



One Year Longitudinal Study of the Psychological Effects of Administrative Segregation: Abstract and Summary

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Abstract

One of the most widely debated topics in the field of corrections – the use of long-term administrative segregation (AS) – has suffered from a lack of empirical research. Critics have argued that the conditions of AS confinement exacerbate symptoms of mental illness and create mental illness where none previously existed. Empirical research has had little to offer this debate; the scant empirical research conducted to date suffers from research bias and serious methodological flaws. This study seeks to advance the literature in this regard.

This study tested three hypotheses:

- *Offenders in AS would develop an array of psychological symptoms consistent with the security housing unit (SHU) syndrome;*
- *Offenders with and without mental illness would deteriorate over time in AS, but at a rate more rapid and extreme for the mentally ill; and*
- *Inmates in AS would experience greater psychological deterioration over time than the comparison groups.*

Study participants included male inmates who were placed in AS at Colorado State Penitentiary and comparison inmates in the general population (GP). Placement into AS or GP conditions occurred as a function of routine prison operations. GP comparison participants included those at risk of AS placement due to their institutional behavior. Inmates in both of these study conditions (AS, GP) were divided into two groups – inmates with mental illness (MI) and with no mental illness (NMI). A third comparison group of inmates with severe mental health problems placed in San Carlos Correctional Facility, a psychiatric

care prison facility, was also included. A total of 302 inmates were approached to participate in the study, and 55 refused to participate or later withdrew their consent. Participants were tested at 3-month intervals over a yearlong period.

Standardized test data were collected through self-report, correctional staff, and clinical staff measures. Tests with demonstrated reliability and validity were selected to assess the eight primary constructs of interest:

- Anxiety;
- Cognitive impairment;
- Depression/hopelessness;
- Hostility/anger control;
- Hypersensitivity;
- Psychosis;
- Somatization; and
- Withdrawal/alienation.

Extensive analyses of psychometric properties revealed that inmates self-reported psychological and cognitive symptoms in reliable and valid ways.

The results of this study were largely inconsistent with our hypotheses and the bulk of literature that indicates AS is extremely detrimental to inmates with and without mental illness. Similar to other research, our study found that segregated offenders were elevated on multiple psychological and cognitive measures when compared to normative adult samples. However, elevations were present among the comparison groups too, suggesting that high degrees of psychological disturbances are not unique to the AS environment. In examining change over time patterns, there was initial improvement in psychological well-being across all study groups, with the bulk of the improvements occurring between the first and second testing periods, followed by relative stability for the remainder of the study. Patterns indicated that the MI groups tended to be similar to one another, but were significantly elevated compared to the NMO groups, regardless of their setting. Contrary to our hypothesis, offenders with mental illness did not deteriorate over time in AS at a rate more rapid and more extreme than for those without mental illness. Finally, although AS inmates in this study were found to possess traits believed to be associated with long-term segregation, these features cannot be attributed to AS confinement because they were present at the time of placement and also occurred in the comparison study groups. Implications for policy and future research are discussed.

Key words: administrative segregation, Colorado, mentally ill prisoners, SHU syndrome, supermax prisons, trauma

Introduction

One of the most widely debated topics in the field of corrections – the use of long-term administrative segregation (AS) – has suffered from a lack of empirical research. The placement of offenders in AS environments, particularly those with serious mental illness, has been a point of contention. Critics have argued that the conditions of AS confinement exacerbate symptoms of mental illness and create mental illness where none previously existed. The use of AS across the country has persisted as a corrections management tool despite litigation, although in many states, the placement of mentally ill into AS is no longer permitted. Empirical research has had little to offer this debate; the scant empirical research conducted to date suffers from research bias and serious methodological flaws.

Now decades after the deinstitutionalization of states' mental health hospitals, corrections agencies have seen a surge of offenders with serious mental illness in their prisons. The rate of serious mental illness in the community is 6% (National Institute of Mental Health, 2010). Among the incarcerated, the rate of serious mental illness is tripled at about 18% (Ditton, 1999; O'Keefe & Schnell, 2008). A similar phenomenon is occurring within prisons, whereby a disproportionate rate of mentally ill are found within AS, estimated to be 50% higher than the rate within the general prison population (O'Keefe, 2008). It is not known the extent to which this difference is caused by the AS environment. Researchers have been unable to settle the question of whether these high rates of mental illness are caused by AS relative to the general prison population or whether there is a selection bias such that offenders with mental illness, unable to adapt to general prison settings, are placed in AS at higher rates. This study seeks to advance the literature in this regard.

