

# 2 | The health effects of solitary confinement<sup>17</sup>

## 2.1 Introduction

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Being held in solitary confinement is, for most prisoners, a stressful experience with potentially harmful health effects. The prisoner is socially isolated from others, his human contacts reduced to superficial transactions with staff and infrequent contact with family and friends. He is almost completely dependent on prison staff – even more than is usual in the prison setting – for the provision of all his basic needs, and his few movements are tightly controlled and closely observed. Confined to a small sparsely furnished cell with little or no view of the outside world and with limited access to fresh air and natural light, he lives in an environment with little stimulation and few opportunities to occupy himself.

Throughout the long history of its use in prisons – from the ‘silent’ and ‘separate’ penitentiaries of the 19<sup>th</sup> century through to modern-day segregation units and ‘supermax’ prisons – practitioners and researchers have observed the adverse effects of solitary confinement on prisoners’ health. In the context of coercive interrogation, international experts have identified solitary confinement as psychological torture<sup>18</sup>. The potentially damaging effects of solitary confinement are also recognised by national and international instruments and by monitoring bodies, which view it as an extreme prison practice which should only be used as a last resort and then only for short periods of time. Indeed, expressing strong concern about the use of solitary confinement as punishment, in 1990 the United Nations went as far as to call for its abolition<sup>19</sup>.

This chapter examines some of the research findings on the health effects of solitary confinement dating back to the 19<sup>th</sup> century, and attempts to explain how and why solitary confinement adversely affects physical, mental and social wellbeing<sup>20</sup>. Although negative health effects may emerge after a very short period of time in solitary confinement, this chapter is mostly concerned with the more serious health effects that are associated with longer periods of solitary confinement.

## 2.2 The health effects of solitary confinement: a brief review of the literature and prisoners' accounts

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### General observations

There is unequivocal evidence that solitary confinement has a profound impact on health and wellbeing, particularly for those with pre-existing mental health disorders, and that it may also actively cause mental illness. The extent of psychological damage varies and will depend on individual factors (e.g. personal background and pre-existing health problems), environmental factors (e.g. physical conditions and provisions), regime (e.g. time out of cell, degree of human contact), the context of isolation (e.g. punishment, own protection, voluntary/ non voluntary, political/criminal) and its duration.

Notwithstanding variations in individual tolerance and environmental and contextual factors, there is remarkable consistency in research findings on the health effects of solitary confinement throughout the decades. These have mostly demonstrated negative health effects, with studies reporting no negative effects being few and far between, and virtually no study reporting positive effects<sup>21</sup>.

### Historic accounts

The extensive use of solitary confinement in prisons of the early 19<sup>th</sup> century was well documented, and its effects on prisoners reported in medical journals of the time. Grassian and Friedman (1986) cite thirty seven reports and articles published in Germany alone between 1854 and 1909, identifying solitary confinement as the single central factor in the development of psychotic illness among prisoners. Examples include an 1854 report by the chief physician of Halle prison, Germany, who observed what he termed Prison Psychosis among isolated prisoners and concluded that *"prolonged absolute isolation has a very injurious effect on the body and mind and seems to predispose to hallucinations"* and should therefore be immediately terminated (Nitsche & Williams, 1913). A report from 1863 describes vivid hallucinations, delusions, apprehension and psychomotor excitation experienced by 84 prisoners suffering from what its authors termed the Psychosis of Solitary Confinement. In 1881, a summary of diagnostic assessments of 186 prisoners held at the 'insane department' at Waldheim prison, also in Germany, concluded that over half of the prisoners suffered reactive manifestations to solitary confinement (Grassian & Friedman, 1986).

Similar observations were made in England, where in 1850 for example, 32 out of every 1000 prisoners had to be removed from their solitary cells in Pentonville prison on grounds of insanity, compared to 5.8 prisoners per 1000 in prisons not practising solitary confinement (McConville, 1981:208-9). In the US, the Boston Prison Discipline Society, which helped devise the 'Separate' or 'Pennsylvania' system of solitary confinement, reported from as early as 1839 serious mental problems amongst isolated prisoners, including hallucinations and dementia (cited in Scharff-Smith, 2004). Referring to similar reports several years later, the US Supreme Court noted that the effects of solitary confinement were such that *"a considerable number of prisoners.... fell into a semi-foetus condition... and others became violently insane"* (*Re Medley*, 1890:167-8). Indeed, the understanding that instead of its intended role of helping to 'cure the disease of crime', solitary confinement was creating mental illness in prisoners, played a central role in the dismantling of the isolation prisons on both sides of the Atlantic by the late 19<sup>th</sup> century.

Yet, although the use of solitary confinement on a large scale ceased, it remained an integral part of prison systems and, as previously noted, in the last decade its use has increased in many jurisdictions. Throughout the decades researchers have continued to report negative effects associated with solitary confinement, and their findings are strikingly similar to those made by their historic counterparts.

## Contemporary findings

More recent studies have mostly reaffirmed that solitary confinement adversely affects those subjected to it, and have identified “confinement psychosis” as a medical condition typified by *“psychotic reaction characterised frequently by hallucinations and delusions, produced by prolonged physical isolation and inactivity in completely segregated areas”* (Scott & Gendreau, 1969:338).

