SELF-HARMING BEHAVIORS IN PRISON: A COMPARISON OF SUICIDAL PROCESSES, SELF-INJURIOUS BEHAVIORS, AND MIXED EVENTS.

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Abstract

Self-harming behaviors occurring in prison disproportionately consume resources and cause considerable disruption. To date, theoretical paradigms have explained self-injurious behaviors and suicidal processes either via a continuum or dichotomy of self-harm. This current study examines all documented acts of self-harm (n=1,158) occurring in South Carolina's 28 prisons over a 50 month period. We test and find support for a tripartite schema of self-harm; differentiated with regard to suicidal processes, self-injurious behaviors, and a 'mixed group' of self-harming behaviors. These groups of behaviors were distinct with regard to situational variables (i.e. body part targeted, injury severity) as well as institutional responses (i.e., medical treatment needed, employment of suicide protocols). Findings indicate that self-injurious behaviors are likely to result in physical injury and/or hospitalizations.

Keywords: *self-injurious behaviors; suicide; incident reports; prison inmate; count models.*

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INTRODUCTION

Adverse health events have continued to disproportionately afflict the vulnerable populations who are incarcerated in our nation's prison systems. While many of these negative health outcomes are the product of lifestyles disproportionately filled with trauma, violence, substance abuse, and other risk factors, there remains an additional subset of behaviors in which the inmate directly and knowingly decides to harm themselves. The two leading manifestations of self-harming behaviors in prison are self-injurious behaviors and suicidal processes (i.e. suicidal ideation, threat, attempt, and completion). To date, a substantial body of research has been devoted to the study of suicide in corrections (Hayes, 1995; Liebling, 1999; Shaw *et al.,* 2004; also see Hayes & Blaauw, 1997, for a special issue devoted solely to prison suicide). This has resulted in the founding of evidenced-based suicide standards now employed by both the American Correctional Association (ACA; 2003) and the National Commission on Correctional Health Care (NCCHC; 2001; 2008). Comparatively far less research has been devoted towards developing an understanding of the theoretical underpinnings of self-injurious behaviors, as well as, the utilization of evidenced-based institutional strategies that can effectively guide correctional staff. A principal reason for this disparity has been confusion with regard to which theoretical paradigm to employ to effectively prevent, treat, and respond to these self-harming behaviors. Stated differently, there are conflicting viewpoints with regard to whether self-injury should be studied as an aspect of suicide, or whether self-injury should be granted separate conceptual and empirical study.

According to the longest existing paradigm, the rationale for best explaining these potentially life-threatening behaviors that occur in prison should fall along a continuum of "self-harm" (Dexter & Towl, 1995; Haycock, 1989; Knoll, 2010; Morgan & Hawton, 2004; Perry & Olason, 2009; Tartaro & Lester, 2009). Researchers who use this approach argue that self-harm extends from less severe acts such as deliberately cutting one's own skin to the most severe act which is a completed suicide whereby a person deliberately kills themselves. While this perspective aims to prevent and treat self-harming behaviors in prisons, it finds little utility in discriminating the etiology, manifestation, and processes that underlie variants of each behavior. As such, research on self-harm features operational definitions in which the processes of self-injury and suicide are conflated. For example, Morgan and Hawton (2004) define self-harm as "an act with a nonfatal outcome in which an individual deliberately did one or more of the following: initiated behavior (self-cutting, jumping from a height) which was intended to cause self-harm, ingested a substance in excess of the prescribed or generally recognized therapeutic dose, ingested a recreational or digestible substance or object" (p. 9). In short, this paradigm identifies a range

of "anger in"[1] (Bridewell & Chang, 1997; Siegel, 1986; Guertin *et al.,* 2001) behaviors that share etiology, and as such, can be positioned along a continuum of harm to oneself.

A more recent, alternative paradigm emphasizes a contradistinction between self-injurious behaviors and suicidal threats, attempts, and completions (Canadian Centre on Substance Abuse, 2006; Crighton & Towl, 2002*;* Fulwiler *et al.,* 1997; Sabo *et al.,* 1995; Simeon & Hollander, 2001; Walsh and Rosen, 1988). This perspective is based on the premise that self-injury functions as a desire to feel alive via the retention of one's emotional equilibrium; whereas attempts at suicide are indicative of escaping from life's pains. Therefore, under this paradigm self-injury is viewed as a *life-affirming* act that manifests in the form of a *primitive coping mechanism* (Rosenthal, 1972) whilst suicide is explained as a rejection or escapism from life (i.e. a *death-affirming* act). An assessment of this alternative paradigm centers on the concept of motivation, that is, whether the individual committed the act with the intent to end life or not.

The current study adds to the literature by proposing a new model to understand self-harm in corrections; specifically, we test for the presence of a tripartite schema which features *three different groups of self-harming prisoners.* To this end, we concur with the notion held by the second paradigm that self-injurious behaviors and suicidal process are distinct; however, we further note the presence of a "mixed group" of self-harming prisoners that can be categorized into their own discrete form. We argue that this "mixed group" is reflective of a non-causal correlation between self-injurious behaviors and suicide, which has increased perplexity among self-harm researchers. Numerous studies have documented that suicidal inmates are much more likely to have histories of self-injury than non-suicidal inmates (Langbehn & Pfohl, 1993; Pierce, 1977; Jones, 1986; Walsh & Rosen, 1988), and that previous self-injurious behaviors serve as predictors of future suicide attempts (Matsumoto *et al.,* 2005; Penn *et al.,* 2003). This notion of self-injury as a sentinel health event that reflects subsequent suicidal processes also has historical roots in the early psychiatric literature most associated with the first paradigm. Here, psychologist Karl Menninger (1938) argued in his classic text *Man Against Himself* that the obsessive and ritualistic patterns evident in self-mutilation were rooted in a "death instinct". As a result, Menninger (1938) categorized self-injurious behaviors as "focal" or "localized" expressions of suicide, that is, a channeling of the suicidal impulse towards a specific body part and through non-lethal means[2]. Stated differently, the body part that is targeted and damaged during self-injurious events serves as a sacrifice that is designed to circumvent impending suicidal attempts. This linkage between suicidal processes and self-injurious behaviors has stymied researchers and created the aforementioned two theoretical paradigms of self-harm.

