hagan and Palloni 1988: 88) - where lambda refers to the frequency of offending by active offenders, or the individual crime rate, as distinct from crimes per capita, or the aggregate crime rate for a population (Blumstein, Cohen, and Farrington (1988a). These are the high-rate offenders thought to constitute a distinct group - see shortly Moffitt's (1993) 'life-course-persistent offenders' - that is conceptualised in the notion of a 'career criminal' and its companion concept of a 'criminal career'.

Methodological correlates of this position include studies that follow offenders over long periods of time. One of the key reasons for this preference is that cross-sectional studies have problems with causal inferences, and especially in relation to individuals.

Cross-sectional surveys can only show that *variations* (between subjects) in one factor are *associated* with variations in another factor. In contrast, longitudinal surveys can show that *changes* (within subjects) in one factor are *followed* by changes in another factor ... Longitudinal surveys make it possible to study *both* changes within subjects and variations between subjects ... Generalising from variation across subjects to changes within subjects involves an inferential conceptual leap that is often unjustified. (Blumstein, Cohen, and Farrington 1988b: 70-71, original emphases).

These authors also point out that longitudinal studies can be retrospective or prospective, and quasi-experimental, which strengthens the overall research design to produce more robust and rigorous results (Blumstein, Cohen, and Farrington 1988b).

As well, there is value seen in investigation of not only offenders but law-abiding citizens in complex, control group studies designed to discover whether apparent recidivist related variables are genuine rather than spurious. Hagan and Palloni (1988) put one aspect of this methodological issue in these terms:

One way of seeing this is to note that a focus on high-rate offenders without consideration of the larger population from which they are drawn constitutes a severe form of sample selection that if left uncorrected invites significant specification errors in the modeling of criminal behaviour. Alternatively, if selection into a sample of high-rate offenders is properly built into an analysis of persistence in crime, models of persistence in crime should produce results that are comparable to those that derive from models of participation. The study of persistence in crime can and should be encapsulated conceptually and methodologically within the study of participation in crime. (Hagan & Palloni 1988: 89).

Blumstein and Cohen (1987) distinguish the notion of a 'criminal career' from that of a 'career criminal', seeing the former as a metaphor for the longitudinal process, and the latter as referring to offenders who have a demonstrated history of serious dimensions.

Similarly, for Delisi (2005) the career criminal is someone who engages in a life of anti-social behaviour, being first apparent in early school years as disruptive, bullying and other forms of threatening conduct, then by adult years becoming evidenced in variegated and continuing crimes that include severe offences. A criminal career refers to this pattern of offending that generally characterises a career criminal.

Farrington (1992: 521) says that:

This approach defines a 'criminal career' as the longitudinal sequence of offences committed by an individual offender. It is possible to study criminal careers of larger aggregates, such as families, gangs, or communities, but the focus in my paper is on the offending of individuals.

In their response to the criticisms of Gottfredson and Hirschi, Blumstein, Cohen, and Farrington (1988a) state:

Dictionary definitions of the term "career" specify two different concepts: a course or progress through life, and a way of making a livelihood. The term is used in the first sense when describing a "criminal career." The term "career" is intended only to describe the sequence of offending during some part of an individual's lifetime, and not to suggest that the offender necessarily uses his or her criminal activity as an important means of earning a livelihood. Criminal careers are characterized during a lifetime by a beginning (onset or initiation), an end (dropout or termination), and a duration (career length). Blumstein, Cohen, and Farrington (1988a: 2)

However, they go on to concede that there are many definitions of the construct "career criminals", and they note that both "career criminals" and non-career criminals have a criminal career. They state that: 'Most such definitions, however, emphasize some combination of a high frequency of offending, a long duration of the criminal career, and high seriousness of offenses committed' (Blumstein, Cohen, and Farrington 1988a: 22).

At the core of this controversy is the issue of whether there is such a thing as a 'criminal career' or 'career criminal' and the meanings that are to be ascribed to those terms. In turn, for instance, this questions the role of criminal background factors in relation to crime generally and, presumably, to criminal, if not terrorist, threats to security-sensitive concerns. If the Gottfredson-Hirschi critique is accepted then there is little point in exploring such terrain. If

their position is rejected, or at least not fully embraced, then it is useful to investigate the possible contribution of dynamic criminal background factors to security-sensitive matters, and how those might vary over the life course in shaping individuals' criminal careers - or removing individuals from the path of a life of crime - and perhaps creating a culture of criminality.

As Greenberg (2006) writes, the idea of a universal age-crime curve espoused by Gottfredson and Hirschi has fallen into disfavour over the years and the following indicates what has taken its place.

Life course research

The criminal career paradigm is associated with what has become known as life course research. Importantly, unlike much of the previously examined recidivism research, such investigations are often anchored in an articulated theoretical framework. Studies in this genre that are driven by theory offer an explanation, not simply frequencies, rates or correlations, or models involving only probabilistic predictions (see 'recidivism and risk-based approaches'). Much of the previously cited recidivism research is concerned with life course variables but without explicit theoretical linkages, so it is difficult to discern how or even if the researchers concerned seek to explain the discovered relationships.

Consistent with the idea of a criminal career or career criminal, life course research is focused essentially on examining how criminal behaviour develops or ceases during stages and at systematic turning points over the life span.

Moffitt's (1993) work has become a basis for much of the later research. She distinguished between two categories of offenders: life-course-persistent and adolescence-limited, each having a unique natural history and aetiology. The former is said to be a small group engaging in antisocial conduct at every life stage. They are also highly versatile in offending behaviour - that is, they engage in a wide sweep of offences during their lives. The latter is a larger group whose antisocial activities are short-lived in adolescence and their scope of offending is limited to rebellious acts of independence such as drinking, joy-riding and minor theft.

The key to understanding the differing endurance of these offenders is theorised to be in maturation of the latter, who 'mimic antisocial behavior in ways that are normative and adjustive' within a socio-historical frame, whereas the former 'children's neuropsychological problems interact cumulatively with their criminogenic environments across development, culminating in a pathological personality' (Moffitt 1993: 674). For these, Moffitt sees:

The prognosis for the life-course-persistent person is bleak: Drug and alcohol addiction; unsatisfactory employment; unpaid debts; homelessness; drunk driving; violent assault; multiple and unstable relationships; spouse battery; abandoned, neglected, or abused children; and psychiatric illness have all been reported at very high rates for offenders who persist past the age of 25. (Moffitt 1993: 679).

Unlike the Gottfredson-Hirschi thesis, membership of these distinct groups is theorised to be determined over time as individuals' malleable offending behaviour is shaped by external influences, which retard or facilitate maturation of the individuals concerned. Once ensnared into the life-course-persistent group, however, an individual has a dark future involving a pattern of repeated and differentiated offending in effectively a culturally concreated lifestyle (or 'criminal career').

Moffitt's theory has since been tested through research studies with varying results. Some of these include the following.

Mazerolle and colleagues (2000) examined how the interaction between gender and age at onset of offending related to offending specialisation versus generalisation/versatility. In doing so, they sought to address what they see as one of the deficits in much of life course research

by explicitly linking their analysis to a theoretical framework: the taxonomic theory of Moffitt (1993). They analysed a subsample of police records from the second Philadelphia Birth Cohort study (Tracey et al. 1990) on 3,655 individuals of whom 13 percent were females. They employed early onset as a proxy for identifying life-course persistent offenders.

They found that, regardless of gender, early age offenders who persisted into adulthood exhibited more diverse and versatile offending patterns in accord with Moffitt's theory (which de-emphasises gender due to the relative dominance of males in offending). They also noted limits of their study, including that it was confined to a single United States jurisdiction during one period.

Another study that examined interactive effects included Moffitt herself as one of its authors (Wright et al. 2001). They state that:

First, we view prosocial, conventional social ties, such as employment and partnership formation, as having their strongest deterrent effect among antisocial individuals. Second, antisocial, unconventional social ties, such as delinquent peers, can also serve as negative turning points, as they exacerbate and amplify antisocial individuals' tendencies. (Wright et al. 2001: 342).

They also discussed their results in terms of both self-control and differential association theories. They concluded that the former's main thrust of an innate propensity to commit crime was modified by life course variables. They also found that, while differential association does occur, the criminogenic effect of delinquent peers declines with increases in self-control over the life course. Further, Moffitt (2002) concluded that there is a new developmental stage called 'emerging adulthood' that prolongs adolescent conditions, with true adulthood commencing from age 25.

The self-report study by Donker, Smeenk, Laan and Verhulst (2003) supported Moffitt's modified 'life-course-persistent' thesis of 'emerging adulthood' with true adulthood beginning from age 25. However, these authors concluded that their results support yet another modification to the effect that although most juveniles cease overt anti-social behaviours by age 20 to 25, they nevertheless persist with covert anti-social behaviours. (Notably, these two classes of behaviours are both overt in the usual sense, with the former being a measure of strong violence and the latter largely a measure of property offending).

Piquero and colleagues (2002: 159-160) found that many of their study subjects - serious offenders in 'emerging adulthood' - appeared to be on a trajectory toward desistance on the basis of post-release arrest records. From their results, they concluded that informal social bonds are important and that most parolees approaching their late twenties are on declining criminal trajectory paths. In turn, they conclude that there is reason to question the claim of 'life-course persistent' offenders posited by Moffitt and subsequent researchers.

Another foundational impact on life course research came from the work of Laub and Sampson (1993). They argued in parallel with Moffitt that informal social control networks of family, school, workplace and other institutions are critical to constraining individuals from translating any criminal propensities into continuing criminal behaviours. In this view, individuals with low social capital issuing from their interpersonal networks can become trapped into a 'cumulative continuity of disadvantage' and a life of crime. However, they can be diverted into law-abiding lifestyles by pro-social bonding at turning points in their lives.