A 1975 inquiry into the use of isolation in Canadian prisons concluded that administrative isolation over long periods of time represented a *“serious danger for prisoners”*<sup>22</sup>. Two years later a Council of Europe (1977) study suggested that prolonged close-confinement of long-term prisoners led to what was termed ‘separation syndrome’ that included emotional, cognitive, social and physical problems<sup>23</sup>. Benjamin & Lux (1977:262) stated that *“evidence overwhelmingly [indicates] that solitary confinement alone, even in the absence of physical brutality or unhygienic conditions, can produce emotional damage, decline in mental functioning and even the most extreme forms of psychopathology such as depersonalization, hallucinations and delusions”*. Ruling in a case involving prisoners held in strict isolation in Germany, the European Human Rights Commission (1978:97) similarly noted that *“isolation can be sufficient in itself to gravely impair physical and mental health”*.

Grassian’s (1983) psychiatric evaluation of 14 prisoners held in the solitary confinement block at the Massachusetts Correctional Institution at Walpole reported perceptual changes, affective disturbances, difficulty with thinking, concentration and memory, disturbances of thought content, and problems with impulse control. Korn’s study (1988) of the women’s High Security Unit at Lexington, Kentucky, found that women held there suffered claustrophobia, rage, severe depression, hallucinations, withdrawal, blunting of affect and apathy. He also reported appetite loss, weight loss, visual disturbances and heart palpitations. Brodsky & Scogin’s (1988) study of 45 prisoners held in protective custody similarly reported a high prevalence of negative physiological and psychological symptoms including nervousness, talking to oneself, hallucinations and delusions, confusion, irrational anger, headaches and problems sleeping. Hodgins & Cote (1991) found severe mental disorders amongst 29 per cent of a sample of 41 segregated prisoners held in Quebec’s Special Handling Unit (SHU), and in 31 per cent of a sample of 32 prisoners segregated in the Long-Term Segregation Unit (LTSU)<sup>24</sup>.

Haney’s (1993) study of 100 randomly selected prisoners in one of California’s supermax prisons, Pelican Bay Security Housing Unit, reported a very high prevalence of symptoms of psychological trauma with 91% of the prisoners sampled suffering from anxiety and nervousness, more than 80% suffering from headaches, lethargy and trouble sleeping and 70% fearing impending breakdown. More than half of the prisoners suffered from nightmares, dizziness and heart palpitations and other mental-health problems caused by isolation, which included ruminations, irrational anger and confused thought processes (more than 80% of prisoners sampled), chronic depression (77%), hallucinations (41%) and overall deterioration.

Miller's (1994:48) study of 30 prisoners in a Kentucky prison similarly found that *"inmates housed in the most restrictive environment [punitive segregation] reported significantly higher levels of psychological distress symptoms such as anxiety and hostility, than inmates in the general population"*. A follow-up study (Miller & Young, 1997:92) reported withdrawal, hostility, aggression, rage and irresistible impulses among those held in disciplinary segregation and concluded that these findings indicate that *"there may be a level of restriction that, instead of solving administrative problems, becomes both a mental health issue and a further problem for the prison administration"*. Sestoft et al. (1998:105) concluded their study of the impact of solitary confinement on subsequent hospitalisation among Danish detainees by stating that *"individuals in solitary confinement are forced into an environment that increases their risk of hospitalisation ... for psychiatric reasons"*.

In his extensive study on the effects of imprisonment on more than 900 prisoners, including those held in segregation units, Hans Toch coined the term *"Isolation Panic"* to describe the experiences of isolated prisoners. Symptoms of this syndrome included

*A feeling of abandonment ... dead-end desperation... helplessness, tension. It is a physical reaction, a demand for release or a need to escape at all costs... [Isolated prisoners] feel caged rather than confined, abandoned rather than alone, suffocated rather than isolated. They react to solitary confinement with surges of panic or rage. They lose control, break down, regress... (Toch 1992:49).*

Harvard psychiatrist Stuart Grassian, who has been studying the effects of solitary confinement for over two decades, similarly suggested that the symptoms experienced by isolated prisoners form a distinct syndrome, closely akin to 'delirium',

*That is, a constellation of symptoms occurring together and with a characteristic course over time, thus suggestive of a discrete illness... while this syndrome is strikingly atypical for the functional psychiatric illnesses, it is quite characteristic of an acute organic brain syndrome: delirium, characterised by a decreased level of alertness, EEG abnormalities ... perceptual and cognitive disturbances, fearfulness, paranoia, and agitation; and random, impulsive and self-destructive behavior ... (Grassian, 2006:338).*

Finally, the growing body of research into the health effects of confinement in 'supermax' prisons in the United States (for example: Cloyes et al. (2006); Haney (2003); Kupers (1999); Miller (1994); Miller & Young (1997); Rhodes (2004); Grassian, (2006).) largely confirms findings reported in earlier studies, namely, that *"this experience is psychologically painful, can be traumatic and harmful, and puts many of those who have been subjected to it at risk of long-term emotional and even physical damage"* (Haney & Lynch, 1997:500).