1 "Anger in" is a term that denotes the focus of aggression, psychopathology, and deviance towards oneself (i.e. self-injurious behaviors, suicidal processes, anorexia nervosa etc). "Anger out" denotes expressions of anger, hostility, and violence directed towards other. While prison inmates who self-injure are clearly internalizing the anger process; Smith and Kaminski (2010) revealed that these self-injuring prisoners also receive more disciplinary infractions when compared to their non-self-injuring counterparts. Thus, the self-injuring prisoner is thought to display both "anger-in" and "anger-out" simultaneously.

2 We recognize and include the terms "mutilation" and "parasuicide" in accordance with the original usage of the terms by Karl Menninger (1938). However, for the reader we add the caveat that these terms are now considered outdated and inappropriate for the purpose of researching self-injurious behaviors. In fact, recidivistic and serious self-injuring inmates find terms like 'attention seeking', 'manipulation', and 'mutilation' to be misleading and offensive.

With regard to a third type of self-harming behaviors, we currently know little about the frequency and manifestation of these "mixed events". Moreover, we do not know if these mixed events include characteristics that necessarily constitute a separate and distinct group of self-harming behaviors. Within these "mixed events", one finds components of other self-harming behavior (i.e. self injury and suicide) to be present, but the inmate is often unable to articulate intent or appears ambivalent about the event. This is typically an artifact of psychopathology or as Pierce (1977) highlights; “deliberate self-injury is often a confusing and a confused act” (p. 377). In a rare empirical investigation of these "mixed events", Stanley *et al.,* (2001) found that the individual was likely to be a self-injurer who had multiple previous abortive or failed suicide attempts[3]. In addition, the individual was likely to possess cluster B personality disorders, feel suicidal ideation during the self-injurious event, and to underestimate the lethality of their suicide attempts. This calls for additional research to study whether such a "mixed group" exists and highlight the manifestation of their behavior. Such work may help explain the disagreement between two alternative paradigms of self-harm, that is, the adherence to a continuum of self-harming behaviors versus a dichotomous perspective.

While it is evident that a nosology of these self-harming behaviors in prisons is requisite, one finds significance in the dilemmas that these often life threatening events pose for corrections in terms of both prevalence and appropriate institutional responses (DeHart *et al.,* 2009; Smith & Kaminski, 2011). Not only do prison administrators currently lack the resources to develop efficacious prevention and treatment programs for self-injury, but a lack of evidenced based research has resulted in treating self-injurious events as simple derivatives of suicide. In practice this results in institutional responses that mimic suicide protocols. Case in point, Dehart and colleagues found in a survey of mental health professionals working in corrections that isolation was the primary method of institutional response to self-injurious behaviors, with 78% of participants endorsing this response (also see Doty, Smith and Rojek, *forthcoming* for similar findings). Yet, there is no empirical evidence to suggest that this basic suicide protocol represents a “best practice” for self-injury. In fact, segregation and isolation may actually stimulate more self-injurious behavior (Walsh, 2006). More research is needed to address whether these self-harming behaviors are heterogeneous in nature.

This article aims to address the conflation of self-harming behaviors whereby self-injurious events and suicidal processes are viewed as equivalent with regard to etiology, manifestation, and policy implication. We employ the paradigmatic viewpoint that these self-harming behaviors while related are in fact dissimilar in a number of key areas, and we test these differences using a tripartite schema that includes an additional "mixed group" of self harming behaviors. In particular, we test the assumption that these self-harming behaviors can be distinguished on the basis of situational characteristics (i.e. frequency of injury, etc). Furthermore, we examine whether there are differences with regard to the institutional responses and demands (i.e. number of staff needed, application of force) that both self-injurious and suicidal processes require. The implication of this study is that if self-harming behaviors are shown to contain discrete differences (i.e. *not* occurring along a continuum) then they are deserving of behavior specific, evidenced-based programming. This study is both necessary and important because

3 Note Stanley and colleagues (2001) did not utilize the term "mixed group" to define this population, although the characteristics of this group of self-harming behaviors has been defined as such in this study.

these self-harming behaviors disproportionately affect inmates, particularly prisoners with comorbidity due to mental illness (i.e. borderline personality disorder, schizophrenia, bipolar affective disorder, antisocial personality disorder, post-traumatic stress disorder, and major depressive disorder).

LITERATURE REVIEW

Definitions & Prevalence of Self-Harming Behaviors in Prison

Self-injurious behaviors are defined as "the deliberate destruction or alteration of body tissue without conscious suicidal intent" (Favazza, 1989, p. 137). When categorized as moderate this includes cutting, scratching, or burning the skin, hitting oneself; pulling one's hair, reopening one's wounds, and breaking one's bones. Severe self-injury includes eye enucleation, face mutilation, and amputation of limbs, breasts, and genitals (Favazza, 1989, p. 137). To date, studies that estimate the prevalence of self-injurious behaviors occurring in prison have been limited by small-sample sizes coupled with ambiguous definitions. As such, one can expect variability in these predictions. For example, several studies indicate that between two to four percent of the general prison population and 15 percent of prisoners receiving psychiatric treatment routinely engage in self-injurious behaviors (Toch, 1975; Young *et al.,* 2006). However, Grey and colleagues (2003) estimated that 52.9 percent of mentally disordered inmates within a maximum security hospital had engaged in self-injury during their incarceration. In the first national study of United States prisons, Smith & Kaminski (2011) estimated point prevalence's of 2.4% and 0.7% for self-injury and serious self-injury respectively. Yet, they also noted the presence of outliers, particularly recidivistic self-injuring inmates who filter into maximum security prisons that possess a high ratio of staff (i.e. correctional and health care professionals) needed for specialized care.