Purpose of Present Study

The broad purpose of the project was to evaluate the psychological effects of long-term segregation on offenders, particularly those with mental illness. This study examined conditions as they existed in the Colorado prison system with respect to AS, using the Colorado State Penitentiary (CSP) as the AS study facility. Only males were included because females represent 2% of Colorado's AS population. We did not assign inmates to segregation, but studied those conditions as they naturally occurred. The following are the primary goals and hypotheses.

Goal 1: To determine which, if any, psychological domains are affected, and in which direction, by the different prison environments. A multitude of psychological dimensions were examined, drawing from those most often cited in the literature. The broad constructs of interest were depression/hopelessness, anxiety, psychosis, withdrawal and alienation, hostility and anger control, somatization, hypersensitivity, and cognitive impairment. We hypothesized that offenders in segregation would develop an array of psychological symptoms consistent with the security housing unit (SHU) syndrome, with elevations across the eight constructs.

Goal 2: To assess whether offenders with mental illness decompensate differentially from those without mental illness. We were particularly interested in whether long-term segregation had a differential impact based on the presence of mental illness in offenders. We sought answers to the following questions: Does AS exacerbate symptoms in offenders with mental illness? Does AS create symptoms of mental

illness in those who did not exhibit any at placement? It was hypothesized that offenders with and without mental illness would deteriorate over time, but the rate at which it occurred would be more rapid and more extreme for the mentally ill.

Goal 3: To compare the impact of long-term segregation against the general prison setting and a psychiatric care prison. In this study, the psychological and behavioral symptoms of offenders in AS were compared to similar offenders who were sent to San Carlos Correctional Facility (SCCF) or returned to the general prison population pursuant an AS hearing. This study used a repeated measures design over the course of a year to explore whether psychological distress was attributable to the various prison environments. It was hypothesized that inmates in segregation would experience greater psychological deterioration over time than the comparison groups.

This study also included an examination of individual characteristics such as mental health status, personality, and trauma history to determine if certain factors could predict patterns of change. Prediction analyses were exploratory in nature and we did not formulate a hypothesis about the variables that might predict differential rates of psychological decompensation.

Method

Group Assignment

Study participants included male inmates who were placed in AS and comparison inmates in the general population (GP). Placement into AS or GP conditions occurred as a function of routine prison operations, pending the outcome of their AS hearing, without involvement of the researchers. All study participants classified to AS were waitlisted for and placed in CSP. Inmates who returned to GP following an AS hearing were assumed to be as similar as possible to AS inmates and, therefore, comprised the comparison groups. Comparison participants also included inmates targeted for a diversionary program that identified inmates at high risk of AS placement due to their disruptive behavior. This program discontinued shortly after the study commenced, hence few participants were identified through this method. Inmates in both of these study conditions (AS, GP) were divided into two groups – inmates with mental illness (MI) and with no mental illness (NMI). There are fewer inmates with mental illness than without, but because both subgroups were of equal interest to this study, separate groups enabled over-selection of inmates with mental illness.

A third comparison group was included. This group included inmates with severe mental health problems placed in SCCF. Of the inmates placed in SCCF, only those with patterns of prison misbehavior, as measured by disciplinary violations, were included in the study. The purpose of the SCCF comparison

group was to study inmates with serious mental illness and behavioral problems who were managed in a psychiatric prison setting.

Participants

A total of 302 male inmates were approached to participate in the study. Thirty refused to participate. Two more offenders were considered a passive refusal and were removed for inappropriate sexual behavior towards the researcher during the first testing session. An additional 23 offenders later withdrew their consent, although the data collected to the point of their withdrawal was used. In addition to refusals and withdrawals, 10 inmates released prior to the end of the study due to discretionary releases by the Parole Board and one participant death.

Five testing sessions were initially established at 3-month intervals, beginning with the date of consent and initial administration. Therefore, tests were scheduled at 3 months, 6 months, 9 months and 12 months after the baseline assessment. However, this schedule was problematic for the AS groups. When the study began, there was a 3-month average wait for inmates to be transferred to CSP due to a shortage of AS beds. While on the waitlist, AS inmates were held in a punitive segregation bed at their originating facility. It was determined that the primary goal was to study inmates in a single long-term segregation facility (CSP) to limit confounding variables and that therefore the baseline measure should be collected upon placement into CSP.