## **The accounts of prisoners**

Researchers have found that prisoners in solitary confinement often have little insight into their own mental state and tend to minimise their reaction to solitary confinement and play down any mental health problems (Grassian, 1983; Haney, 2003). Segregated prisoners also appear to have a more negative view of psychiatric treatment in prison and tend to avoid seeking such help (Coid et al. 2003-1:315). Mental health problems are particularly stigmatised amongst Muslim prisoners who are reluctant to seek help (Robbins et al. 2005). A report of the inspection of a small unit for Muslim prisoners detained under immigration law on the grounds of national security in the UK, for

example, identified that five of the eight had significant mental health problems but that there was very little take up of the mental health service provided (An Inspection of the Category A Detainee Unit at Long Lartin, HMCIP, 2007). Nonetheless, accounts from prisoners themselves illustrate a range of severe adverse health effects. What follows is what has emerged from interviews with prisoners in isolation, or after the event, and from writings by formerly isolated prisoners.

One of the problems most commonly reported by prisoners who were isolated is that they found it hard to distinguish between reality and their own thoughts, or found reality so painful that they created their own fantasy world. Researchers link such incidents to the absence of external stimuli which results in the brain starting to create its own stimulation, manifesting in fantasy and hallucinations. One study of prisoners who were isolated for periods ranging from 11 days to 10 months reported both auditory and visual hallucinations. One interviewee described how: *“the cell walls start wavering... everything in the cell starts moving; you feel that you are losing your vision”*. Others reported auditory hallucinations: *“I overhear guards talking. Did they say that? Yes? No? It gets confusing. Am I losing my mind?”* Prisoners also reported high sensitivity to noise and smells: *“you get sensitive to noise. The plumbing system... the water rushes through the pipes- it’s too loud, gets on your nerves. I can’t stand it. Meals- I can’t stand the smells....the only thing I can stand is the bread”* (Grassian, 1983).

Other studies have reported similar experiences, ranging from hypersensitivity to sound and smell, to paranoid episodes and self-injury. One former female prisoner described extreme sensitivity to sounds *“Your vision was highly restricted, so you live by sound... you could hear every creaking of the place, you know, the building. It was almost amplified... not that our hearing was better, it was just that we paid more attention because sound had to do with... with life”* (Cited in Shalev, forthcoming). Another former prisoner who was isolated in a dark punitive isolation cell ‘saw faces’ and ‘held conversations’ with people who were not there:

*Sometimes I felt like I was losing my mind, or that I have lost it already, you know... Holding conversations with myself... I had conversations with people. I mean dialogues, long dialogues with people. Some of them I knew, and some of them I didn’t know. There were times when the darkness wasn’t dark. I could see faces... I think that I found out that I may be hallucinating when I touched my eyes and my eyes were open so I kind of knew I wasn’t dreaming. After a while I thought that maybe I will die there. I really thought I would [Former prisoner, USA, cited in Shalev, forthcoming].*

Similar findings were reported by Siegel’s (1984) study of 31 people who were subjected to isolation, visual deprivation and restraint on physical movement as hostages, prisoners of war or convicted prisoners over varying periods. All interviewees reported visual and auditory hallucinations that appeared within hours of being isolated and became more and more elaborate as time went by. Prisoners participating in Toch’s (1992) large-scale study of the psychological effects of incarceration reported similar experiences in solitary confinement. Interviewee ‘M’, for example, described panic and paranoid thoughts during his first days in isolation:

*...and then I lay on the mattress, and then after I sit there I feel the walls coming in around me. And then when the guards come in and I am screaming, they say: ‘what the fuck is going on here?’ and I say ‘the walls are closing in on me’ and they say ‘that’s tough, you’re going to die anyway. We’ll strangle you’... I was thinking that if I don’t get the hell out of there, they’re going to kill me. And I don’t feel like fighting them (Toch 1992:150).*

Another former prisoner who spent two years in a supermax prison in California chose to refer to 'seeing others lose it' and described similar scenarios<sup>25</sup>:

*I have seen inmates lose their mind completely because of the sound of a light where they are yelling at the light, cursing at the light, believing that for some reason the [authorities] planted some kind of noise inside the light purposely... and so the inmates that ain't strong minded, don't have something to hang on to, the light, the sound of the door, can make them lose their mind... I found it strange, you know, how can a grown man, a very big, grown man, break down to a light. But that's what [that place] can do. And once you lose your mind, you don't know right from wrong. You don't know that you're breaking a rule. You don't know what to do exactly [Former prisoner, USA, cited in Shalev forthcoming].*

Seeing and hearing other prisoners break down is a stressful experience in itself, as Henry Charriere ('Papillon') found during his time in isolation on 'Devil's Island', a French penal colony in Guyana: "A great many suicides and men going raving mad around me... it's depressing to hear men shouting, weeping or moaning for hours or even days on end". He himself survived eight years in solitary confinement through fantasy: "thanks to my wandering amongst the stars it was very rare that I ever had a lasting despair. I got over them pretty fast and quickly invented a real or imaginary voyage that would dispel the black ideas" (1970:354-356). One of the problems with such techniques is that the boundaries between fantasy and reality can become dangerously blurred, as was the case for one former female prisoner, who regularly 'left her body' to 'travel' in the outside world. These were not daydreams, but out-of-body experiences from which at times, according to her, it was "really hard to come back":