According to the World Health Organization (2011), suicide is defined as "the act of deliberately killing oneself". As such, suicidal behavior is any deliberate action that has potentially life-threatening consequences and includes suicidal threats and attempts. Here, the term "deliberate" represents an urgent intention towards ending one's life as expressed through communication with others (i.e. *suicide threat* expressed verbally, written, emailed etc.) or behaviorally (i.e. *suicide attempt* as demonstrated by acts and behaviors designed to kill oneself). Relatedly, suicidal ideation refers to cogitation surrounding the act of suicide and varies from fleeting thoughts to compulsive and detailed suicide plans. In total, these processes are particularly salient to the prison milieu as suicide remains the "leading cause of death in correctional facilities nationwide" (National Commission on Correctional Health Care, 2001, p. 103). In 2002, this equated to 168 completed suicides by prisoners or 5.8% of all state prison inmate deaths (Mumola, 2005). Fortunately, suicide rates have fallen from 34 per 100,000 in 1980 to 16 per 100,000 in 1990, and have since stabilized (Mumola, 2005). While the reporting of completed suicides is mandated under the Death in Custody Reporting Act of 2000 (see Bureau of Justice Statistics, 2011), there are few estimates of the rates of attempted suicides. We do know that only a small fraction of

suicide attempts are fatal. To this end, estimates involving non-incarcerated populations reveal that there are approximately 17 suicide attempts per 1 suicide completion (CDC, 2011). In terms of prevalence, this reveals a rate of 1.14 completed suicides per 10,000 people compared to 22 attempted suicides per 10,000 people (Marcotte, 2003).

Characteristics of Self-Injurious Behaviors and Suicidal Processes

A search of the empirical literature on self-harming behaviors in corrections reveals a small number of previous studies that were constructed to disentangle self-injury from suicidal processes. These efforts have only taken place recently and much of this exploratory work remains dissimilar in terms of independent variables. For example, Fulwiler *et al.,* (1997) rejected the notion of a continuum of self-harm, instead finding significant differences in self-reported intent and previous onset of adverse psychiatric symptoms between the two groups. More specifically, Fulwiler *et al.,* (1997) found that self-injurious prisoners were likely to exhibit psychiatric symptoms in childhood including hyperactivity, whereas suicidal prisoners were more likely to have adult-onset major affective disorder (p. 76). Langbehn and Pfohl (1993) examined clinical records of non-incarcerated psychiatric patients and found that self-injurers were more likely to be female, receive an Axis II diagnosis, to be a substance abuser, and to have a history of physical and sexual abuse. In contrast, suicide attempters were more likely to have received a diagnosis of major depression (Langbehn & Pfohl, 1993).

These studies operate under the assumption that the behavior of self-injury can be partitioned from suicide on the basis of intent. Here, Nock and Kessler (2006) found that injuring oneself with the intent of death was associated with the male gender, less education, psychiatric comorbidity, and a history of multiple physical and sexual assaults when compared to self-injuring without the intent of death (i.e. “as a means to communicate”). These studies share commonality with regard to their focus on the intent or motivation underlying the behavior, although this viewpoint requires further explication in order to address the nuances and ethical implications of employing this approach.

Intent and Self-Harming Behaviors in Prison

Suicidologists often categorize abortive suicides as a “cry for help” (Marcotte, 2003) and correspondingly a subset of self-injurious behavior have been classified as “manipulation” (Dear *et al.,* 2000). While we recognize the potential presence of these motivations, we add several caveats for adhering to a dichotomy that self-harming behaviors in prison are either “real” or rooted in a need for attention and control (i.e. "not real"). First, the notion of classifying the intent of an act by its severity can create dangerous policy implications perhaps even leading to staff ignoring or provoking an inmate into recidivistic and even fatal acts. Due to the fact that one cannot predict *a priori* which behavior is a legitimate risk to life, all manifestations of self-harm must be addressed seriously. While terms such as manipulation and attention seeking are clearly pejorative (Dexter & Towl, 1995), a greater concern is that perceptions of “not-real” acts of self-harm are less likely to receive the attention, resources, and

treatment that the vulnerable inmate requires[4]. Furthermore, low serious intent does not necessarily equate to low risk of a fatality occurring; because even with the intent of manipulating the environment a self-injuring inmate may accidently take his or her own life (Dear *et al.,* 2000). As a result, Haycock (1992) concludes that "the term manipulative is simply useless in understanding and destructive in attempting to manage the suicidal behavior of inmates" (pp. 9-10).

Second, in addition to these policy issues there appear to be negligible effective methods for testing these differences theoretically. To this end, Traver and Rule (1996) conducted a national survey of mental health professionals working in juvenile justice systems. They found perceptual estimates of the shared commonality between self-injurious intent and suicidal intent to range from 15% to 65%, and subsequently conclude that respondents held "deep differential interpretation or perspectives of the resident's motives" (p. 17). Psychometric scales have also been utilized (see Gray *et al.,* 2003), though they are more predictive of outward violence than inward self-harming violence, the exception being Beck's Hopelessness Scale which continues to serve as an effective indicator of variants of self-harm (Gray *et al.,* 2003). Another methodological approach involves interviews or self-reported surveys following an attempted suicide or self-injurious event. However, as early 1977, Pierce surmised that "the most direct approach to discovering the patient's intention is naturally to ask him what he was trying to do at the time, but it is unlikely that he will be entirely truthful about his intention" (Pierce, 1997, p. 377; also see Knoll, 2010). Pierce (1977) argues instead that less-direct methods are necessary in order to assess intent.