However, it was also recognized that significant changes could occur while inmates were held in segregation at their originating facility. Therefore, a “pre-baseline” measure was collected as close to the AS hearing as possible, which meant that the CSP groups completed six test intervals rather than five. The time between the pre-baseline and baseline measure varied according to how long the inmate was on the waitlist. The median time between pre and baseline tests was 99 days, although eight offenders were moved into CSP so quickly that they did not have a pre-baseline measure. In the analyses, tests were aligned across groups according to the test number, such that the CSP groups had an additional test at the end rather than at the beginning.

Participants' ages ranged from 17 to 59 at the time of consent, with a mean age of 31.8 ($SD = 9.1$). The racial/ethnic breakdown of participants was 40% white, 36% Hispanic, 19% African American, 4% Native American, and 1% Asian. Of the inmates with mental illness who were included in this study, 56% were identified with a serious and pervasive disorder.

Materials

Assessment tools were selected to comprehensively cover the variety of psychological constructs associated with AS (e.g., Arrigo & Bullock, 2008; Grassian, 1983; Haney, 2003). The eight primary constructs assessed in this study were as follows:

- Anxiety;

- Cognitive impairment;
- Depression/hopelessness;
- Hostility/anger control;
- Hypersensitivity;
- Psychosis;
- Somatization; and
- Withdrawal/alienation.

Additionally, malingering, self-harm, trauma, and personality disorders were assessed.

Research materials were selected to meet the following five criteria:

- Use of assessments with demonstrated reliability and validity;
- Use of multiple sources for providing information (e.g., self-report, clinician ratings, files);
- Use of multiple assessments of each construct of interest;
- Ability to use within the prison setting; and
- Ease of administration, including no specialized equipment, no physical contact, length of time, and appropriate reading level.

The 12 self-report instruments used in this study were:

- Beck Hopelessness Scale;
- Brief Symptom Inventory;
- Coolidge Correctional Inventory;
- Deliberate Self-Harm Inventory;
- Personality Assessment Screener;
- Prison Symptom Inventory;
- Profile of Mood States;
- Saint Louis University Mental Status;
- State-Trait Anxiety Inventory;
- Structured Inventory of Malingered Symptomatology;
- Trail Making Test; and
- Trauma Symptom Inventory.

In addition to self-report assessments, ratings of psychological functioning were obtained from clinical staff and ratings of behavior in the housing unit were obtained from correctional staff. The Brief Psychiatric Rating Scale (BPRS) was completed by clinical staff and the Prison Behavior Rating Scale (PBR) was completed by correctional staff.

Most assessments were collected at each testing period, although personality disorders, self-harm, and trauma history were not. It was determined that personality and trauma history were relatively stable constructs that needed to be assessed only once to limit the testing burden on study participants. Also, due to the burden on already limited mental health resources, the BPRS was only administered at the first, third, and fifth testing intervals.

Data from official records were collected primarily from the Department of Corrections Information System, which is an administrative database of offender data. Offender characteristics to include demographic history, criminal history and offense data, institutional behavior, and needs levels were electronically downloaded.

Certain data elements were collected only for study participants during the course of their participation in the study. The following were collected and coded for the period of time between each testing interval for each participant: the amount of time spent in various settings (e.g., segregation, GP, hospital), phone records, and mental health crisis data. Additionally, activity logs from paper files for the CSP participants were collected and coded.

Procedure

Study enrollment began July 2007 and ended March 2009, with final testing of all participants completed in March 2010. The project operated under the approval of the institutional review board at the University of Colorado at Colorado Springs.

The research team was notified of AS hearings by the case management supervisor at each facility and of SCCF placements by the clinician who scheduled the facility transfers. Notification typically occurred before the hearings or SCCF placement to give the field researcher maximal lead time. Researchers reviewed electronic records to screen inmates for study eligibility.

The field researcher was a female university employee who completed the full training academy and had a badge that permitted her unescorted access to the facilities. In advance of each visit, the researcher contacted prison security to arrange visits with specific inmates. All inmates were escorted by security staff to the visiting room, which contained a noncontact booth for inmates in AS or punitive segregation conditions. The researcher met individually with each inmate to review the consent form, which included the general purpose of the study, voluntary nature of participation, risks and benefits, and remuneration. Inmates were advised that the purpose of the study was to learn about adjustment to prison and offenders in prisons across the state were participating in this study.

At the time of consent, the initial test battery was administered. The field researcher instructed participants to read the directions for each test. Instructions were highlighted by researchers when there was an indication on the test to respond with respect to a certain timeframe (e.g., in the past week). The researcher administered the timed tests, and she assisted if they had questions, most frequently with the

definition of a word. The researcher collected the test packet immediately following its completion, so it was not ever handled by security staff.