*The first four years of prison was such a fantasy world... I was in segregation. I could be in my cell and shut everyone out and I would go travelling. I would go up and out of prison and fly over the beaches and mountains of Okinawa, where I used to live. Sometimes it was really, really hard to come back [Former prisoner, USA, cited in Shalev, forthcoming].*

As her time in isolation grew longer, so did the intensity and frequency of her 'travels', until one day the prison chaplain saw her lying on her cell-floor in a near catatonic state and took her under his wing. British prisoner Doug Wakefield had somewhat less pleasant hallucinations after a period in isolation, "usually in the form of spiders and insects crawling over the floor, the bed and walls, and at such times it is common to hear voices and strange noises" (Wakefield 1980:28). Describing himself as a 'graduate of 1000 days in segregation', he wrote: "fantasising and day-dreaming become prevalent pastimes and the obvious danger here is that this activity could become a permanent feature of the mind with the consequent disadvantage of not knowing at times whether you are in reality or fantasy" (Ibid at p. 30).

The similarities between these accounts of time in isolation in different contexts, geographical locations, and for varying periods of time are striking and cannot be easily discounted. Further, the personal accounts cited above are consistent with research findings on the health effects of solitary confinement reviewed previously. Some of the reported health effects of solitary confinement, both physiological and psychological, are listed in the following section.

## 2.3 The negative health effects of solitary confinement: reported symptoms

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### Physiological effects

Although psychological effects are most common and usually dominant, physiological effects are nevertheless commonly reported. Some of these may be physical manifestations of psychological stress, but the lack of access to fresh air and sunlight and long periods of inactivity are likely also to have physical consequences. Grassian and Friedman (1986) list gastro-intestinal, cardiovascular and genito-urinary problems, migraine headaches and profound fatigue. Other signs and symptoms recorded by the some of the studies reviewed above are

- Heart palpitations (awareness of strong and/or rapid heartbeat while at rest)
- Diaphoresis (sudden excessive sweating)
- Insomnia
- Back and other joint pains
- Deterioration of eyesight
- Poor appetite, weight loss and sometimes diarrhoea
- Lethargy, weakness
- Tremulousness (shaking)
- Feeling cold
- Aggravation of pre-existing medical problems.

### Psychological effects

The most widely reported effects of solitary confinement are its psychological effects<sup>26</sup>. These will vary with the pre-morbid adjustment of the individual and the context, length and conditions of confinement. The experience of previous trauma will render the individual more vulnerable, as will the involuntary nature of confinement as punishment, and confinement that persists over a sustained period of time. Initial acute reactions may be followed by more chronic symptoms if the confinement persists. While the majority of those held in solitary confinement will report some form of disturbance, there may be a small number of prisoners who show few signs and symptoms and may be more resilient to the negative effects of solitary confinement. Symptoms occur in the following areas and range from acute to chronic.

**Anxiety**, ranging from feelings of tension to full blown panic attacks

- Persistent low level of stress
- Irritability or anxiousness
- Fear of impending death
- Panic attacks

**Depression**, varying from low mood to clinical depression

- Emotional flatness/blunting – loss of ability to have any ‘feelings’
- Emotional lability (mood swings)
- Hopelessness
- Social withdrawal; loss of initiation of activity or ideas; apathy; lethargy
- Major depression

**Anger**, ranging from irritability to full blown rage

- Irritability and hostility,
- Poor impulse control
- Outbursts of physical and verbal violence against others, self and objects
- Unprovoked anger, sometimes manifesting as rage

**Cognitive disturbances**, ranging from lack of concentration to confusional states

- Short attention span
- Poor concentration
- Poor memory
- Confused thought processes; disorientation.

**Perceptual distortions**, ranging from hypersensitivity to hallucinations

- Hypersensitivity to noises and smells
- Distortions of sensation (e.g. walls closing in)
- Disorientation in time and space
- Depersonalisation/derealisation
- Hallucinations affecting all five senses, visual, auditory, tactile, olfactory and gustatory (e.g. hallucinations of objects or people appearing in the cell, or hearing voices when no-one is actually speaking).

**Paranoia and Psychosis**, ranging from obsessional thoughts to full blown psychosis

- Recurrent and persistent thoughts (ruminations) often of a violent and vengeful character (e.g. directed against prison staff)
- Paranoid ideas – often persecutory
- Psychotic episodes or states: psychotic depression, schizophrenia.



## Self-harm and suicide

Historical reports of 19<sup>th</sup> Century isolation prisons repeatedly describe acts of auto-aggression, self-mutilation, and suicide. Contemporary studies have also shown that self-harm (including banging one's head against the cell wall) and suicides are more common in isolation units than in the general prison population (Haney & Lynch 1997:525). In California, for example, a reported 69% of prison suicides in 2005 occurred in segregated housing units (USA Today, 27/12/2006), and in England and Wales in 2004/5 a fifth of prison suicides took place in segregation units (National Offender Management Service, Safer Custody Group. Self inflicted deaths Annual Report, 2004/5).