Almost a decade later, Laub and Sampson (2001) returned to this 'life-course theory of age-graded informal social control' arguing that 'it is useful to distinguish desistance as a process from termination of criminal activity as an event' and that the 'key elements seem to be aging; a good marriage; securing legal, stable work; and deciding to "go straight," including a reorientation of the costs and benefits of crime' (Laub and Sampson 2001: 3). Moreover, 'strong social bonds could explain desistance from criminal behaviour in adulthood, despite a background of delinquent behavior' (Laub and Sampson 2001: 19). They also refer to the 'fundamental finding that early onset is linked to a longer career' (Laub and Sampson 2001:

17). Finally, it is notable that Laub and Sampson (2001: 13-30) provide summary discussions of a broad collection of both general recidivism and criminal career research studies to the date of their writing; and their review of findings of that body of work is generally consistent with those discussed in this report (partly due to overlapping studies under review).

Sampson and Laub (2003) set out to redress a key criticism of the Gottfredson-Hirschi thesis, which was that those theorists 'relied on aggregate cross-sectional data on age and crime rather than on data following the same individuals over a substantial portion of the life course' (Sampson & Laub 2003: 560). To do this, they analysed newly collected data on the 500 men originally subjects in the classic studies by the Gluecks (1930, 1940, 1950, 1968: see also Gottfredson & Hirschi (1987) for a succinct account of the Gluecks' work). They also intended to remove biases due to high-rate offenders being subject to possibly higher death rates as well as more frequent and longer prison terms. They added new data on criminal and death records along with interview materials to the wealth of information collected by the Glueck's research team.

Sampson and Laub (2003) found that the criminal career model is justified in terms of studying within-individual trajectories. However, the aggregate age-crime curve is not identical to individual trajectories, and childhood prognoses do not predict group membership for individuals. Crime does decline with age even for active offenders as a general trend, but this cannot be translated to individuals. In their words, both prospectively and retrospectively, 'group membership is not easily, if at all, predictable from individual, childhood, and adolescent risk factors' (Sampson and Laub 2003: 585).

With an accounting of mortality and incarceration factors, moreover, 'the patterns remained remarkably similar even though, as expected, the more delinquency the greater the likelihood of early death and incarceration' (Sampson & Laub 2003: 586). So those factors did not disguise involuntary early departure of persistent offenders from the risk pool.

They offer the concept of 'life-course desisters' to indicate 'the apparent fact that all offenders desist but at time-varying points across the life course' (Sampson & Laub 2003: 588).

Blokland and Nieuwbeerta (2005) found a positive relationship between marriage and not being convicted of an offence, with separation having once been married increasing the likelihood of conviction, and no effect from parenthood, although this is a simple description of their complex research findings. Their work was also very sophisticated, being conducted with two distinct data sets with statistical testing of precisely defined hypotheses.

In their review of life course research, Piquero and Benson (2004) summarised it as positing the importance of abusive or inadequate parenting interacting with neuropsychological deficits; weak social bonds with family, school, and peers; and fortuitous events such as a good marriage, stable employment, or military service. They concluded that parents and family are most important in early life, followed by school and peers in adolescence, and intimate partners and occupational outcomes in late adolescence.

Piquero and Benson (2004), however, also draw attention to the failure of life course research to investigate the antecedents of white collar crime, which typically begin in adulthood. They note the lack of quantitative data and a statistically valid picture on white-collar offenders. What evidence is available, however, indicates that white-collar offenders are middle class, small-time entrepreneurs and midlevel office workers, a substantial proportion of whom are repeat offenders (Piquero & Benson 2004). However, Benson and Moore (1992) observed that white-collar offenders generally tend to have fewer (if any) criminal records and lower deviance compared to street offenders, and self-control is not a factor in white-collar crime.

The inference to be drawn here is that the usually identified criminal background factors are not the sole source of concern for vetting applicants for a security identification card. Further, it suggests that attention is required not only in relation to the obvious operational security roles, but also for to administrative positions. For example, the manager with access to intelligence data on security defences is a security risk at least as much as any cleaner when they both have a gambling problem.

Life course research thus identifies criminal background factors that are potentially useful to understanding the creation of a criminal culture in organisational contexts and hence in relation to the threat and risks of such in a security-sensitive environment. However, the problem for present purposes is that this research stream tends to embed the identified factors in models that are not readily translated to practical applications such as discovery of individuals who represent a threat or risk in a security-sensitive sense. Each model, such as that of Flesher (2000) (see below), must be applied separately to retain its validity and no single model has achieved a general consensus for practical applications.

Self-control theory and criminal career research

Not all researchers have been willing to accept a clear divide between self-control theory and criminal career research.

In contrast to the Gottfredson-Hirschi critique, Delisi and Vaughn (2008) assert that self-control theory is not antithetical to investigating criminal careers, but rather complementary. They studied low self-control as analogous to criminal propensity and examined its predictive validity of career criminality among 723 incarcerated delinquent youths. They found that low self-control was highly predictive of adoption of a criminal career across four measured dimensions. Further, they found that 'low self-control was overwhelmingly the strongest predictor of career criminality and far exceeded the impact of age, race, ethnicity, gender, socioeconomic status, mental illness, attention deficit hyperactivity disorder diagnosis, and trauma experience' (Delisi & Vaughn 2008: 520).

Their study is obviously limited in terms of sampling procedure and sample numbers, as well as being essentially a pilot study. However, unlike a great deal of criminological research (including in relation to recidivism), they employed an index and three scales as well as sophisticated statistical techniques such as exploratory factor analysis. Also they cite a small body of research evidence in support of their contention that low self-control is a critical factor in recidivism. Yet they also comment upon the unresolved conceptual issue of whether self-control can be equated with criminal propensity. Further, they acknowledge also that the data are cross-sectional not longitudinal and there are demographic deficits in analysis.

Again, for example, Flesher (2000) has proposed a criminal lifestyle model for investigating the likelihood of repeat offending. It identifies key predictive variables of age, gender and victimisation, along with the criminal lifestyle factors of drug and alcohol use, impulsivity, risk taking behaviour, association with delinquent peers, isolation from family, and techniques of neutralisation.

Aside from its obvious placement in the criminal career paradigm, Flesher argues that the model is supported by several existing criminological theories, including that of social control. She argues that the model thus provides strong explanatory power and was found to predict frequent offending among a sample of actual offenders without any dependency on prior criminal history. Her methodological approach involved longitudinal self-report data, plus local and national police record searches, as well as testing of correlations, linear regression and factor analysis. Hence, it did not rely solely on official data and it was methodologically robust and rigorous. However, it would require further validation through replication and broader research.

Finally, Piquero and colleagues (2002: 162) found that local life circumstances were associated with different effects across distinct offender trajectories and offence types. They concluded that neither a static or dynamic approach was sufficient to understand offending across the life course.

Summary and concluding remarks

Both paradigms endorse the general finding that involvement in crime rises from middle adolescence peaking in early adulthood and declining thereafter. The disagreement is whether this is universal or patterned according to life stage vicissitudes. A universal age-crime curve is not now generally endorsed by researchers.

Research interests are now commonly focused on issues of onset, career length or span, continuity, escalation, versatility and specialization, desistance, and termination of offending behaviours. Researchers are inclined to favour complex longitudinal and control group studies of offenders and law-abiding citizens, rather than simpler cross-sectional designs.

However, as Tittle (1998) argued, there remains a healthily diverse research community that stretches across the preceding viewpoints and, indeed:

It is entirely possible (even plausible) that there is a basic age/crime association that is quite general (without necessarily being invariant) at the same time that some categories of individuals or some aspects of offending (such as rate of offending over some time period among those who offend) deviate from that basic pattern. The two are not inherently incompatible; thus it makes sense to investigate the question fully without prejudging outcomes. (Tittle 1998: 76),

Bearing in mind that it is not an entirely homogeneous theoretical approach, and that it involves some notable ambiguities, major findings from this stream of research include the following.

- Delisi and Vaughn (2008: 522)
 - 'A critical finding from criminal career research was that offenders, even high-rate and career criminals, frequently changed their offending behavior over time—and in often-unpredictable ways'.
- Mazerolle et al. (2000)
 - Regardless of gender, early age offenders who persisted into adulthood exhibited more diverse and versatile offending patterns in accord with Moffitt's theory.
- Piquero et al. (2002)
 - Informal social bonds are important and most parolees approaching their late twenties are on declining criminal trajectory paths.
 - There is some dispute about the existence of Moffitt's life-course-persistent and adolescence-limited individuals.
- Sampson and Laub (2003)
 - Mortality and incarceration factors did not disguise involuntary early departure of persistent offenders from the risk pool.
 - The criminal career model is justified in terms of studying within-individual trajectories.
 - However, the aggregate age-crime curve is not identical to individual trajectories, and childhood prognoses do not predict group membership for individuals.
 - Crime declines with age even for active offenders as a general trend.
 - There is a suggested group of 'life-course desisters'.
- Blokland and Nieuwbeerta (2005)
 - There is a positive relationship between marriage and not being convicted of an offence.
 - Separation having once been married increases the likelihood of conviction.
 - There is no effect from parenthood.
- Piquero and Benson (2004) - their review of life course research emphasised the importance of:
 - Abusive or inadequate parenting interacting with neuropsychological deficits.

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- Weak social bonds with family, school and peers.
 - Fortuitous events such as a good marriage, stable employment, or military service.
 - They concluded that parents and family are most important in early life, followed by school and peers in adolescence, and intimate partners and occupational outcomes in late adolescence.
 - Piquero and Benson (2004)
 - Failure of life course research to investigate the antecedents of white collar crime, which typically begins in adulthood.
 - What evidence is available, however, indicates that white-collar offenders are middle class, small-time entrepreneurs and midlevel office workers, a substantial proportion are repeat offenders.
 - Benson and Moore (1992)
 - White-collar offenders generally tend to have fewer (if any) criminal records and lower deviance compared to street offenders, and self-control is not a factor in white-collar crime

Clearly, these results resonate with those summarised at the end of the preceding part of this report. There are some additional variables noted here, particularly informal social bonds, marital breakdown, poor parenting, school and military service. (However, these are noted here due more to this report's structure than as singularly arising from within the career paradigm).