The field researcher distributed the PBRS to housing staff at each testing interval and collected the completed forms upon return visits to the facility. Mental health clinicians were generally notified that a BPRS was needed a couple weeks prior to the researcher testing to give them time to complete the assessment.

Participants' data were kept in two separate databases. The eligibility database tracked the eligible pool of offenders, such as identifying information, current location, date of AS hearing or SCCF placement, expected release date, mental health status and clinician approval, selection into study or reason for exclusion, and date of consent or refusal. A testing schedule for study participants was incorporated into the database, which also had reporting capabilities in order to manage the project. A separate database tracked participants' responses to the standardized tests; no identifying information was included in this database other than a secure researcher-assigned identification number. Both databases were stored on a secured server with access restricted to project researchers.

Findings

The results of this study were largely inconsistent with our hypotheses and the bulk of literature that indicates AS is extremely detrimental to inmates with and without mental illness. We hypothesized that inmates in segregation would experience greater psychological deterioration over time than comparison inmates, who were comprised of similar offenders confined in non-segregation prisons. Consistent with other research, our study found that segregated offenders were elevated on multiple psychological and cognitive measures when compared to normative adult samples (Haney, 2003; Suedfeld, Ramirez, Deaton, & Baker-Brown, 1982). However, there were elevations among the comparison groups too, suggesting that high degrees of psychological disturbances are not unique to the AS environment. The GP NMI group was the only one that was similar to the normative group on a number of scales.

In examining change over time patterns, there was initial improvement in psychological well-being across all study groups, with the bulk of the improvements occurring between the first and second testing periods, followed by relative stability for the remainder of the study. On only one measure – withdrawal – did offenders worsen over time, but this finding was only true for the two NMI groups, so it is not attributable to AS. Even given the improvements that occurred within the study timeframe, the elevations in psychological and cognitive functioning that were evident at the start of the study remained present at the end of the study.

Another hypothesis was that offenders with mental illness would deteriorate over time in AS at a rate more rapid and more extreme than for those without mental illness. Patterns indicated that the MI groups (CSP MI, GP MI, SCCF) tended to look similar to one another but were significantly elevated compared to the NMI groups (CSP NMI, GP NMI), regardless of their setting. For the AS offenders, the MI group scored worse than the NMI group on all self-report measures except the Trails test and all staff measures

except the PBRS Anti-Authority scale. In addition to the changes over time described above, PBRS scores decreased significantly for segregated inmates regardless of their mental health status, which would be an indicator that staff may be perceiving improvements, but the significant differences were from the first to the second assessment periods when the majority of participants changed facilities, which suggests this is perhaps a measurement error rather than a true improvement. As hypothesized there was a differential time effect for the MI and NMI groups on several composite measures (i.e., anxiety, hostility-anger control, hypersensitivity, somatization), but the interactions were in the opposite direction of our hypothesis; on average, the CSP NMI group did not change while the CSP MI group improved.

We stated that offenders in segregation would develop an array of psychological symptoms consistent with the SHU syndrome. As already discussed, all of the study groups, with the exception of the GP NMI group, showed symptoms that were associated with the SHU syndrome. These elevations were present from the start and were more serious for the mentally ill than non-mentally ill. In classifying people as improving, declining, or staying the same over time, the majority remained the same. There was a small percentage (7%) who worsened and a larger proportion (20%) who improved. Therefore, this study cannot attribute the presence of SHU symptoms to confinement in AS. The features of the SHU syndrome appear to describe the most disturbed offenders in prison, regardless of where they are housed. In fact, the group of offenders who were placed in a psychiatric care facility (SCCF) had the greatest degree of psychological disturbances and the greatest amount of negative change.

Finally, in this study, we conducted some exploratory predictive analyses to determine if there were individual characteristics that could identify who may be at greater risk of psychological harm from segregation. There were no individual predictors that showed strong effects for predicting change. This could indicate that we did not have the correct predictors or that patterns of decompensation are individualized (i.e., not predictable), but it is more likely that the relative stability over time makes it difficult to predict change.

A review of the findings warrants a discussion of plausible alternative explanations that might account for our results. The use of a repeated measures design enabled us to determine that change was occurring and in which direction. Even given the debate about whether or not harmful effects resulted from AS, it was never suggested that inmates might improve as this study found. The presence of comparison groups avoids an attribution error; the changes, improvements in this case (i.e., 20%), are not due to segregation. These conclusions replicate those drawn by Zinger and colleagues (2001) where there was a similar lack of evidence of harm. These studies suffered criticism for high refusal rates, high attrition rates, small sample sizes, and short durations – limitations that were corrected in the present study (note, however, that no generalizations should be made beyond the 1 year follow-up period in this study). Furthermore, the use of reliable and valid standardized measures enabled the present research study to assess psychological functioning in an objective manner. Although the majority of these tests were not normed for prisoner populations, the current reliability and validity findings increased our confidence in these measures.