Other forms of self-harm are also prevalent in solitary confinement. Researchers have noted that self-mutilation or cutting is often *"a result of sudden frustration from situational stress with no permissible physical outlet... Self-addressed aggression forms the only activity outlet"* (Scott & Gendreau, 1969:341). Another study found that self-mutilation was a means to *"liberate the self from unbearable tension- the physical pain becomes a compensatory substitute for psychic pain or shame"* (Dabrowski (1937), cited in McCleery, 1961:303). Former prisoners have testified that self harm played another role for them when they were held in segregation – it asserted that they were still alive.

*I was totally frustrated... I started smashing up the cell. I refused to eat. I started refusing water. I was totally paranoid. I started sipping my own urine because I thought they were trying to poison me. I resorted to self-injury, was put in a body belt. You become so angry. It's an outlet, but you have to vent it out. Even your own blood is something real [Former prisoner, UK, cited in Shalev, forthcoming].*

*I found myself curled up in a foetal position rocking myself back and forth and banging my head against the wall. In the absence of sensation, it's hard sometimes to convince yourself that you're really there [Former prisoner, US, cited ibid.].*

It is difficult to obtain figures for forms of self-harm that do not result in death. Nonetheless, there is compelling anecdotal evidence that the prevalence of such incidents in segregation and isolation units is particularly high.

## 2.4 What makes solitary confinement harmful?

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Each of the three main factors inherent in solitary confinement- social isolation, reduced environmental stimulation and loss of control over almost all aspects of daily life- is potentially distressing. Together they create a potent mix. Moreover, psychiatric morbidity studies of prisoners indicate that they are a particularly vulnerable population, even when not in solitary confinement. In England and Wales, a morbidity survey of prisoners carried out by the Office for National Statistics in 1998 found that only 10% were without any history of neurotic disorder, psychotic disorder, personality disorder or substance misuse, and many experienced some or all of these in combination (ONS psychiatric morbidity survey, 1998). It is also known that about 7% of prisoners have a severe learning disability, with an IQ of 70 or below<sup>27</sup>, and that those with learning disabilities find it particularly difficult to cope with isolation. About 12% will also be receiving psychiatric treatment while in prison for severe and enduring mental illness (HMCIP, The mental health of Prisoners, 2007). One cause of these high levels of disturbance is the experience of early life trauma

and the resulting poor personal and social adjustment. All these features conspire to render prisoners particularly vulnerable to the effects of isolation, reduced activity, under-stimulation and loss of control over their lives.

Conversely, anecdotal evidence suggests that some prisoners are protected from the worst impact of solitary confinement by the meaning they are able to make of the experience. Some political prisoners, for example, have demonstrated remarkable resilience during prolonged periods of confinement. That does not mean that the experience was not a difficult one. Describing his time in Robben Island, Nelson Mandela writes: *"I found solitary confinement the most forbidding aspect of prison life. There is no end and no beginning; there is only one's mind, which can begin to play tricks. Was that a dream or did it really happen? One begins to question everything."* (Nelson Mandela, *The Long Walk to Freedom*, 1995). Leaders of the Tupamaro movement in Uruguay, who were imprisoned in strict solitary confinement (they were not allowed to communicate with anyone, meals were delivered to them through a hatch in the cell-door by guards who were instructed not to exchange a word with them) for several years during the 1970's, reported that solitary confinement was the worst form of torture; one prisoner said that *"electricity [torture] is mere child's play in comparison to prolonged solitude"* (cited in Reyes, 2007:607).

## Social isolation

Social well-being is seen by the World Health Organisation as integral to its definition of 'health'<sup>28</sup>. Solitary confinement removes the individual from the company of others and deprives him or her of most forms of meaningful<sup>29</sup> and sympathetic social interaction, as well as physical contact. In most cases the isolated individual is deprived of any form of interaction with fellow prisoners, and sometimes with family and friends through restrictions on visits. Where visits do take place they can be closed, with a barrier separating the prisoner from his visitors, preventing any physical contact between them.

Social learning theories highlight the importance of social contact with others not just for pleasure and play but for the individual's very sense of 'self' which is shaped and maintained through social interactions. Social contact is crucial for forming perceptions, concepts, interpreting reality and providing support<sup>30</sup>.

*The self... is essentially a social structure and it arises in social experience. After a self has arisen, it in a certain sense provides for itself its social experiences, and so we can conceive of an absolutely solitary self. But it is impossible to conceive of a self arising outside social experience. When it has arisen we can think of a person in solitary confinement for the rest of his life, but who still has himself as a companion, and is able to think and to converse with himself as he had communicated with others....*

***This process of abstraction cannot be carried on indefinitely.*** (Mead, 1934, emphasis added).

Paradoxically, social isolation can lead to further withdrawal. One study found support for the hypothesis that the "shut-in" or "seclusive" personality, "generally considered to be the basis of schizophrenia, may be the result of an extended period of 'cultural isolation'; that is, separation from intimate and sympathetic social contact" (Faris, 1962:155). Faris adds that "seclusiveness is frequently the last stage of a process that began with exclusion or isolation which was not the choice of the patient" (Ibid. at p. 159).

Deprived of meaningful and sympathetic social contact and interaction with others, the prisoner in solitary confinement may withdraw and regress. Even when isolated prisoners do not show any obvious symptoms, upon release from isolation they can become uncomfortable in social situations and avoid them, with negative consequences for subsequent social functioning in both the prison community and the outside community, again undermining the likelihood of successful resettlement.