Similarly, an important observation (noted in the earlier discussion of general recidivism research, and now repeated in this discussion of the life course/career paradigm) is that, although offender groups might be identifiable as statistical categories of data reduction, and hence useful to policy as heuristic devices, those groups cannot be validly translated to making decisions concerning individuals.

Patterns are nonetheless nominated in terms of offender groups, the main ones being organised around the break between juvenile years and adulthood, but with another being suggested at around the age of 30 years or so (with respect to parolees especially). Those patterns are referenced to diverse and versatile offending of persistent young male adult offenders as opposed to the majority of juveniles who are transient minor/nuisance offenders.

A significant observation is that concerning white-collar offenders, who are also found to comprise a distinctive group (compared to 'street criminals') in terms of adult onset age, middle class background and occupational level, with some contradictory evidence on whether those offenders are also differentiated by lack of prior criminal history.

In sum, life course research based on the arguably ambiguous concept of a 'criminal career/career criminal' has achieved ascendancy over the general theory of crime that takes the trait of self-control as its central tenet - albeit within a broader research canvass. This means that the criminology recidivism research community has now embraced a life-stage theory which places dynamic variables at the centre of determinations of the likelihood of reoffending. This is not to say that life-course theory is a singular or general theory without competitors. For instance, Laub and Sampson (2001: 38-48) distinguish and discuss maturation, developmental, rational choice, social learning and life-course accounts. However, it is clearly the major current theoretical approach to understanding recidivism (and desistance) and it covers a number of more specific, overlapping theories that are more alike than different (Hirschi and Gottfredson 1995). Nor is it to say that static factors like those in criminal records are unimportant, but rather that there is a strong theoretical inclination to include unforeseeable and variable life events that can alter antisocial behaviours (and pro-social conduct). Crime and criminal recidivism are explained as the consequences of complex interactions between individuals and developments in their social milieu. As a result, a broader decision framework for security identification cards is supported by research findings within the career paradigm.

Criminal background factors are thus considered and evidenced as significant, which means that a more complex and sophisticated decision-making procedure is warranted in relation to who should hold a security identification card. As concluded from the a-theoretical studies reported in preceding discussions, that procedure would consist of both dynamic background variables and static criminal history factors within a framework of risk-needs assessments and targeted psychological tests.

Particular types and patterns of criminal behaviour

The reviewed literatures do not readily distinguish between particular types of criminal behaviour and particular patterns of criminal behaviour. For that matter, particular offences are not uniformly defined, or easily differentiated from particular types of criminal behaviour. In this report, types of criminal behaviour are defined as major, generally recognised classes of criminal conduct that subsume more specific legislated offences and that are differentiated from each other. By 'more specific' it is intended to emphasise that even legislated offences are not so clearly defined as to prevent interpretation difficulties either in criminal justice processes or in research efforts. Particular patterns of criminal behaviour are here defined as empirical regularities that are observed or theorised to occur in criminal events, either at the individual or aggregate level. There is a wide range of ways in which those regularities have been determined and discussed in the literature.

With these brief introductory remarks in mind, the next section reports what the literatures suggest concerning particular types of criminal behaviour and the findings most relevant to security-sensitive issues. It helps to further define what is meant by a type of criminal behaviour through examples from the literatures. It is followed by a discussion of patterns of criminal behaviour that seeks to extract worthwhile findings from a literature that presents other difficulties in term of this review's research questions. Once again, it is noted that no studies were found to bear directly upon the issues of concern within a security sensitive context.

Particular types of criminal behaviour

There are two broad types of criminal behaviour acknowledged in the criminological literature: 'street crime' and 'white collar crime'. These two types of criminal behaviour differ on many constructs including the age at which offending starts, how long it lasts, and how the age of onset relates to the length of a criminal career (see also below under the head of 'does age matter?').

However, those differences do not extend to consistencies in repeat offending (Piquero and Benson 2004). Instead, neither group tends to specialise in one type of crime in their repeat offending, but rather are versatile in their criminal involvement (Benson and Moore 1992). That is, as with those who commit street crimes, repeat white-collar offenders 'are arrested for a variety of other types of crimes. At least as indicated by arrests, white-collar offenders do not specialize in white-collar crimes to any notable degree' (Piquero & Benson 2004: 157). Still, this conclusion is qualified by the relative lack of research evidence to date concerning white-collar criminal careers.

Versatility is similarly found in Smith's (2003) Australian study, where 64 percent of the studied repeat fraud offenders had prior criminal histories of either a non-fraud or fraud and non-fraud nature. Further, white-collar criminals might well not have a prior criminal record (Smith 2003; Weisburd and Waring 2001; Wheeler, Weisburd, Waring and Bode 1988). Smith (2003) also notes 84% of examined files in his study had a sole perpetrator which suggests no criminal organisation involvement.

Hence, by themselves, records of prior type of crime in the sense of 'street' versus 'white-collar' offences provide no guide as to whether someone will re-offend or, if so, commit either a mundane or white-collar crime. Moreover, obviously both types of crime can inflict harm in a security sensitive context, although 'white-collar' crime might be more likely to occur over a longer period of time (Wheeler, Weisburd, Waring and Bode 1988). That harm is likely to

differ according to an individual's position in the organisational hierarchy or functional area, with a highly placed white-collar criminal more likely to cause significant financial damage (Wheeler, Weisburd, Waring and Bode 1988).

The main inference to be drawn from this evidence for purposes of who should hold a security identification card lies in recognition of the importance of not simply referencing that decision-making to operational employees, but also ensuring any decision procedure does apply to all levels and functions of security organisational structures, including industry oversight bodies. (See the earlier discussion under the head of 'the trusted insider and a culture of criminality').

A more recent and increasingly significant distinction is between traditional crime and cybercrime. Perhaps partly because the latter is an emerging and difficult field of study, this review has discovered no strong indications about how this distinction might garner research themes and findings relevant to current aims and terms of reference. However, it applies most obviously to both management and technical (information technology) personnel. In that respect, the inference to be drawn is similar to that just mentioned. That is, decisions about who should hold a security identification card should take account of the broad range of current and prospective employees, with a view to the kind and level of damage that might be caused in different work specialisations.

Another distinction drawn in the criminological literature is between interpersonal and property crimes. The former include domestic violence, common assault, robbery (with or without weapons) and obviously homicides. The latter include stealing, shoplifting, motor vehicle theft, break and enter, property damage, fraud and most cybercrimes. Although this distinction is often arguable - for example, in terms of emotional violence, robbery without weapons, and threatening behaviour such as stalking - it remains generally accepted as worthwhile in criminological research and it is reflected in sentencing principles.

Mazerolle and colleagues (2000) note the variety of research measures of offence specialisation, which makes it difficult to discern patterns - or at least difficult to develop a comparative knowledge base - in regard to the broad distinction between property and interpersonal crimes. Further, researchers often do not distinguish types of criminal behaviour in terms of legal definitions that are the stuff of criminal histories and record checks, but rather examine indexes or scales that measure offence specialisation. For example, Ulmer (2001) employs a scale that reflects both the number and severity of prior criminal convictions. Notably, there is a welcome recent trend towards assessing specialisation only in terms of the three categories of violent, property and all other offences. However that has not yet become a consensus approach with time to allow the emergence of a sufficient body of research.

In refuting the idea of specialised criminals, moreover, Delisi (2005) writes:

To be sure, scholars have found modest statistical evidence of offenders who recurrently engaged in similar types of offending, such as auto theft, armed robbery, and narrow clusters of violent or property crime. However, affirmative evidence of specialization is heavily statistical in nature, and its substantive meaning is often unclear ...

Overwhelmingly, researchers have found that criminals are generalists who commit an array of offenses, not specialists who fixate on one type of crime. This holds true even for sex offenders, arsonists, and nonviolent drug offenders. (Delisi 2005: 40).

His earlier study also showed that a lack of specialisation in offending also holds for 'extreme career criminals', those who have committed murder, rape and kidnapping (Delisi 2003).

This issue of generalisation (or versatility or diversity) of offending behaviour is repeatedly mentioned in the literatures concerned with recidivism and, indeed, it is agreed upon across the major theoretical cleavages as observed by Hirschi and Gottfredson (1995).

To date, then, the empirical research does not clearly show whether recidivism is related to identifiable types of criminal behaviour or offences as commonly listed in criminal records,

even on a probability basis. Hence, efforts to determine suitability for a security identification card, are left largely to the more crude resort of examining an individual's criminal record and placing that in the context of the generalised and aggregate research findings on recidivism.

Nonetheless, Mazerolle and colleagues (2000) focus on offence transitions across the three general categories of violent offences (for example, homicide, forcible rape, aggravated assault, simple assault and robbery); property crime (for instance, burglary, embezzlement and arson, among others); and all other crime (including drugs, prostitution). Following Moffitt's (1993) theory they expected to find life-persistent offenders to engage more often than adolescence-limited offenders in switching between these broad categories as distinct from within them. That expectation was evidenced in their results, which were subjected to rigorous statistical testing.

For present purposes this (admittedly single) piece of research might be taken to suggest that security identification card decisions should examine whether an individual's criminal history reveals a broad spread across these major types of offences. If there are solid indications of diversity, then that would weigh towards a negative decision.

Another set of distinctions concerning types of criminal behaviour consist in the career criminal literature where there is reference to subtypes of criminality, meaning differentiation of groups of offenders on the basis of age specific offending. The general research evidence strongly indicates that, as found by Mazerolle and colleagues (2000: 1161), 'early onset offenders exhibit significantly more offending diversity relative to late onset offenders'. That is to say, the younger an offender at first offence, the more the offender's criminal history will likely reflect all three of the above types of crime and, if that study is relied upon, that applies for both males and females. (See also the commentary under the head of 'does age matter?')