This suggests that novel methodologies may be the most effective means of accessing the intent of prisoners who engage in self-harming behaviors. Case in point, Snow (2002) used smallest space analysis and found significant differences in the explanations offered by self-injuring and suicidal inmates. The most noteworthy differentiation was that symptom-relief was cited as the principal cause of their behavior in self-injurers (35%), while the driving force behind suicidal behaviors (26%) was situational factors (i.e. related to incarceration). Stated differently, self-injury appeared to be a coping mechanism designed to reduce the symptoms associated with distal psychological states (i.e. particularly Borderline Personality Disorder) whereas suicidal behaviors were more proximal; typically involving states of major depressive disorder with the contributory factors of the negative milieu, the receiving of bad news, or the product of dysfunctional relationships[5]. As such, we employ the novel methodology of analyzing official reports to ascertain motive and intent (see methods section). Note that our approach is subjective, with the goal being the recording and coding of information that can be used to categorize self-harming behaviors. We now address the situational factors and institutional responses that the

4 Suicidologists and econometricians have documented the effects of Rosenthal's Game Theory which posits that professionals prefer to provide resources and attention to suicide attempters who are perceived as 'serious'. If a suicide attempt is perceived as being less-than-credible or the act defined as a 'cry for help' then professionals are less likely to provide significant resources or treatment to the attempter. Ironically, this been shown to produce more resources, care from others, and even increase income status for suicide attempters who tried to kill themselves and survived, when compared to counterparts who seriously considered suicide but did not attempt the act (see Marcotte, 2003 for further discussion).

5 Brown et al., (2002) utilized a Parasuicide History Interview technique to document that self-injury is often an act designed to make oneself feel better (i.e. symptom reduction), whereas suicide is more likely to carry the intent of making other people feel better (i.e. perceptions of being a burden on others).

literature suggests influence self-harming behaviors that occur in prison (see Gendreau *et al.,* 1997 for a discussion of situational factors associated with prison misconduct in general).

Situational Factors

A host of criminological research has documented the significant relationship between elements of the prison milieu and associated inmate behaviors (Gendreau *et al.,* 1997; Farrington & Nuttall, 1980; Flanagan, 1983; Toch, 1988). With regard to self-harming behaviors there was consistency in the literature regarding the following situational factors; body part that was targeted, injury severity, and time of day.

First we address the characteristics of these behaviors as they manifest in the prison milieu. With regard to body parts, Franklin (1988) found that self-injurious inmates were more likely to engage in low-lethality behaviors, particularly superficial cutting to the extremities, when compared to suicidal inmates. Pattison and Kahn (1983) reinforce this finding and posited that self-injuring inmates typically select tools of low lethality (i.e. cutting with an object) whereas suicidal inmates select highly lethal means (i.e. hanging). Pattison and Kahn's (1983) analysis of 56 published case reports of self-injurious behavior reveal a "typical pattern of onset in late adolescence, multiple recurrent episodes, low lethality, harm deliberately inflicted upon the body, and extension of the behavior over many years" (p. 867). This is confirmed by a national survey of mental health professionals working in state prisons (Smith & Kaminski, 2011), which assessed the prevalence and manifestation of inmate self-injurious behaviors. Here, over 98% of respondents reported knowledge of at least one self-injuring inmate in their prison, with approximately 95% of respondents identifying cutting or scratching without object as the principal method of self-injury (Smith & Kaminski, 2011; see also DeHart *et al.,* 2009). Similarly, Doty *et al.,* (*forthcoming*) classified the majority of self-injury as being of minor severity (n=115), followed by medium severity (n=24), major severity (n=15), including one case of a fatal self-injury[6]. Haines and Williams (1997) studied a sample of prisoners and documented that self-injurious inmates were likely to have engaged in "moderately severe skin-cutting of forearm or upper arm" (p. 180). Generally, the self-injurious prisoner is most likely to target the limbs and torso when cutting him or herself (Langbehn & Pfohl, 1993; Virkkunen, 1976).

In contrast, Fulwiler *et al.,* (1997) found that when prisoners attempted suicide it was primarily via hanging by the neck, that is, through a highly lethal method. Here, White and Simmel (1995) found that hangings constitute approximately 80% of all prison suicides. Currently, we know far more about completed suicides than abortive suicides. This is often due to the conflation of self-injurious behaviors with suicidal processes, for example, Fleming *et al.,* (1992) used the umbrella term "self-inflicted harm" and discovered that 70% of inmates employed hanging as a method of harm. Unfortunately, this does not disentangle self-harming behaviors and therefore further research is needed to compare key antecedents of the behavior.

In terms of the time of day, Doty *et al.,* (*forthcoming*) found that while there were universal stressors that were likely to trigger acts of self-injury, the actual manifestation of the behavior disproportionately

occurred between 6pm-10pm, with this trend remaining constant over a 2.5-year period for an entire prison system. This equates to 123 events out of a total of 314 (or 39%), with the next highest rank being 77 events between 2pm-6pm. Doty and colleagues (*forthcoming*) speculate that self-injurious behavior was highly contingent upon the lack of social control available during this time period. Specifically, the absence of institution-based activities (work, meals, exercise periods, etc.) and a reduction in staffing levels that was customary during this time period. Comparatively, suicide did not follow discrete time patterns with Mumola (2005, p. 9) summarizing; “at least 80% of suicides in prison and jail occurred in the inmate's cell; time of day not a factor.” One can speculate that social control may play differing roles in variants of self-harming behaviors, as measured by the proxy of "time of day".