## Reduced activity and stimulation

Monotony and reduced sensory stimulation are part and parcel of the experience of isolation. In the isolation prisons of the 19<sup>th</sup> century, where prisoners had access to work, great care was taken to ensure that they were given intentionally tedious and dull jobs usually performed in silence. In 'modern' isolation sections of prisons, work, education or other diversion such as reading material, radio or television, can be withheld or restricted as part of a system of punishment. When work is allocated, it is often conducted inside the cell and, as in the 19<sup>th</sup> century, can be simple and monotonous, for example stuffing envelopes. Prisoners can be detained in sparsely furnished cells for up to 23 hours a day with little sensory or mental stimulation.

Prisoners' accounts illustrate the effects of monotony and boredom on their mental state during a period of isolation:

*Boredom is a major enemy. Sensory deprivation is a way of life. There is simply nothing to do. Sit in your bathroom alone with none of your intimate possessions and try to imagine years of it, week after week. Slowly it tears you down, mentally and physically<sup>31</sup>.*

*The utter and monstrous boredom that becomes so obvious after a short period of isolation is an all-powering one... in order to fight off the tendency to complete idleness and to retain a hold on the senses, it is necessary to make great exertions... Yet no matter how successful a prisoner may be in staving off the effects of... isolation, it is only a matter of time before it catches up with him (Wakefield 1980:28).*

*...you sit in solitary confinement stewing in nothingness, not merely your own nothingness but the nothingness of society, others, the world. The lethargy of months that add up to years in a cell, alone, entwines itself about every 'physical' activity of the living body and strangles it slowly to death, the horrible decay of the truly living death. You no longer do push-ups or other physical exercise in your small cell; you no longer pace the four steps back and forth across your cell. You no longer masturbate; you can call forth no vision of eroticism in any form... time descends in your cell like the lid of a coffin in which you lie and watch it as it slowly closes over you... solitary confinement in prison can alter the ontological makeup of a stone (Abbott 1982:44-45).*

These personal accounts are supported by studies which indicate that reduced sensory input may lead to reduced brain activity. Building on the input-output theory, one study suggested that sensory input and motor-mental output work in parallel:

*A drop in sensory input through sensory restriction produces a drop in mental alertness, an inability to concentrate, a drop in planning and motivation, together with a drop in physical activity in the speech and motor systems... In prison life boredom generates boredom. A drop in stimulus input results in mental sluggishness, a disinclination to learn and a correlated drop in planning, motivation and physical activity (Scott & Gendreau, 1969:338).*

To evaluate this hypothesis, the brain activity of isolated prisoners was measured daily. Researchers found that following seven days in isolation there was a decline in brain activity. This decline *“was correlated with apathetic, lethargic behaviour... and with a reduction in stimulation seeking behaviour. Up to seven days the EEG decline is reversible, but if deprived over a long period this may not be the case”* (Scott & Gendreau, *ibid.*).

### **Lack of control**

A third aspect of segregated confinement is the rigid regime and exceptionally high level of control over all aspects of prisoners' lives, or what has been termed *“an authoritarian system of social control”* (McCleery, 1961:272), or the *“totality of control”* (Haney, 1993).

While undergoing any special control or disciplinary measure, some degree of increased control and watchfulness from the authorities is inevitable. However, in the case of solitary confinement, this control is extreme and prisoners have few avenues or areas where they can exercise personal autonomy, and are completely dependent on staff for the provision of all their basic needs. When this degree of control is exercised over long periods of time, the psychological impact is proportionally greater.

Various studies have examined the socio-psychological aspects of long-term imprisonment in highly controlled environments and have identified some common psychological reactions<sup>32</sup>. These typically range from apathy to aggression: *“either reaction to the system of rigid discipline tends to become something very much like insanity – apathy, listlessness, vagaries, or else irritability, hatred and nervous instability”* (Sutherland & Cressey, 1955:473). Another study similarly noted that over time, symptoms experienced by isolated prisoners are *“likely to mature into either homicidal or suicidal behaviour”* (McCleery, 1961:265).

Thus, contrary to the aims of enforcing calm and control on a prisoner, solitary confinement can produce further irritability and even violent outbursts, often unprovoked. Such violent outbursts may be directed against staff, but may also be turned upon the prisoner himself in the form of self-harm or suicide. Where the prisoner does become more docile and apparently conforming to the rules, it may in fact be a pathological reaction in the form of withdrawal, emotional numbing and apathy. Further, the ‘totality of control’ means that some prisoners become so reliant on the prison to organise their lives and daily routines that they lose the capacity to exercise personal autonomy. This, again, may render them dysfunctional in society upon their release and some will seek to return to prison.

## 2.5 The duration of solitary confinement

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All studies of prisoners who have been detained involuntarily in solitary confinement in regular prison settings for longer than ten days have demonstrated some negative health effects (Haney, 2003), and even apologists of the practice agree that prolonged punitive solitary confinement *“presents considerable risk to the inmates”* (Gendreau and Bonta, 1984:475).