In terms of deciding who should hold a security identification card, the general research suggests that decision makers should pay attention to diversity of offences across the three major types in the criminal history, and should also note the age of the individual at first offence. The earlier onset occurs, the more conservative should be the decision. Additionally, on the evidence of the Mazerolle study, the decision criterion here applies equally for males and females.

Finally, an important distinctive type of crime is arguably that of sex offending, which itself can be usefully distinguished into a number of sub-types such as rape, incest and extra-familial sex offences, as well as child offender preferences in relation to boys and girls. Discussion in these respects is undertaken under the heads of 'particular offence convictions' and 'does age matter?'

Particular patterns of criminal behaviour

Patterns of criminal behaviour are taken to refer to regularities in the answers to questions of why, how, where, when and what offences are committed by individuals. Since individuals commit crimes within their social milieu, it is arguable that patterns of criminal behaviour have some connection with regularities at the group level as well. Further, such patterns overlap in complex ways with patterns of crime, which refer to analysis of data not only at the aggregate level but in relation to units of analysis other than people (whether as individuals or in groups). This makes for some difficulty in extracting the worth of patterns of criminal behaviour for present purposes, as the literature often does not therefore allow clear inferences in respect to criminals as distinct from crime, as illustrated shortly.

Patterns of crime and criminal behaviour have been studied mainly in relation to place, social networks, the life course and types of crime. The last two of these referents are considered above under 'particular types of criminal behaviour' and below under 'does age matter?'

Ecological research has emphasised discovery of crime patterns in urban settings, with recent calls to extend that effort to rural contexts (Wells & Weishardt 2004). This type of research has been concerned to identify features of social disorganisation associated with crime, to map the dispersion and concentration of crime spatially, and thus to provide priorities for

policing and reasons for involvement of local communities to assist, for example, with crime prevention. The question arises whether this kind of research has implications for decisions on security identification cards. An example of this research suffices for this purpose.

Malm, Kinney and Pollard (2008: 77) utilise 'a combination of social network and spatial analysis techniques to explore the connections between criminal associates taking part in marijuana growing operations in social and geographic space'. They found that the travelling distance between the individuals did not vary with criminal history or demographics. Instead they found a pattern of network characteristics: individuals in a criminal network typically live close enough to their associates' neighbourhoods but not in extremely close proximity to one another; and the network's central figures tend to travel the farthest to associates and place themselves on the geographic periphery of the network habitat.

Research into these sorts of patterns seems of little value to determinations about individual applicants for or holders of security identification cards. Yet its insights may be of some utility to police and intelligence investigations into the suitability of specific individuals. In that respect, such investigations might be worthwhile ancillary decision procedures on occasion in relation to 'major criminal associations'.

However, there are a few, more salient patterns discussed in the life course literature that can be construed as useful in respect to security sensitive employment issues,

Life course research was discussed at some length above. At this point, examples of that research are provided to indicate its core direction in relation to patterns of criminal behaviour. Such patterns are identifiable in terms of persisting over the life course generally, but they do not allow the predictive inclusion of individuals into the distinctive classes thus generated at the aggregate level.

Perhaps of most interest are the findings of Mazerolle and colleagues (2000), reported in the previous section, which reflect general life course research results. They found that life-persistent offenders engaged more often than adolescence-limited offenders in switching between violent, property and all other crimes. The pattern of criminal behaviour here has three defining characteristics. First, onset of offending at an early age (operationally set at prior to 14 years) identifies offenders who go on to be recidivists over the life course. Secondly, those offenders tend to engage in a general sweep of criminal behaviours. That is they are versatile and diverse in their offending. Thirdly, their early age of onset and that versatility distinguish them from other late onset offenders who are significantly less prone to offend across the broad categories of violent, property and all other crimes. Additionally, in relation only to the Mazereolle etal (2000) findings, gender is inconsequential.

These findings also re-affirm the observation by Blumstein, Cohen and Farrington (1988b: 60) that the accumulating body of research evidence - albeit not without the various weaknesses as discussed elsewhere in this report - contradicts the existence of patterned trajectories like escalation in seriousness or specialisation in types of offences.

Inferences from these results for present purposes have already been noted in the previous section of this report, however here the focus is on the broader offence pattern not just types of offence. In sum, security identification card decisions should be negative the earlier onset occurs, the more there are indications of a criminal history spread across interpersonal, property and other offences, and this applies to both males and females.

Another pattern identified in the life course research literature that is potentially useful for present purposes relates to white-collar criminals. Piquero and Benson (2004) propose what they call a punctuated situationally dependent offending pattern in relation to white-collar criminals. By this, they mean that those who commit white-collar crimes briefly flirt with delinquency during adolescence with an end in the late teens or early 20s, conform during their 20s and 30s, then begin to commit white-collar crimes later in life. They pose that the offending is situational as it depends upon a personal crisis and/or achievement of an occupational position that facilitates the offending behaviour. They assume that 'white-collar offenders follow the same developmental trajectories in crime and delinquency that most people do' (Piquero & Benson 2004: 158).

In relation to this review, their research findings can be taken to suggest that deciding who should hold a security identification card should partly depend upon scrutiny of the person's life circumstances at any given time as well as the nature of any opportunity for offending by reason of position held within a security-sensitive environment. Key elements in this decision-making process are that such individuals are generally older and placed in positions of trust and influence. Hence, the decision procedure must involve a review of those already employed in a security-sensitive environment, including senior management, technical staff and professionals. (See the earlier discussion under the head of 'the trusted insider and a culture of criminality').

A common theme in these studies is the conceptualisation of distinctive groups of offenders, which are the product of different offending trajectories arising out of the influence of different factors at different points (or ages) in the life course. However, Sampson and Laub (2003: 587) warn against the reification of such classes of offenders as 'distinct and predictable groupings ("super predator," "life course-persistent offender," etc) that are amenable to direct policy intervention'. That is, although statistical analyses demonstrate life course patterns at the group level, translating these to useful policy or procedural advice for determining actions in respect to specific individuals cannot be strictly undertaken. So care must be exercised in the consequent construction of a decision-making procedure on that basis, for instance, in relation to security identification cards.

Criminal profiling

Related to types and patterns of crime is the practice of criminal profiling in the sense that it relies upon analysis of crime scene data to make discoveries that might lead to the arrest and conviction of perpetrators. The profiler's aim is to determine what sort of person might have committed a crime by examining the crime in terms of the generally recognised types and patterns such as those discussed above. 'Criminal profiling (CP) is the practice of predicting a criminal's personality, behavioral, and demographic characteristics based on crime scene evidence' (Snook et al. 2008a: 1257, citations removed).

Furthermore,

Although there are no standardized techniques for making these predictions, the different approaches to CP can be broadly classified as having a clinical or statistical orientation. Clinically oriented profilers draw on their training, knowledge, experience, and/or intuition to predict offender characteristics (e.g., Ault & Reese, 1980; Copson, Badcock, Boon, & Britton, 1997; Douglas & Munn, 1992; Holmes & Holmes, 1996; Keppel & Walter, 1999; Turvey, 1999; West, 2000). By contrast, statistically oriented predictions are derived from an analysis of offenders who have previously committed crimes that are judged as similar to those being investigated (e.g., Canter & Fritzon, 1998; Davies, Wittebrood, & Jackson, 1997; Farrington & Lambert, 1997; Jackson, van den Eshof, & de Kleuver, 1997; Keppel & Weis, 1993; Santilla, Häkkänen, Canter, & Elfgrén, 2003). (Snook et al. 2008a: 1258).

That is, criminal profiling depends upon the same basic methods that have been previously discussed in relation to recidivism research, risk-based approaches and the criminal career paradigm. The difference is principally that it is premised on an existing crime scene or evidence of commission of a crime. It is not, therefore, a procedure for predicting or assessing the risk that someone might offend or re-offend. Nor does it provide any additional insights that can be usefully extrapolated to determinations of whether an individual should hold a security identification card.

Wilson, Lincoln and Kocsis (1997) identify three approaches to profiling as diagnostic evaluations (or criminal personality profiling), investigative psychology and crime scene analysis. The first of these approaches is highly dependent upon the skills of the individual profiler, with diverse and variably accurate results, leading to charges of being 'hit-and-miss' or 'art not science'. Yet this diagnostic method has also resulted in some of the most accurate profiling outcomes, precisely because of the fact of the individual's expertise. Thus, there are a number of famous cases of successful profiling (Snook et al. 2008a; Wilson, Lincoln and Kocsis 1997). However, the problems are that the profiler is not always so accurate nor, more importantly, are the skills necessarily transferable to other profilers or profiling methods. The investigative psychology technique adapts psychological theories and concepts to crime scene analysis. Regarding crime scene analysis, they point to the subjective interpretation that characterises the bulk of criminal profiling practice, as well as its cultural biases of being largely limited to the US criminal context.

In general, these authors argue that 'criminal personality profiling has been poorly evaluated as either an investigative aid or a conceptual tool' (Wilson, Lincoln and Kocsis 1997: 1). They point out that criminal profiling has been generally employed in serial crime scenes or cases with aspects of psychopathology, and hence has limited utility in relation to the bulk of crimes (or terrorist activities for that matter). It is also resource-intensive, tending to produce a wealth of not necessarily relevant data, inefficient, likely to create stereotypes, and flawed by a reliance on convicted felons rather than those who are never caught. At the most, they contend, 'profiling has been found to be most effective as an additional tool, not as a solution to specific crimes' (Wilson, Lincoln and Kocsis 1997: 2). Their arguments have been supported by others.

For example, Woskett et al (2007) refer to the 'embryonic body of robust empirical research'

Snook et al (2008b: 42) report that:

the core focus of CP remains the derivation of inferences about an unknown offender's characteristics. Yet, a 2001 study regarding the content of criminal profiles found that only 25% of statements in profiles were inferences about offender characteristics. Of that 25%, 82% of the inferences were unsubstantiated, 55% were unverifiable, 24% were ambiguous, and 6% contained opposing alternatives.