Institutional Responses

In line with the theoretical position that self-injurious behaviors and suicidal processes differ in a number of key domains, one would also expect to find differences in the institutional responses utilized by correctional professionals. Currently, institutional responses at the national level favor punitive responses to address self-injurious behaviors over therapeutic approaches (Smith & Kaminski, 2011). Here, punitiveness denotes protocols aimed at restraint, control and isolation, whereas therapeutic responses were based in specialized treatment, individual and/or group therapy, and psychotropic medications. Moreover, mental health professionals justified suicide protocols as a means of addressing self-injurious behaviors with comments such as “state policy and procedures treat self-injury and suicide attempts equally” (Smith & Kaminski, 2011, p. 38). Dehart *et al.,* (2009) also documented the widespread practice of treating self-injury with suicide protocols, particularly through the use of a crisis intervention cell, 15 minute observation periods, and provision of an anti-suicide smock and blanket. This is problematic when one considers that self-injuring inmates disproportionately utilize the health resources of a prison system when compared to their non-injuring counterparts, mostly due to augmented mental health issues, institutional restrictions, and disciplinary problems (Smith & Kaminski, 2010). The employment of suicide protocols for self-injurious behavior is also likely due to the existence of a long line of prison suicide research (see Wooley, 1913), the economic and structural feasibility of using existing suicide protocols that are already in place, and the reliance on suicide standards as advocated by both the National Commission on Correctional Health Care (NCCHC) and the American Correctional Association (ACA). While the low cost and ease of employing suicide protocols for self-injury explains its common usage, these standards currently operate devoid of any theoretical rationale.

As such, we hypothesize that due to the physical/mental health deficits and psychopathological comorbidity that is associated with self-injurious behaviors (Smith & Kaminski, 2010), as staffing resources will be disproportionately consumed by self-injurious behaviors when compared to suicidal behaviors. This will include multiple aspects of the institutional response, such as, the use of force, number of staff needed, the medical response (i.e. treated in-house or requiring hospitalization), and the protocol response (i.e. compared to suicide protocols). While one study has revealed that self-injurious prison inmates consumed more resources when compared to their non-self-injurious counterparts (Smith & Kaminski, 2010), little research has been conducted to assess differences

between types of self-harming inmates. In one exception, Franklin (1988) hypothesized that suicidal prisoners would receive greater lengths of hospitalization compared to self-injurious prisoners, conjecturing that self-injurious inmates would be more likely perceived as manipulative. However, the differences in length of hospitalization did not reach statistical significance. We offer the contradictory hypothesis that an increase in the frequency and severity of self-injury occurring in prisons in recent years requires that *on average* self-injurious behaviors will require more medical resources than suicidal processes. We further argue that the psychopathology associated with self-injury makes it more likely that correctional staff will need to employ force to subdue the inmate (particularly in contrast to suicidal inmates). The caveat being that due to the low frequency of completed suicides, the majority of abortive suicides may carry *far less* medical severity in outcome when compared to self-injurious behaviors. Taken as a whole, we currently know little about the effects of variant forms of self-harm and their relative effects on the prison milieu.

The current exploratory study tests the assumption that there are three distinct self-harming behaviors that occur in prison. Previous research that compared self-harming behaviors in prison have been restricted by poor operational definitions (Morgan and Hawton, 2004), small sample sizes (Fulwiler *et al.,* 1997; Sabo *et al.,* 1995), and outlier populations (e.g. Fulwiler *et al.,* (1997) only included self-injurious behaviors that required hospitalization). Moreover, very rarely do these empirical studies measure self-harm using a typological approach. For example, Virkkunen (1976) investigated differences between self-injury and suicide but excluded ambiguous manifestations of self-harm which may also be important. To date, researchers have failed to distinguish differing *forms* of self-harm, which may lead to speculations that existing estimates of prison suicide are invalid and/or unreliable[7]. In response to these limitations, we test for any differences that situational factors and institutional responses have on a tripartite schema of self-harming behaviors, that is, self-injurious behaviors, suicidal behaviors, and a third "mixed group" of behaviors. We employ an objective measure of self-harming behaviors in prison with the goal of developing a nosology that can help guide policy.

Research Question: To what extent can self-harming behaviors can be categorized within a tripartite schema? This investigation aims to determine whether "Self-Injurious Behaviors (SIBs)" differs from "Suicidal Processes" and whether there is a remaining group of "Mixed Group Behaviors" of self-harm that is also distinct. This study includes the following two hypotheses.

Hypothesis 1a - Situational Effects: "Self-Injurious Behaviors", "Suicidal Behaviors", and "Mixed Group Behaviors" will differ in terms of situational factors. Situational factors as measured by the

7 We contend that an unknown number of inmates accidently kill themselves every year in American prisons while engaging in major self-injurious behavior that are entirely devoid of a death motive. An inmate who cuts him or herself to ameliorate psychopathological symptomology is paradoxically making an attempt towards living. However, if this inmate dies because of physiological trauma (i.e. hitting a vein or artery, miscalculating blood loss, etc) then the event will be recorded as "suicide; completed". Despite the differences in motivation between suicide and self-injury, fatal self-harm occurring in prison continues to be intransigently coded as 'suicide' with self-injury excluded from consideration. However self-injurious behaviors, typically in the form of cutting with a razor blade, can and do lead to accidently death of the inmate and further research is required to reassess current prison suicide statistics.

body part that is targeted, severity of bodily injury, and by time of day (as a proxy for the level of social control).

Hypothesis 1b - Institutional Responses: “Self-Injurious Behaviors”, “Suicidal Behaviors”, and “Mixed Group Behaviors” will differ in terms of institutional responses. Institutional responses as measured by the use of force, medical treatment responses, protocol responses, and the number of staff needed.

METHOD

The current research was reviewed and approved by the University of South Carolina’s Institutional Review Board. Supplementary review and approval were provided by the South Carolina Department of Corrections. Coding staff were required to read and sign a "Research Confidential Agreement" protecting vulnerable populations that is retained by the corresponding author.