A study comparing subsequent admission to psychiatric hospitals in Denmark for prisoners held in solitary confinement compared to those held with other prisoners, found that hospitalisation rates diverged significantly after four weeks. The *“probability of being admitted... for psychiatric reasons was about 20 times as high as for a person remanded in non-solitary confinement for the same period of time”* (Sestoft et al. 1998:105). Siegel’s (1984) study of 31 people who were subjected to isolation, visual deprivation and restraint on physical movement in different situations (hostages, POWs, prisoners) and for varying times reported visual and auditory hallucinations within hours of being isolated, becoming more severe with time.

Studies with volunteer prisoners isolated for periods of up to ten days have commonly reported minimal negative effects. Walters et al (1963:772) noted that for 20 long-term prisoners in a Canadian Federal Penitentiary who volunteered to stay in solitary cells for four days *“while social isolation may produce some change in subjective feelings, it does not result in mental or psychomotor deterioration or increased susceptibility to social influence.”* Similarly Ecclestone, Gendreau and Knox in 1974 reported that for eight volunteers over a period of 10 days *“solitary confinement was not more stressful than normal institutional life.”* But these outcomes may be accounted for by the short duration of stay in isolation and by the fact that prisoners who participated in these studies welcomed the opportunity to spend time away from the general prison population

Experimental studies with volunteers have reported relatively short-lived tolerances for isolation. Although such studies are not equivalent to enforced isolation in the prison context where prisoners are not free to end the experiment at any time, the findings serve to illustrate the powerful impact of isolation on human subjects. In a study aimed at measuring levels of tolerance to isolation, approximately two-thirds of the volunteers were able to remain in an isolated room for periods ranging from three to fourteen days (Zuckerman, 1964:255-276). In another, twenty volunteers were placed separately in a silent room, and asked to remain in it for as long as they could. The average quitting times were 29.24 hours for men and 48.70 hours for women. None of the participants endured the ‘silent room’ for longer than four days (Smith & Lewty, 1959:342-345). Where the duration of isolation was unspecified, two hours were sufficient to generate confusion and the fear of becoming insane (Solomon et al, 1961).

Other studies have also demonstrated that an important element in the level of endurance of solitary confinement is prior knowledge of its duration. Uncertainty as to its duration *“promotes a sense of helplessness. Finite sentences imposed for acknowledged acts seem less prone to inspire panic”* (Toch, 1992:250). Another study concluded that uncertainty is a critical factor relating to the outcome of hostility and aggression (McCleery 1961:303). Knowing how long the experience is to last is therefore a clear mitigating factor available to those responsible for placing a prisoner in segregation.

## 2.6 Sequelae of isolation: the lasting effects of solitary confinement

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There are few longitudinal studies of the effects of solitary confinement and no follow-up studies of formerly isolated prisoners following their release from prison. Again, any long term effects are likely to be dependent on the individual, the type of confinement and its duration. One study of detainees held on remand in solitary confinement at the Western prison in Copenhagen, which examined them on the second to fourth day of their isolation and thereafter at monthly intervals, found a decrease in symptoms soon after transfer to the general population, indicating that “*solitary confinement conditions are distressing and probably temporary, at least partially*” (Andersen et al. 2003:174). The authors note, however, that “*the finding that mental health condition improved when prisoners were moved from solitary confinement to non-solitary confinement indicates that solitary confinement imposes a condition that arguably could be avoided by abolishing it*” (Ibid. at page 175).

Similarly, Grassian’s (1983) study of prisoners held in solitary confinement at Walpole prison in Massachusetts, where the legal statute required that isolated prisoners be relieved from their status for at least 24 hours every 15 days, reported rapid diminution of symptoms during breaks in confinement.

However, other studies report sleep disturbances, nightmares, depression, anxiety, phobias, emotional dependence, confusion, impaired memory and concentration (Hocking, 1970) long after release from isolated environments. These symptoms are similar to those experienced by prisoners in isolation and may imply a degree of irreversibility. But the lasting effects of solitary confinement are perhaps most evident in social settings and with interpersonal relationships:

*Although many of the acute symptoms suffered by inmates are likely to subside upon termination of solitary confinement many [prisoners], including some who did not become overtly psychiatrically ill during their confinement in solitary, will likely suffer permanent harm... this harm is most commonly manifested by a continued intolerance to social interaction, a handicap which often prevents the inmate from successfully readjusting to ... general population prison and often severely impairs the inmate’s capacity to reintegrate into the broader society upon release from imprisonment (Grassian, 2006:332).*

Former prisoners who have spent prolonged periods in solitary confinement have testified to experiencing difficulties in social situations long after their release:

*I mean there are still times where I may go to the walk-in and after the movie’s over and, you know, it’s like I’ve been in the dark and all of the sudden the light comes on and boom all these millions of people around me, I’m like, you know, looking around like, okay, okay, who’s gonna hit me, what’s gonna happen ... I mean, you feel real uncomfortable and then all of the sudden you start shaking, you know, you feel your heart beat and then you realise, wait a minute, I’m at a theatre, what am I tripping on? There ain’t nobody out here all crazy. I’m not in prison. It gets real uncomfortable when I’m around a big crowd. Like sometimes even going to the grocery store I feel uncomfortable, you know, when people look at me, and I’m wondering, you know, wow, what are they looking at? [Former prisoner, US. Cited in Shalev, forthcoming].*

*My character and personality have undergone many negative changes and I am now a very paranoid and suspicious person. The paranoia has become so extensive that I find it impossible to trust anyone anymore and I have developed a tendency to hate people for no apparent reason (Wakefield, 1980:30).*

Unable to regain the necessary social skills for leading a 'normal' life, some may continue to live in relative social isolation after their release. In this sense, solitary confinement operates against one of the main purposes of the prison which is to rehabilitate offenders and facilitate their reintegration into society.