Snook et al. (2008a: 1257) criticise criminal profiling as a practice that lacks any 'compelling scientific evidence that it is reliable, valid, or useful'. These authors argue that criminal profiling hinders apprehension of guilty criminals and leads to wrongful convictions. They do not deny that criminal profiling does not or might not work at all, but rather that it has not been subjected to rigorous scientific testing despite some 50 years of practice. Instead, the claims of profilers' competencies have been supported by post hoc analyses of success of ambiguous predictions. That is, the practice of profiling has been pursued on the basis of plausible explanations being retro-fitted to the facts of investigations that have been brought to their conclusion. Additionally, the persuasive power of anecdotes - the telling of specific crime stories of success (or apparent success) - has served to render criminal profiling with an unwarranted wider validity. Snook et al (2008) contend it is time that profilers subjected themselves to controlled experimental studies to allow a proper evidentiary basis for their claimed success and to allow the development of systematic empirical knowledge of how, why and what works (if anything) in criminal profiling practices.

These authors also make a number of other detailed criticisms of criminal profiling concerning, for instance, the most commonly employed typologies (for example, the FBI's organized-disorganized dichotomy); its discredited underlying trait theory; and its neglect of the influence of situational factors in offending; among other considerations. Some of these criticisms have already been discussed at length earlier in this report, albeit not in relation to criminal profiling (for example, in terms of life course research). It is especially the case that criminal profiling ignores the established finding of diversity of offending by repeat offenders

that has been discussed and evidenced previously. The Snook et al (2008a) critique is worth reading for further details about the evidentiary basis of the criminal profiling approach.

Profiling has been discussed in respect to failed efforts to profile terrorists (Horgan 2008); insider cybercrime (Nykodym, Taylor and Vilela 2005); its probative versus prejudicial nature in court proceedings (Woskett, Coyle and Lincoln 2007); and aircraft passenger profiling (Persico and Todd (2005). None of these efforts have been found to be productive of hard evidentiary prediction of the sort that would allow sound decision-making on who should hold a security identification card within a security sensitive environment.

To conclude, in relation to profiling of terrorists for example, Horman (2008) argues that despite the continuing reliance of counterterrorism efforts on profiling:

the assumptions that feed into how we think about the terrorist (who he or she is, and what population or demographic he or she is likely to come from) are often based on the actuarial projections from a small, and statistically insignificant, sample of individuals. The dangers of overgeneralization should be obvious.

But highlighting these limitations still does not answer the critical question: why does one person become involved in terrorism and the other does not? It is impossible to give an answer to this question that will allow us to predict with certainty who is likely to become a terrorist (and conversely, who is not).

He goes on to identify very broad risk factors only, such as emotional vulnerability, dissatisfaction with current activities, identification with victims, lack of moral constraint, some sense of potential reward, and kinship or other social ties within a terrorist milieu. Except for the last, which is surely no real predictor but a statement of a necessary condition, these are notably characteristics that could apply to a large proportion of the general population. These are contraindicated by his further observation of a 'wide variety in participants' backgrounds and histories' (Horgan 2008: 88).

Summary

Three distinctions in types of crime have been examined in the preceding commentary: 'street crime' and 'white collar crime'; traditional crime and cybercrime; and interpersonal and property crimes. Another useful distinction is that between violent, property and all other crimes.

Since much of the research employs indices and scales, it is not always clear how recidivism relates to identifiable types of criminal behaviour or offences as commonly listed in criminal records. Again, there is the strict inapplicability of the usually probabilistic, aggregate data findings to individuals. Caution is therefore urged in decision-making procedures.

With these caveats in mind, inferences drawn for present purposes include the need to apply security identification card decision-making in a comprehensive fashion. A robust procedure needs to take account of not only operational employees, but also management, technical (eg information technology) personnel, professionals, contract and temporary staff and so on. It needs to apply at all levels and functions of security organisational structures, including industry oversight bodies.

Criteria for decision-making that indicate someone should not hold a security identification card include a criminal history spreading across the major types of offences; early onset (eg before 14 years of age); and regardless of gender (despite the common finding that males are more prolific offenders). However, these criteria need to be considered collectively not singly, or at least not singly without any accounting of interactive influences that might qualify the singular consideration.

Finally, the utility or otherwise of criminal profiling does not add to this review since it is an investigative and prosecutorial tool rather than one for assessing employment risk in a

security sensitive sense. Besides, it is based in the same empirical evidence as that of the recidivism, risk-based assessment and criminal paradigm literatures.

Particular offence convictions

This section discusses whether there are particular offences or convictions that represent a risk in a secure environment. Once again, it is noted that this review found no research that specifically addressed this question. However, recalling the earlier discussion on variables most often associated with recidivism, the criminal history factors predictive of reoffending included reference to specific offences (at least as defined in legislation). From that discussion, it is possible to make some guarded inferences in this respect. Decisions concerning who holds security identification cards should take particular note of the following extracts from the earlier summary.

- property offences such as theft, burglary associated with higher rates of recidivism; property and auto/traffic offences, more likely to be rearrested and for more severe offences
- robbery or assault/violence, breach of parole/justice/drug court order, and extra-familial child molestation (especially if focused on a type of victim or behaviour) are all associated with recidivism
- serious drug and property offenders more likely to recidivate

These specific offence factors are consistent with the work of Drabsch (2006) mentioned earlier in this report. That work included a commentary on recidivism of inmates convicted of any offence within two years of being discharged in 2002/2003 resulting in a full time custodial sentence to be served in a NSW correctional centre. In this context she notes that:

rates of recidivism can substantially differ between offences. Reoffending was particularly high amongst those who had originally been imprisoned for breach of a drug court order or parole, as well as for stealing/property offences and assault. Overall, recidivism was lower amongst those who had been imprisoned for making or importing drugs, sexual offences and homicide. (Drabsch 2006: 2).

Yet, as common to recidivism studies, these observations are limited in several ways. First, they apply to offenders in New South Wales only. Secondly, those offenders had already been convicted and hence exclude offenders not apprehended or at least not successfully prosecuted before the courts. Thirdly, they were imprisoned, which excludes offenders who received lesser sentences. Again, those offenders had committed offences or at least had criminal records that were serious enough to warrant imprisonment. Fifthly, the time period of the study is limited to 2002/2003 - a very narrow band. Further, the two year period of follow-up was similarly very short for determining a robust rate of recidivism. Additionally, the offences of stealing/property and assault are very broad categories that conceal specific details as to nature of the offending and hence just what the offence convictions mean in practical terms. As well, the relatively low rate of recidivism for drug, sex and homicide offences is affected significantly by the probability of longer prison sentences and hence the age of the released prisoners. Finally, Drabsch herself concludes on a very cautious note that the various studies in her review were not unanimous in their findings.

Nevertheless, a study of parolees by Jones et al (2006) made similar findings. Among the strongest predictors of reoffending was a most serious offence for robbery or another violent offence, property/deception, or breaching a justice order.

Lievore's (2004) study focused specifically on sexual assault offenders. She surveyed international literature and found that rates of reconviction or reimprisonment for sexual offences are low compared with other types of offences. Her survey also suggested that

incest offenders are least likely to reoffend whilst extra-familial child molesters are most likely to be reconvicted - that is, sex offenders reoffend at different rates according to the type of offence. There is also some suggestion of continuity between sexual and violent offending with many having lengthy criminal histories. Again, sex offenders usually specialise in a type of victim or behaviour, which influences the risk of recidivism. Finally, the international literature indicated that most sex offenders reoffend within three years of release from custody, with a much longer term risk as well.

In the Australian context, she also found no unique profile of sexual offenders:

Overall, sex offenders are similar to the general offender population in terms of sociodemographic, psychosocial and criminal history variables. Most are young, single, white males, although Indigenous Australian men are over-represented among visible sex offenders. (Lievore 2004: 107).

The main problem with Lievore's (2004) research for present purposes is that, as with the other studies mentioned, it does not relate particularly to assessment of risk of reoffence in a security-sensitive environment.

The discussion by Gelb (2007: 29) confirms that 'substantially different recidivism rates and patterns and precursors of offending are found for different kinds of sex offender'. She also provides some detailed tables on different types of sexual offending/offenders (cross-related to other types in some instances) that could be useful to decision-makers.

She further states that:

most serious violent and sexual criminals do not have previous convictions for violent or sexual offences and are not reconvicted for violent and sexual offending (citation removed). The rates of homologous violent and sexual reoffending (reoffending with the same specific offence as the index offence) have thus consistently been found to be lower than they are for other kinds of criminal behaviour. (Gelb 2007: 21-22).

A recent literature review on the misuse of social networking sites for grooming children for sexual offences by Choo (2008a) also suggested that

[a]lthough the popular image of paedophiles is that they belong to a homogenous group sharing similar characteristics (McAlinden 2006), the reality is that the perpetrators of child sexual abuse come from various demographic, economic and social backgrounds. As noted in a 2006 US hearing investigating the sexual exploitation of children over the internet, some sexual offenders were individuals in respectable professions such as lawyers and teachers. (Choo 2008a: 63).

Once again, it is worth recalling that there is the very common limitation in these studies of analysis being confined to rates of recidivism, which are not readily translated to individuals (with the basic problems of false positive and false negative decisions as a result).

As well, recall Payne's (2007) observation that studies are inconsistent in offence definitions - some using most serious offence classifications and others frequency counts. Thus it is difficult to compare results from different studies and hence to accumulate the weight of evidence concerning the effect of different offence convictions on the likelihood of re-offending. This difficulty is compounded by the fact that even a seemingly specific offence can refer to a wide range of criminal behaviours. Thus, Smith (2003) observes that:

fraud can entail many different types of criminal activity. In Victoria alone, for example, there are 137 offence descriptions currently in use that are explicitly categorised in police

statistics as deception offences, and many more also contain some component of dishonesty. (Smith 2003: 11).