Data

The South Carolina Department of Corrections provided information on 1,158 incidents involving self-harming behaviors that occurred within 28 prisons between 1/1/2004 and 2/12/2008; including 6 deaths due to self-harm. This included a system of codes (e.g., suicide attempt; self-injury) in which correctional staff document events that warrant an institutional response. Such events are electronically entered into the department’s Management Information Notes System (MINS), which also contains a qualitative narrative section. Correctional staff receive mandatory training on the MINS system and consequently there is significant detail provided in each narrative. Information from each report were extracted and entered into an electronic database for statistical analysis.

The Department of South Carolina is similar to other American prison systems in that acts of self-harm are not differentiated. As such, we collected MINS code #600 defined as, “suicide; attempted suicide, and all acts of self-mutilation [sic] by inmates which require medical treatment” and MINS code #700 defined as, “suicide threat, verbal threat or observations”.
In order to disentangle acts of self-harm, four coders were trained using the protocol located in *Appendix A: Self-Harming Behaviors Coding Sheet*. Here, self-harming behaviors were categorized as; (a) self-injurious behaviors, (b) suicide processes, or (c) "mixed group" events. One should also note that the unit of analysis is self-harming behavior itself, in lieu of the inmate. This strategy accepts that

recidivistic, self-harming inmates will vacillate between various self-harming behaviors over the life course, making statistical inferences about the individual unfeasible.

Measures

Table 1 presents the descriptive statistics for the variables used in the analysis.

Table 1. Descriptive Statistics for Variables Used in the Analysis

Variable	*Code*	*Description*	*n*	*%*
Self-harm		*Type of self-harming behavior*		
	1	Self-injury	601	55.2
	2	Suicide threat or attempt (ref)	362	33.3
	3	Mixed	125	11.5
Body Part		*Body location injured or threatened*		
Limbs	1	Arms, legs, hands, feet, etc.	437	39.3
	0	Other	676	60.7
Torso	1	Abdomen, chest, etc.	108	9.7
	0	Other	1005	90.3
Neck	1	Neck (ref)	155	13.9
	0	Other	958	86.1
Head_Face	1	Head, face, eyes, ears, etc.	24	2.2
	0	Other	1089	97.8
Other	1	Other (ingestion, suffocation, setting self on fire, jumping off elevated area, etc.)	144	12.9
	0	Other	969	87.1
Injury Severity		*Severity of injury*		
No_Injury	1	No injury reported (ref)	265	23.9

	0	Other	843	76.1
Minor_Injury	1	Minor injury as defined by DOC	666	60.1
	0	Other	442	39.9
Major_Injury	1	Major injury as defined by DOC	177	16.0
	0	Other	931	84.0
Time		*Time incident occurred*		
T12-3:59am	1	12:00am - 3:59am	65	6.2
	0	Other	991	93.8
T4-7:59am	1	4:00am - 7:59am	33	3.1
	0	Other	1023	96.9
T8-11:59am	1	8:00am - 11:59am	137	13.0
	0	Other	919	87.0
T12-3:59pm	1	12:00pm - 3:59pm	238	22.5
	0	Other	818	77.5
T4-7:59pm	1	4:00pm - 7:59pm (ref)	326	30.9
	0	Other	730	69.1
T8-11:59pm	1	8:00pm - 11:59pm	257	24.3
	0	Other	799	75.7
Force		*One or more staff used force to restrain inmate*		
	1	Force used	205	17.7
	0	No force used	951	82.3
Medical Treatment		*Type of medical treatment*		
No_Treat	1	No injury/no treatment	70	6.1
	0	Other	1069	93.9

In-House	1	In-house treatment (ref)	749	65.8
	0	Other	390	34.2
Hosp_T&R	1	Hospital, treated & released	168	14.7
	0	Other	971	85.3
Hosp_Adm	1	Hospital, admitted	82	7.2
	0	Other	1057	92.8
Hosp_Unk	1	Hospital, unknown if admitted or treated & released	48	4.2
	0	Other	1091	95.8
Refused	1	Treatment refused by inmate	22	1.9
	0	Other	1117	98.1
Response		*Institutional response*		
Cell	1	Returned to cell (ref)	213	20.6
	0	Other	820	79.4
C_Cell	1	Controlled or stripped cell	42	4.1
	0	Other	988	95.6
Crisis	1	Crisis intervention	266	25.8
	0	Other	764	74.2
Watch	1	15 minute watch / observation cell	29	2.8
	0	Other	1000	97.2
Chair	1	Restraint chair	75	7.3
	0	Other	957	92.7
Multi	1	Two or more responses	408	39.5
	0	Other	625	60.5
Staff		*Number of responding staff*		

Staff_1	1	1 staff	89	7.7
	0	Other	1068	92.3
Staff_2	1	2 staff	215	18.6
	0	Other	942	81.4
Staff_3	1	3 staff	238	20.6
	0	Other	919	79.4
Staff_4	1	4 staff	257	22.2
	0	Other	900	77.8
Staff_5	1	5 staff	246	21.3
	0	Other	911	78.8
Staff_6+	1	6 - 20 staff (ref)	112	9.7
	0	Other	1045	90.3
Note: ref = reference group.				

Dependent Variable

The dependent variable is self-harming behaviors (Self-harm), categorized via the tripartite schema of (a) self-injurious behaviors (SIBs), (b) suicidal processes, and (c) mixed events. While definitions of SIB and suicide are clearly established, the mixed event group was operationalized to include manifestations of self-harm that were ambiguous (i.e., suicidal expressions with no accompanying action or minimal action, for example, small cuts on hand with statement “I just want to die”), or involving bizarre acts of self-harm enacted by psychotic or incoherent inmates (i.e., use of ingestants, inhalants, or other unusual tools). This represents an exploratory venture into a third type of self-harming behaviors occurring in prison, which may also be considered a residual group where intent is not clear.

During the 50 week time period, there were a total of 1,088 self-harming events that warranted institutional response or a mean of approximately 22 events per month. As indicated in Table 1, 55.2% of the incidents were classified as self-injury (n=601), 33.7% as suicide processes (n=367) including threat (n=190), attempt (n=172), or completed (n=5), and 11.5% as mixed events (n=125)[8].