## **2.7 Concluding remarks about the effects of solitary confinement**

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There are problems in drawing general conclusions from studies of particular prisoners and from experimental research with volunteers. Studies carried out with prisoners in the context of lawsuits being brought by the prisoner against the authorities raise questions about the partiality of the findings, as do studies carried out by medical professionals employed by the authorities responsible for the confinement. Getting access to prisoners in real life segregation for research purposes raises both practical difficulties and ethical concerns. There is also a clear lack of equivalence between the experience of solitary confinement in real life prisons and within the context of time-bounded experiments. The role of pre-existing mental health problems is also a significant compounding variable.

Nevertheless, there is a large and growing body of literature that demonstrates the harmful impact of isolation, particularly when used punitively, without clear time limits, for periods that are longer than four weeks and for people with prior mental health problems and poor social adjustment.

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### **Key points**

- **There is unequivocal evidence, dating back to the 19<sup>th</sup> century, demonstrating the negative health effects of solitary confinement.**
- **The extent of psychological and physiological damage of solitary confinement will depend on the individual prisoner, his background, the context of placement in isolation, its duration, conditions of confinement and degree of mitigation.**
- **Uncertainty about the expected duration of solitary confinement is likely to increase its adverse effects.**
- **While some of the health effects of solitary confinement will subside upon its termination, others may persist.**
- **For these reasons, the use of solitary confinement should be reserved for extreme cases, for as short time as possible, but usually no more than a matter of days.**
- **The misuse of the psychological and physiological effects of solitary confinement as part of an interrogation process may amount to cruel, inhuman or degrading treatment or punishment and even to torture, and should be prohibited in all circumstances.**

## Notes

- 17 This chapter was co-authored with Monica Lloyd, Forensic Psychologist, formerly of the Chief Inspector of Prisons (HMCIP) office, and Jonathan Beynon, MD, Medical Co-ordinator for Health in Detention, International Committee of the Red Cross. The points of view expressed here represent the personal opinions of the authors, and do not necessarily represent the position of their organisations.
- 18 Reyes, H. The worst scars are in the mind: psychological torture, *International Review of the Red Cross*, Volume 89 No. 867, September 2007 pp 591-617. See also: Human Rights Watch report: *Locked Up Alone: Detention Conditions and Mental Health at Guantanamo*, June 2008; Physicians for Human Rights (PHR): *Break them down: systematic use of psychological torture by US forces*. Physicians for Human Rights, USA, 2005.
- 19 Principle 7 United Nations Basic Principles for the Treatment of Prisoners, adopted and proclaimed by General Assembly resolution 45/111 of 14 December 1990
- 20 This chapter is only intended as a brief and selective review of the literature. The studies examined in this review vary greatly in scope, location, context, factors examined and methodology. For a comprehensive review of the literature on the health effects of solitary confinement and a discussion of methodological issues see Scharff-Smith (2006).
- 21 With the exception of Suedfeld & Roy (1975) who suggested that short-term, non-punitive solitary confinement of volunteer participants may have beneficial effects (though these are not elaborated).
- 22 Reported in the Canadian Medical Journal 1977:408-416
- 23 Researchers reported emotional disturbances, disturbances in comprehension and ability to think, infantile regressive changes and difficulty in making social contacts, as well as sleep disturbances, headaches and severe digestive problems (cited in Amnesty International, 1980).
- 24 The authors note that many of the prisoners in both samples suffered prior mental health problems.
- 25 As Toch (1992:152) noted "*personal breakdown in isolation does not square with manly self-images and reputations*", so prisoners may find it easier to refer to others 'losing it'.
- 26 The symptoms listed in this section have been consistently reported by the studies discussed above. For a more detailed review of research findings see, Grassian & Friedman (1986); Grassian (2006); Haney & Lynch (1997); Haney (2003); Scharff-Smith (2006).
- 27 Mottram, P. 2007. *HMP Liverpool, Styal and Hindley Study Report*, University of Liverpool
- 28 "Health, which is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity, is a fundamental human right ..." World Health Organisation, Declaration of Alma-Ata, 1978.
- 29 '*Meaningful*' is emphasised because it cannot be argued that regular contact with custodial staff whilst being fed, restrained and escorted constitutes meaningful contact.
- 30 See Mead (1934). For a review of social learning theories and their application in situations of social isolation see Haney & Lynch 1997:503-506
- 31 A prisoner in Florida's Supermax, cited in the Campaign to Stop Control Units Report, 1997
- 32 See Sutherland & Cressey (1955); Sykes (1958); Goffman (1961); McCleery (1961). See also Cohen & Taylor's ([1972] 1981) study of prisoners in Durham prison's maximum-security wing in the late 1960s and Toch's (1992) study of prisoners' reactions to the "psychological strain of imprisonment".