Bearing in mind the limitations, some cautious inferences for present purposes can be drawn from these studies. The issue of a security identification card decision should be approached in a more conservative way the more that an individual's criminal history reflects convictions for offences of:

- breach of parole
- breach of a justice/drug court order
- stealing/property/deception offences
- auto/traffic offences
- robbery or assault/violence
- serious drug offences
- extra-familial child molestation, especially if focused on a type of victim or behaviour

The question arises as to whether these particular offences can be taken in isolation as predictors of recidivism. Given previously cited career paradigm/life course research findings, especially of the importance of diversity of offending, it is likely that any specific offence conviction is not by itself an accurate predictor of recidivism generally and, hence, not in relation to a security-sensitive environment. An exception is possibly that of extra-familial child molestation, especially if focused on a type of victim or behaviour. Finally, there is evidence that the 'specific' offence conviction relationship to recidivism is complicated by age variations and shifts over time (Blumstein, Cohen, and Farrington 1988a), and this is further discussed under the head of 'does age matter?'

Criticisms and concerns regarding particular offence convictions

In the United States, introduction of the Transportation Worker Identification Credential cards raised protests that many blue-collar workers would be disqualified from employment by the program's mandated immigration and background checks that included 'dishonesty' and drug violations as potentially disqualifying crimes (Natter 2007). This issue was seen as particularly applicable to ex-prisoners who gravitate to ports for employment in lieu of finding work in many other areas. Moreover, this was seen as adversely impacting the maritime industry due to substantial cost impositions, as well as flow-on effects to other commercial enterprises such as oil refineries.

These considerations suggest that any use of a particular offence convictions criterion in decisions to issue security identification cards should take account of unintended deleterious effects on not only the concerned individuals and their families, but also wider society. Moreover, Naylor, Paterson and Pittard (2008) note that the label of an offence may mislead as to its true nature, as in an 'obtaining services by deception' case of a student who used a friend's travel pass on one occasion.

Therefore, a case can be constructed for reviewing the present inclusion of the category of 'dishonesty' offences in the criteria for denying a security identification card to applicants. At a minimum, this criterion might fruitfully be amended in terms of the severity and type of the dishonesty involved, and especially in relation to the trusted insider and white-collar crime. Similarly, there might be amendments that clarify other criteria such as those citing offences of violence and property damage.

Issues of age and conviction-free periods

The research literatures provide their clearest findings on relationships between crime and issues of age and conviction-free periods. The research questions posed for this review in

these respects were: 'what regard should be had to the age of the individual at the time the offence was committed?' and 'what regard should be had to conviction free periods?' From an examination of the literatures, these are not distinct considerations since conviction-free periods inevitably interrupt the life course and thus become integral to the question of how age relates to criminal conduct. Once again, the reviewed literatures did not reveal findings directly relevant to these issues in a security sensitive environment.

Does age matter?

There is evidence that age does matter in whether an individual is likely to reoffend at a later time. In the main, the line of research has investigated age at which offending starts, how long it lasts, and how the age of onset relates to the length of a criminal career.

Gottfredson and Hirsch (1987: 50) reported that the then 'literature repeatedly shows that offenders, even serious offenders, reduce the level of their criminality as they age'. They are supported by Blumstein and Cohen (1987) who observe that:

those offenders who are still actively involved in criminal activity at age 30 have survived the more typical early termination of criminal careers, and so are more likely to be the more persistent offenders. After their early 40s, however, their termination rates are quite high. (Blumstein and Cohen 1987: 991).

Moffitt (1993: 675) reports that 'when official rates of crime are plotted against age, the rates for both prevalence and incidence of offending appear highest during adolescence; they peak sharply at about age 17 and drop precipitously in young adulthood'.

Flesher (2000: 184) states that most offenders cease offending by early adulthood and 'almost 80 percent of serious violent offenders terminate offending by age twenty-five'.

Piquero and Benson (2004) agree:

With regard to the onset of offending, investigators have consistently found that for most people, involvement in crime and delinquency begins in the midteenage years, usually sometime between ages 15 and 17 ... (and) ... it is very unusual for someone to embark for the first time on a trajectory in street crime after the age of 25. Research also shows that for most people, career duration—that is, the period of active criminality—is short and is over by the time they reach the age of 20 ... desistance from street crime usually occurs sometime in the early 20s.

They also report that there is some evidence indicating that individuals still involved in street crime after their mid-20s will continue a criminal career. Research indicates criminal careers of street offenders usually extinguish in little more than five years (Farrington 1992).

In an Australian context, Carcach and Leverett (1999) examined 5509 under-18-year-olds who recorded a court appearance in NSW between 1 July 1992 and 30 June 1993. The individuals were followed until 30 June 1997. These researchers found that the juvenile offenders' intensity of offending is at its maximum between 15 and 17 years of age.

Another Australian study by Chen et al. (2005) analysed the reoffending behaviour of almost 5500 juveniles between the ages of 10 and 18 who first appeared in court in 1995, tracing their criminal history until December 2003. It was found that the number of reappearances in court was significantly related to the juveniles' age at first court appearance. Youths aged 10 to 14 at their first appearance had significantly more court appearances over the eight year period.

Payne (2007: 87) writes: 'Australian and international studies have repeatedly shown that criminal offending peaks in the mid to late teenage years, before diminishing in adulthood'. He

cites Broadhurst and Loh (1995) who found that probability of re-arrest 'declines within age, levelling out at approximately 40 percent for offenders aged between 25 and 40 years; while a recidivism rate of 31 percent demonstrates that offenders older than 40 years were even less likely to be rearrested'.

Makkai et al. (2004) distinguish between the age of an offender and age at first offence. They report several United Kingdom studies indicating that younger offenders had a greater likelihood of reoffending or being reconvicted; and Canadian research showing that the younger the age-of-onset, offending history is more extensive and reconviction is more likely within two years.

In general, the research supports the conclusions that individuals who start offending prior to age 14 are high risk recidivists; those who commence in their mid to late teens are much less likely to continue offending; very few start offending after the age of 25; and offenders are likely to cease recidivating by age 40. Although these general results have seemingly clear implications for who should hold security identification cards, there is important qualifying evidence.

For instance, there is evidence that the age-crime curve differs in relation to 'specific' offences and alters over time in relation to 'specific' offences. For example, Blumstein, Cohen, and Farrington (1988a), on the basis of Federal Bureau of Investigation figures, report shifts in the peak ages for murder, robbery and aggravated assault, respectively, from 23, 19 and 24 years old (1965) to 19, 17 and 21 years old (1980).

Among other data supporting their argument, those researchers also state that:

the arrest rate peaks at an older age (21) for aggravated assault than for burglary (17). Moreover, comparing the peak rate for young juveniles (aged 13-14), the burglary peak in 1983 is 80% higher and the aggravated assault peak is more than three times higher. (Blumstein, Cohen, and Farrington 1988a: 9)

From two earlier (1979 and 1983) small cohort studies by these authors, they conclude: 'based on the present state of knowledge, it appears that participation in offending but *not* frequency, varies with age' (Blumstein, Cohen, and Farrington 1988a: 32, original emphasis). That is, the individual rate of offending does not vary over the life course.

These authors argue that the decrease in crime with age is a decline in the number of people in the general population who participate in crime, but not a reduction in the frequency of offending by those who continue criminal pursuits (Blumstein, Cohen, and Farrington 1988b: 64). That is, while increasing numbers of offenders end their careers and cease committing crimes altogether, this does not translate to individual offenders, who 'commit offences at a fairly constant frequency during their criminal careers' (Farrington 1992: 521).

Sampson and Laub (2003: 585) studied anew the 500 men of the Glueck's project from seven to 70 years, thus examining within-individual variability over the life span. They found that 'all offences decline systematically in the middle adult years' on the basis of within-individual trajectories - that is, individuals can be expected to reduce offending as they grow older. They conclude, however, that 'there are important differences in adult criminal trajectories that cannot be predicted from childhood' (Sampson & Laub 2003: 588).

Blokland and Nieuwbeerta (2005) studied criminal behaviour from ages 12 to 72, also covering almost the complete life course. They found that sporadic and moderate rate offenders tend to peak in likelihood of conviction between 18 and 24 years; and low and high rate offenders showed a much broader peak between 21 and 42 years. More importantly, they found a strong relationship between age and crime that varied across individuals in terms of the rate and shape of criminal trajectories. That is, there is no simple relationship at the individual level between age and crime. On this evidence, caution is needed in deciding, for example, whether to issue (or refuse) a security identification card to an individual applicant on the basis solely of the individual's age within the age brackets above.

Moreover, for white-collar criminals Piquero and Benson (2004) refer to research that indicates the average age of onset (defined as an arrest) was 35; for repeat offenders only 18 months younger; and for first-time offenders 40.9. Another reported study found the same onset age for first-time white-collar criminals, but prior record offenders were on average 24 years old compared to 19 for common offenders. Similarly, Wheeler, Weisburd, Waring and Bode (1988: 354) indicate the average age of white-collar criminals is 'close to forty'. Smith's (2003) Antipodean study also found serious fraud offenders to be aged about 40 on average. Weisburd and Waring (2001) found desistance (last arrest) for repeat white-collar offenders was at age of 43, compared to the late 20s and early 30s for most common offenders. They also found white-collar criminals had relatively few arrests over an average criminal career of 14 years.

Piquero et al. (2002: 163) found that the criminal trajectory of most parolees decreases as they reach their late 20s, being sharper for nonviolent arrests, but also occurring for violence. They suggest that 'investment in social bonds' is therefore worthwhile even for serious offenders as they too can 'recover from their criminal pathways and move toward more pro-social outcomes as they enter adulthood' (Piquero, Brame, Mazerolle and Haapanen 2002: 164).

Concerning sex offenders, Gelb (2007: 14) notes that much less is known about the age/sex crime relationship, although 'on average accused sex offenders are substantially older than other offenders and slightly older than the general population.'

Difficulties in this respect, she notes, consist in the differentially late reporting and the non-reporting of sex offences, as well as that the research findings are constrained by typically small sample studies into the question of age at first offending.