Independent Variables

Situational Factors.

Situational variables include the part of the inmate's body that was injured or threatened, injury severity, and time of the incident. Injuries to the limbs (arms, hands, legs, feet) occurred in 39.3% of the incidents, to the torso in 9.7%, neck in 13.9%, head or face area in 2.2%. In 12.9% of the incidents the body part is classified as other (e.g., ingestion of object, suffocation, setting cell or self on fire, jumping off an elevated area). No injury occurred in 23.9% of the incidents. As defined by the Department of Corrections, self-harming injuries were classified as minor in 60.1% and as major in 16.0% of the incidents. In terms of the timing of the injury events, 6.2% occurred between 12:00am and 3:59am, 3.1% between 4:00am and 7:59am, 13.0% between 8:00am and 11:59am, 22.5% between 12:00pm and 3:59pm, 30.9% between 4:00pm and 7:59pm, and 24.3% between 8:00pm and 11:59pm.

Institutional Responses.

Institutional response variables consist of the use of force by correctional staff, the type of treatment provided to inmates, the response to the self-harming behavior and the number of staff that responded to the incident. Correctional staff used force to restrain inmates in 17.7% of the incidents. No medical treatment was necessary in 6.1% of the incidents (e.g., there was only a threat of self-harm), medical treatment was provided within the institution in 65.8% of the incidents, in 14.7% inmates were treated at a hospital and released, in 7.2% inmates were admitted to a hospital for treatment, in 4.2% inmates were treated at a hospital but it was unknown of they were admitted or released, and in 1.9% of the incidents inmates refused treatment. Regarding the response variables, in 20.6% of the incidents, inmates were returned to their cell, 4.1% were placed in a controlled or strip cell, 25.8% were placed in crisis interventions, 2.8% were placed under a 15-minute watch or in an observation cell, 7.3% were placed in a restraint chair, and 39.5% received two or more responses. One staff member responded to instances of self-injury in 7.7% of the incidents, 2 in 18.6%, 3 in 20.6%, 4 in 22.2% 5 in 21.3% and six staff or more were utilized in 9.7% of incidents (up to 20 staff).

Analytic Strategy

[8] There were 46 incidents for which a determination could not be made, typically for a lack of detail in the narratives regarding injuries. Excluding these incidents did not affect the conclusions, except that the estimate for "no treatment" in the situational model became very unstable due to a sparse cell size. We therefore excluded these cases.

Because the dependent variable consists of three unordered categories, we employ multinomial logistic regression for the analysis. Predicted probabilities are used to examine how the probability of being in a category of the outcome varies as independent variables change from their minimum to their maximum values, holding all other independent variables at their means. Small changes in probabilities for a given change in an independent variable generally are not of interest while large changes in probabilities suggest important variables (Long, 1997). As an additional point of reference we also indicate statistically significant effects from the regression model using asterisks to indicate coefficients that were significant at the .05 level. Usually, though not always, statistically significant effects for the coefficients correspond to large changes in probabilities. Model fit statistics also are provided in the tables of probabilities. Findings for the situational model are presented first, followed by the findings for the institutional response factors.

RESULTS

Table 2 presents the changes in probabilities for the situational factors model.

Table 2. Changes in Predicted Probabilities for Situational Factors Model

Discrete Change in Probability				
Variable	Self-Injury	Mixed	Suicide	Avg. Change
Body Part				
Limbs	.631*	.017*	-.648	.432
Torso	.380*	-.117*	-.263	.254
Neck (ref)	----	----	----	----
Head_Face	.124*	.136*	-.188	.125
Other	.010*	.098*	-.197	.131
Injury Severity				
No_Injury (ref)	----	----	----	----
Minor_Injury	.476*	-.185	-.290	.317
Major_Injury	.363*	-.172	-.191	.242
Time				
T.12-3:59am	-.029	.065	-.055	.044

T.4-7:59am	-.007	-.091	.098	.065
T.8-11:59am	.064	-.072*	.007	.048
T.12-3:59pm	.051	-.045	-.006	.034
T.4-7:59pm (ref)	----	----	----	----
T.8-11:59pm	-.036	-.074	.111	.074
LL	-481.15			
LR Chi-Sq.	759.24 (22), $p \leq .0000$			
Pseudo R^2	.441 / .663			
N Obvs.	924			

Notes: $p \leq .05$, LL = log likelihood; LR Chi-Sq. = likelihood ratio test of full vs. naive model; Pseudo R^2 = McFadden's and Nagelkerke's, respectively; N Obvs. = number of observations after listwise deletion; ref = reference group.

Findings indicate that compared to injury to the neck, injury to the limbs increases the probability that the incident is a self-injury, while it increases the probability that it is mixed only slightly (.02). Injury to the limbs decreases the probability that it is a suicide by .65. Injury to the torso also increases the probability that the incident is a self-injury by .38, but it decreases the probability that it is a mixed incident by .12 and the probability that it is a suicide by .26. Injury to the head or face increases the probability that it is a self-injury by .12 and the probability of that it is a mixed incident by .14, while the probability that it is a suicide is decreased by .19. "Other" injury decreases the probability that it is a suicide by .20 and it increases the probability that is a mixed incident by .10. However, there is only a small increase in the probability that it is a self-injury incident (.01). For injury severity, we see that minor injury increases the probability of an incident being a self-injury by .48, while it decreases the probability that it is a mixed incident or a suicide by .19 and .29, respectively. Major injury increases the probability that it is a self-injury by .36 and it decreases the probability that it is a mixed incident and a suicide by .17 and .19, respectively. The time of occurrence of self-harm incidents is generally unrelated to the type of self-harm. Summarizing the findings for the situational factors model, we find that self-injury incidents are more likely than suicide incidents to involve injury to the limbs, torso and head/face versus the neck. Except for injury to the torso, we find the same pattern for mixed incidents. We also find that self-injury incidents are more likely than mixed or suicide incidents to involve both minor and major injury.