Policy Implications

Does this study legitimize the use of segregation with offenders, including those with serious and persistent mental illness? Because this study may not generalize to other prison systems, especially those that have conditions of confinement dissimilar to CSP, it is not possible to conclude that AS is not detrimental for all offenders. Systems that are more restrictive and have fewer treatment and programming resources should not generalize these findings to their prisons. Replication is needed to understand how increased services, privileges, and out of cell time ameliorate the unintended consequences of AS, and research needs to inform prison systems about the standards and practices necessary to protect inmates in segregation from harmful psychological effects.

It is also important to note that there may be other negative consequences of AS that we did not study. For example, Lovell, Johnson, and Cain (2007) found that inmates released directly from segregation to the streets had dramatically higher rates and severity of detected recidivism than AS inmates who first released to GP (but see Mears & Bales, 2009). We also did not study the degree to which AS met its purported goal of changing inmate behavior for the better over time. The only questions addressed by this study were related to psychological changes over time in segregation. Thus, we make no empirical or value judgments about whether and to what degree the use of AS balances the benefits (e.g., a safer prison system) with costs (e.g., significant reductions in freedom).

It is impossible to ignore the extremely disproportionate rate at which inmates with serious mental illness are assigned to AS (Lovell, 2008; Metzner & Fellner, 2010; O'Keefe, 2008), which has to some degree "shocked the conscience" of the courts (see *Jones 'El v. Berge*, 2001; *Madrid v. Gomez*, 1995; *Ruiz v. Johnson*, 1999). In an era when prisons are expected to implement evidence-based practices and to rehabilitate offenders who will be releasing back to the community, is it enough to avoid harm? Must we ask ourselves another question: what are the conditions required to *improve* inmates' mental well-being while in segregation? Prison systems are held to a standard of treatment that is at least equivalent to community standards. It is likely that this most difficult segment of society has failed at all levels of community treatment and earlier criminal justice interventions, but the quest to treat and improve services for the most needy is an important reality facing corrections agencies.

Regarding their psychological functioning and levels of distress, these data suggest, although the differences were small, that inmates with serious mental illness are less likely to improve in segregation *and* are less likely to get worse compared to mentally ill inmates in GP. We do not assume that the reasons for these apparently contradictory findings are the same. For example, it is possible that fewer inmates with mental illness get worse because segregation is a safer and more structured environment. On the other hand, hypotheses regarding their unlikeliness to improve include the significant limitations that segregation places on various types of therapeutic activities and services such as group therapy. Further, the data do not tell us which aspects of AS prevent psychological improvement and deterioration, respectively, among inmates with mental illness. However, since prisons have a constitutional duty to

respond to serious medical (including psychiatric) needs, the possibility that segregation may prevent improvement is cause for concern and further study.

There remain significant implications for mental health staff who work in prison systems that permit the placement of mentally ill in long-term segregation. It is critical for mental health staff to screen and assess offenders prior to AS placement to determine their vulnerability to harm that might occur as a result of their segregation. While in segregation, it is important that the mental status of all offenders be assessed on a frequent, regular basis through rounds and individual sessions. Prison systems need to have a range of confinement options, such that offenders who are at risk of or are showing signs of decompensation can be removed from segregation and placed in an alternative high security environment that permits greater out of cell time and interaction with others.

Other systems have rejected confinement models that isolated offenders and held them in extremely restrictive spaces. Even if the segregation models of the early 1900's and the state psychiatric hospitals of the mid-19th century are viewed as "primitive" compared to modern-day AS facilities, it is important to examine and understand why these models failed and were ultimately dismantled. Although there are a number of researchers who predict that there is no end in sight to the supermax model (King, 1999; Mears, 2008; Pizarro & Narag, 2008; Pizarro & Stenius, 2004), they have also raised empirical questions regarding their efficacy. Questions about the efficacy of AS will be asked until more is known about whether the use of AS in prison systems improves conditions for the rest of the system, whether and how they improve inmate behavior within and beyond the prison walls, whether they are cost-effective, whether they increase risks to public safety, and whether there are settings or individuals that are prone to psychological deterioration.

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Resources

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