She concludes that:

The research is thus not entirely clear about the 'typical' age at which sexual offending begins ... It is also possible that there are two distinct types of sex offender – those who initiate offending early in life and those whose offending does not begin until later. Gelb (2007: 17)

A meta-analysis of ten studies from Canada, the United States and England and Wales found that on average rapists tended to be younger (32.1 years) than the extra-familial child molesters (37.1 years) and the incest offenders (38.9 years) (Hanson 2001: 8). However, it is significant that 'age was measured at the time of release from institution, except for the Washington SSOSA sample where age was measured at time of sentencing' (Hanson 2001: 6), so the age at actual offence is unknown (but lagged) from this meta-analysis.

Hanson (2001) also found that between the ages of 25 to 60 the recidivism rate was highest consistently for extra-familial sex offenders, then for rapists and lowest for incest offenders.

Furthermore, recidivism rates were as follows:

- rapists (17.1%), peaked in the 18 to 24 age group, declined steadily with age
- extra-familial child molesters (19.5%), peaked between the ages of 25 and 35, showed relatively little decline until after age 50
- incest offenders (8.4%), peaked in the 18 to 24 age group (30.7%), dropped markedly after that and then continued to decline steadily
- There were very few recidivists among the sex offenders released after age 60 (3.8%) (Hanson 2001; 9).

Overall, it appears that research results on age considerations concerning sex offenders are insufficiently robust to provide much guidance for decision makers, especially in relation to who should hold security identification cards. It is rather more a question of types of sex

offenders cross-related to broad age ranges and associated recidivism rates, which are not readily translated to practical decision-making.

Yet, in terms of the weight of evidence to date, there remain questions concerning the age-crime relationship (Blokland & Nieuwbeerta 2005). Most of the longitudinal studies cover a short period of the lifespan, so not much is known about the age-crime nexus in middle and late adulthood. As well, frequent offenders are more likely to die or be incarcerated, ceasing their criminal careers for that reason, which distorts explanation of the age-crime relationship - however, recall the contradictory results of (Sampson and Laub 2003: 586) on mortality and incarceration reported under the head of 'life course research'. Other issues involve uncontrolled potential biases such as the influence of prior records on sentencing decisions; a frequent inclusion of high-risk men in studies; the role of parenthood; and that of legitimate or illegitimate children.

Evidently, age does matter but it does not involve a simple equation - see also, for example, Laub and Sampson (2001); Blumstein, Cohen, Roth and Visser (1986). There is a substantial amount of research on age and related issues, with an associated large number of findings and, for that and other reasons, there are many mixed findings. In the main, as with recidivism research generally, these findings relate to 'street crime'. Here are the core research agreements in this respect:

- onset at or before age 14 results in significantly more court appearances, much more likely to be reconvicted and reimprisoned
- younger the age-of-onset, the more extensive and rapid is the offending history
- most people begin offending between ages 15 and 17, when offending is also most intense
- onset at 18 years or older signifies (much) less likely to be reconvicted and reimprisoned
- most offenders cease offending by early adulthood (early 20s)
- career duration (period of active criminality) is short (little more than 5 years)

Other important, though less commonly cited, results include:

- almost 80 percent of serious violent offenders terminate offending by age 25
- very few people start offending after the age of 25
- individuals still offending after their mid-20s will continue a criminal career
- offenders aged between 25 and 40 have a probability of rearrest of about 40 percent
- offenders older than 40 years have a recidivism rate of 31 percent
- sporadic and moderate rate offenders tend to peak in likelihood of conviction between 18 and 24 years of age
- low and high rate offenders show a much broader peak between 21 and 42 years of age
- most parolees decline in offending as they reach their late 20s, more sharply for nonviolent arrests, but also lessening for violence

Regarding 'white-collar' crime:

- the average age of onset (defined as an arrest) was 35; for repeat offenders only 18 months younger; and for first-time offenders 40.9.
- offenders with a prior record were on average 24 years old (19 for common offenders).
- repeat offenders desisted (last arrest) at age 43 (late 20s and early 30s for most common offenders).

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- offenders had relatively few arrests over an average criminal career of 14 years.

Extrapolating from these findings, in the absence of contrary good reasons, decision-makers concerned with who should hold a security identification card should err on the side of caution by denying individuals who:

- commenced offending before the age of 14
 - especially if there followed an extensive and rapid offending history
- have a continuing criminal history after the age of 25 and have not reached the age of 40
- committed a 'white-collar' crime and have a prior record before the age of 24
- first committed a 'white-collar' crime after the age of 24 and not older than 43 years

By contrast, security card decision-makers could consider favourably individuals who:

- do not fit into the preceding exclusionary age-crime criteria
- started offending at the age of 18 years, have no criminal record since age 21, and have reached the age of 25 years

However, besides these decision criteria, there is a range of additional items that can be considered by security card decision-makers and those are canvassed in the following part of this report.

Once again researchers have made the point that, strictly speaking, these results cannot be legitimately applied in a categorical fashion to individuals. As well, recalling earlier discussion, some of the well known riders on recidivism research are noted here in regard to the age-crime curve.

Finally, none of the reviewed materials have placed the question of age firmly in the context of security-sensitive concerns.

Conviction-free periods

As a general rule, the literatures on recidivism and risk-based instruments would suggest that a conviction-free period of five or more years is a good initial benchmark in deciding whether an individual has arrived, at least in the absence of some crisis, at a turning point in a criminal history - see, for example, Blumstein, Cohen, Roth and Visher (1986); Kurlychek M, Brame R and Bushway S 2006..

However, this is not a tested and specifically evidenced criterion. For example, Kurlychek, Brame and Bushway (2007) conclude that a seven year crime-free period renders a past offender with a similar risk of re-offending to that of someone who has no criminal record. In their earlier study using a different data set, they found a closing but not indistinguishable risk of offending at a five year follow-up between past offenders and non-offenders (Kurlychek, Brame and Bushway 2006). Hence, the suggested benchmark rather depends on the apparent consensus that, other things being equal, a five year period is indicated to provide reasonably robust findings.

As mentioned earlier, Payne's (2007) research suggests the importance of a ten year window of conformity. If an offender is not re-arrested within that period subsequent to an arrest, court appearance, conviction or sentence expiry, then it is unlikely that there will be further criminal problems. Blumstein, Cohen, Roth and Visher (1986: 94) provide a similar ten year yardstick for the 'residual career length' of offenders who remain active in their thirties. This suggests that an applicant for a security identification card is a sound prospect if a criminal history check reveals no additional matters after ten years of a crime-free life.

As well, Payne's research suggests that security clearance for less sensitive task areas might be considered after two years of a clear criminal record. That time period would allow for a strong probability of neither more police detention nor correctional interventions.

Thus, conviction-free periods might be considered in terms of a step-ladder of two, five and ten year periods depending upon the degree and nature of the security-sensitive employment.

These benchmarks are strengthened with evidence of additional conformity by way of stable marriage and employment, and absence of deleterious alcohol, drug and gambling issues. Kurlychek, Brame and Bushway (2006: 500) even suggest that the 'fact that someone keeps the same job for over a year is an excellent predictor of ultimate desistance.'

A 'fit and proper person'

Preceding discussions have covered a range of literatures that - due to a lack of studies bearing directly upon the issue of who should hold security identification cards - have not been directly relevant to the research questions posed for this review. However, every effort has been made to present and analyse findings that bear upon this review's intents as closely as possible and that either are commonly cited by researchers or offer some particular insight. These considerations raise the issue of who is a 'fit and proper person' for purposes of access to security-sensitive environments and things.

In this part of the report the analysed materials are integrated into a set of criteria for the purpose of determining who might be a 'fit and proper person' within the context of a national security background checking procedure. The following framework is offered as a starting-point for decisions that include but reach beyond the static factors of a criminal records check to incorporate dynamic criminal background variables. It is not seen as definitive, but rather as useful in awaiting research development of a robust and comprehensive procedure for investigating risks of employment arising in a security-sensitive environment and for deciding who should hold security identification cards. It is intended as a preliminary tool for addressing issues of the malicious trusted insider and a culture of criminality. Future research could seek to develop and statistically test an index or scale constructed from the practical items cited here.

A framework for a national security background check

Key components of this framework are as follows.

- A criminal history check is a basic requirement to determine the fitness of an existing or potential employee to possess a security identification card.
- It is also necessary to conduct a broader investigation into the individual's socio-personal milieu to examine and measure dynamic life course variables impacting pathways into criminal versus law-abiding lifestyles.
- Additionally, a range of interview questions can be utilised to inquire into the individual's specific threat potential in a security-sensitive context, targeted to the individual's particular organisational position and responsibilities.
- In select instances, an individual should be interviewed by a person trained in the application of psychological tests, along with the administration of appropriate tests, which may include a validated psychopathy scale and/or other personality instruments.

A set of decision criteria for who should hold security identification cards

Within this framework, a package of decision criteria can be employed for determining who should hold a security identification card. Unfortunately, the available literature does not make it easy to contemplate a metric of decision-making that takes account of interactive effects of the various factors that have been shown to be related to if not predictive of recidivism. Nor is it easy to identify even simple numerical parameters of those factors. Errors of both over- and under-estimation are always possible and each application of any criteria set needs to be aware of, and guard against these, avoiding ethical, political and cultural issues in the process. This can be done only by judicious interpretation of what is essentially a probabilistic exercise of decision-making. The following criteria are divided into two tiers, the first being generally more robust, with the second tier serving to facilitate otherwise marginal decisions.

On the first tier, a negative decision is indicated if the individual is characterised by:

- frequency of prior convictions
 - especially if these include serious offence conviction(s) - eg, serious drug offences; robbery or assault/violence
- a diversity of offences across the three categories of property; interpersonal/violence; and any 'other'
- convictions for extra-familial child molestation (especially if focused on a type of victim or behaviour); breach of parole; and breach of a drug court order
- imprisonment in the past two years
 - especially if there was a high prison security classification
- many prison terms
 - especially if at least four prior prison terms
 - especially if there was a high prison security classification
- paroled and still within two years of release date
- commenced offending before the age of 14
 - especially if there followed an extensive and rapid offending history
- have a continuing criminal history after the age of 25 and have not reached the age of 40
- committed a 'white-collar' crime and have a prior record before the age of 24
 - especially if employment involves a position of trust relating to financial transactions
- first committed a 'white-collar' crime after the age of 24 and not older than 43 years
 - especially if employment involves a position of trust relating to financial transactions

By contrast, security card decision-makers could consider favourably individuals who:

- do not fit into the preceding exclusionary criteria
- have a conviction for incest (although that would require extra careful consideration)
- have no criminal history
- started offending at the age of 18, have no criminal record since age 21, without any 'white-collar' criminal activity, and especially if now at least 25 years old
- successfully completed a community corrections program with a rehabilitative emphasis
- have a 'white-collar' criminal record, but now at least 43 years old
- have a conviction-free period of at least 10 years and no intervening term of incarceration; and, in some instances (graded for degree of security sensitivity), crime-free periods of two and five years might be sufficient

On the second tier of considerations, a negative decision is reinforced the more the individual is characterised by:

- a history of unemployment, under-employment or unstable employment
- a low level of education
- unstable housing
- unmarried and unattached
- weak family network
- absence of other pro-social bonds
- criminal associates
- mental illness
- drug (eg heroin) abuse
- alcohol misuse
- poor physical health
- gambling problems (although the reviewed research is largely silent on this)

By contrast, a positive decision is reinforced the more the individual is characterised by:

- a history of stable employment, especially if full-time in nature, and more so if it reflects high quality and levels of responsibility
- a high level of education
- military service
- stable housing
- married or otherwise attached to a partner
- strong family network
- presence of other pro-social bonds
- successful rehabilitation/treatment outcome for any identified criminogenic need, albeit each case merits specific inquiry to determine the likely longevity of success (eg drug, alcohol, anger management, gambling, mental health, sexual deviance)
- sound physical health

To apply these criteria, it is necessary to make judgements about whether a decision should be made on the basis of a single criterion or a combination of criteria in any specific case. This is because the research evidence is not definitive about interaction effects of predictors of recidivism. Further, the risk factors predicting onset of offending or re-offending are not identical to those predicting cessation of offending (Blumstein, Cohen, and Farrington 1988a; Laub and Sampson 2001). In this respect, 'age' is really an indicator variable rather than an effective cause and the factors that are actually at work differ over the life-course. Generally speaking, decision criteria are best considered collectively, although that presents its own difficulties of comprehension. Again, it is easy to imagine a range of hypothetical case scenarios that commend consideration of the complexities involved in making a decision about any individual.

To enable full application of these decision criteria, an interview will be necessary to ascertain information especially in the second tier, as well as to provide for routine human resource management determinations of employment suitability. A range of interview questions should be developed specifically designed to target an individual's security-sensitive bona fides and in accord with the particular position of trust in a security-sensitive employment. Interview questions should be searching and answers corroborated from other sources as far as possible, again in accord with the risk sensitivity of the employment. Interviewing would, of

course, require considerable tact and need to be conducted by highly experienced and skilled interviewers. As an example, such questions could include:

- Is the individual married or otherwise committed to a partner?
- If so, how long has the relationship lasted?
- Has the individual separated from a spouse or partner, and if so when, and was the separation acrimonious or congenial?
- Does the individual have children?
- If so, are the children in the care and custody of the individual?
- Has the individual separated from a spouse or partner, and if so when?
- Has the individual any gambling, debt, alcohol, or drug related problems?
- What are the details of the individual's education and employment history and, in particular, has the individual a demonstrably positive attitude to legitimate employment?
- Does the individual have a demonstrated commitment to a sport, hobby or community/voluntary service - for example, membership of Lions, Rotary, RSL, mainstream religious/charity/voluntary organisations -and if so, how long has that commitment endured?

Finally, this review report endorses the background checking measures indicated by Wheeler (2005: 67-70), including the stringent, comprehensive, intrusive and ongoing scrutiny of an individual's socio-personal circumstances; extensive identification procedures; an appropriate appeals process; expansion of the capability of the Australian Security Vetting Service (ASVS) in a new Division within the Attorney-General's Department; and the development of an effective, accurate, efficient, timely and 'fit for purpose' database within the Australian Crime Commission.

Conclusion

This review has found nothing directly germane to the aims, terms of reference or research questions posed in relation to security-sensitive environments and factors that might assist decisions about the issue or withdrawal of security identification cards. This lack of discovery of clearly relevant materials was despite an examination of literatures concerning security issues, criminal background checks, recidivism, risk assessment and risk-based instruments, life course research and other areas tangential to the central concerns. It was also despite coverage of the known major databases and journals over the past 10 years, as well as related website resources within Australia and other English-speaking countries.

Although review timelines were short, that constraint is unlikely to have significantly impaired discovery of directly relevant literature.

In lieu of finding germane literature the research endeavour was directed to interrogation of the discovered materials of most interest. This is a cautionary enterprise because, as Payne (2007: 86) nicely puts it, 'what in one study appears to be a significant contributing factor to the propensity for reoffending, in another may be not be an important factor at all'.

Nonetheless, it is reasonable to draw some useful inferences and transfer insights from the available research evidence to address the policy need at issue. Hence, there is something to be said from this review about employment risks arising in a security-sensitive environment that can be of value to decisions on issuing or cancelling security identification cards.

A consistent, comprehensive system and set of criteria can be established for vetting and ongoing monitoring of all public and private sector security-sensitive staff, regardless of the

particulars of the environment. The foregoing framework is suggested as an initial step in this direction. However, that framework is in need of further development and validation.

To validate this framework and directly address the security-sensitive concerns at issue, it is evident that further original research is necessary. That is because there is no such research currently available in the criminological or related literatures, as demonstrated through this review. There is a need for recidivism research specifically in relation to employment risks arising within a security-sensitive environment. To decide confidently who should hold a security identification card requires investigating agency databases and records to discover the recidivism characteristics of that specific population of offenders. The most apposite research design for this purpose would be a longitudinal, retrospective, quasi-experimental one as argued by Blumstein, Cohen, and Farrington (1988b). Notably, although more costly than a simpler cross-sectional project, such a design is not as resource-intensive as a prospective one, nor would it involve an overly long period of research.

Finally, it is also notable that there are differences between the criteria for issuing ASICs and MSICs (see Appendices 1 and 2) and these are worth removing in accord with Wheeler's (2005: xviii) recommendation that:

the background checking process required to obtain and hold an Aviation Security Identification Card be further tightened and centralised in the Attorney-General's Department and that this should be harmonised with maritime cards.

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LEGISLATION

Auscheck Act 2007 (Cth)

Aviation Transport Security Act 2004 (Cth)

Criminal Law Sentencing Act 1988 (SA)

Maritime Transport and Offshore Facilities Security Act 2003 (Cth) [formerly the Maritime Transport Security Act 2003 (Cth) as renamed by the Maritime Transport Security Amendment Act 2005]

Appendices

1. Aviation security relevant offences
2. Maritime security relevant offences
3. Information available to AusCheck

1. Aviation security relevant offences

For the purposes of the Aviation Transport Security Regulations 2005, an aviation security relevant offence is an offence of a kind mentioned in the following table against a law of the Commonwealth, or of a State or Territory, or of any other country or part of country:

An offence involving dishonesty
An offence involving violence or a threat of violence
An offence involving intentional damage to property or a threat of damage to property
An offence constituted by the production, possession, supply, import or export of a substance that is: a narcotic substance within the meaning of the Customs Act 1901; or a drug within the meaning of: regulation 10 of the Customs (Prohibited Exports) Regulations 1958; or regulation 5 of the Customs (Prohibited Imports) Regulations 1956
An offence, of a kind dealt with in Part 11 of the Crimes Act 1914 against the Government of the Commonwealth or a State or Territory or a country or part of a country other than Australia
An offence against Part 2 of the Crimes (Aviation) Act 1991
An offence against Part 5.3 of the Criminal Code
An offence constituted by the production, possession, supply, import or export of explosives or explosive devices

2. Maritime security relevant offences

For the purposes of the Maritime Transport and Offshore Security Regulations 2003, a Maritime security relevant offence is an offence of a kind mentioned in the following table against a law of the Commonwealth, or of a State or Territory, or of any other country or part of country:

An offence mentioned in Chapter 5 of the Criminal Code (Note: Offences for this item include treason, espionage and harming Australians)
An offence involving the supply of goods (such as weapons or missiles) for a Weapons of Mass Destruction program as mentioned in the Weapons of Mass Destruction (Prevention of Proliferation) Act 1995
An offence involving the hijacking or destruction of an aircraft or vessel
An offence involving treachery, sabotage, sedition, inciting mutiny, unlawful drilling, or destroying or damaging Commonwealth property, mentioned in Part II of the Crimes Act 1914
An offence involving interference with aviation, maritime transport infrastructure or an offshore facility, including carriage of dangerous goods on board an aircraft or ship, or endangering the security of an aerodrome, a port or an offshore facility
An identity offence involving counterfeiting or falsification of identity documents, or assuming another individual's identity
Transnational crime involving money laundering, or another crime associated with organised crime or racketeering
People smuggling and related offences mentioned in Chapter 4, Division 73 of the Criminal Code
An offence involving the importing, exporting, supply or production of weapons, explosives or a trafficable quantity of drugs

3. Information available to AusCheck

The information that is available to AusCheck in making a background checking decision is derived from both the background check application provided by the issuing body and the criminal history provided by police services via CrimTrac.

- Application information:
 - name,
 - gender,
 - date of birth,
 - place of birth,
 - residential address,
 - name and business address of employer, and
 - contact details.
- Information from criminal history:
 - date of each conviction
 - the offence for which the person was convicted, and
 - the penalty that was imposed by the court on conviction