In terms of the institutional response factors, we see that the application of force by correctional staff, the refusal of medical treatment, transport to a controlled/strip cell, hospital

admission, being placed in a restraint chair, and the number of staff responding to self-harm incidents are generally associated with small changes in predicted probabilities across the response categories. Furthermore, these variables were not significantly significant in the regression model and thus are not described further.

Table 3. Changes in Predicted Probabilities for Institutional Response

Model

Discrete Change in Probability				
Variable	**Self-Injury**	**Mixed**	**Suicide**	**Avg. Change**
Force	**-.082**	**.040**	**.043**	**.055**
Treatment				
No_Treat	**-.447***	**-.085***	**.532**	**.355**
In-House (ref)	**----**	**----**	**----**	**----**
Hosp_T&R	**.042***	**.136***	**-.179**	**.119**
Hosp_Adm	**-.142**	**.171**	**-.029**	**.114**
Hosp_Unk	**-.290***	**.102**	**.200**	**.194**
Refused	**-.068**	**.125**	**-.056**	**.083**
Response				
Cell (ref)	**----**	**----**	**----**	**----**
C_Cell	**-.029**	**.099**	**-.071**	**.066**
Crisis	**-.224***	**-.055***	**.279**	**.186**
Watch	**-.329***	**-.024**	**.353**	**.235**
Chair	**.055**	**.018**	**-.074**	**.049**
Multi	**-.301***	**.022**	**.279**	**.201**
Number of Staff				
Staff1	**-.032**	**.098**	**-.066**	**.065**

Staff2	**-.055**	**.038**	**.017**	**.037**
Staff3	**-.079**	**.014**	**.064**	**.053**
Staff4	**-.041**	**.074**	**-.033**	**.050**
Staff5	**-.026**	**.032**	**-.006**	**.021**
Staff6 (ref)	**----**	**----**	**----**	**----**
LL	**-810.85**			
LR Chi-Sq.	**183.61 (32), *p* = .0001**			
Pseudo R^2	**.102 / .207**			
N Obvs.	**948**			
Notes: * = *p* ≤ .05, LL = log likelihood; LR Chi-Sq. = likelihood ratio test of full vs. naive model; Pseudo R^2 = McFadden's and Nagelkerke's, respectively; N Obvs. = number of observations after listwise deletion; ref = reference group.				

Regarding the treatment variables, compared to inmates receiving in-house medical treatment, no medical treatment increases the probability of an incident being a suicide by .53, while it decreases the probability that it is a self-injury incident by .45. We also see that the probability of it being a mixed incident decreases by .09. Inmates treated and released from a hospital increases the probability that it is a self-injury incident slightly (.04), while it increases the probability of a mixed incident by .14. The probability that it is a suicide threat or attempt decreases by .18. As indicated in Table 3, when compared to inmates returned to their cell post-event, inmates receiving crisis intervention decreases the probability by .22 that it is a self-injury incident and increases by .28 the probability that it is a suicide[9]. Receiving crisis intervention also decreases the probability that it is a mixed incident, but only by .06. Inmates placed on a 15-minute watch or in an observation cell decreases the probability that it is a self-injury incident by .33 and increases the probability that it is a suicide by .35. Inmates receiving two or more institutional responses decreases the probability that it is a self-injury incident by .30 and increases the probability that it is a suicide by .28. The number of staff responding was unrelated to the type of self harm, though it was rare that any form of self-harm was addressed by a solo employee.

In summary, for the institutional response model the types of self-harm do not appear to differ in terms of the application of force, the number of responding correctional staff, hospital admission (vs. in-house treatment) placement in a controlled/strip cell or restraint chair (vs. being returned to ones' cell). However, suicide incidents are significantly more likely to not receive medical treatment than in-

9 We do not interpret the effect of Hosp_Unk, i.e., where it is unknown whether or not inmates were admitted or treated and released when transported to a hospital (n = 48 or 4.2% of the sample) because its meaning is unclear.

house medical treatment, whereas both self-injury and mixed incidents are significantly less likely to not receive medical treatment than in-house treatment (or conversely, they are more likely than suicide incidents to receive in-house medical treatment versus no medical treatment). We also observe that self-injury and mixed incidents are only slightly more likely than suicide incidents to be treated and released from a hospital than to receive in-house treatment.

Other findings from the institutional response model are that compared to suicide incidents, self-injury and mixed incidents are more likely to be returned to their cell than to receive crisis intervention. We also find that compared to suicide incidents, self-injury (but not mixed) incidents are more likely to be returned to their cell than to be placed under a 15-minute watch or placed in an observation cell. Finally, self-injury incidents are more likely than suicide incidents to be returned to their cell than to receive two or more institutional responses.

DISCUSSION & CONCLUSION

While this study has important implications for the empirical study and treatment of self-harm in prison, several caveats should be noted. While the study includes the entire population of self-harm events documented by the South Carolina Department of Corrections, one should use caution when generalizing to the correctional systems in other states. Moreover, the employment of secondary data collected for institutional purposes limits such inferences. Another potential problem concerns operational definitions which have stymied self-harm research and continued to be challenging. As mentioned earlier, the seminal work of Karl Menninger (1938) provides a base for defining self-harm along a continuum, although at low thresholds of the behavior Menninger included the following; nail biting, hair plucking, eye rubbing, masturbation, malingering behaviors, compulsive polysurgery (i.e. Münchausen syndrome), a description of what appears to be Tourette's Syndrome (p. 241), and in one patient - the shaving of facial hair. Such sweeping definitions of self-harm explain nothing in their attempt to include everything. Therefore, we carefully provided distinct definitions' and operationalizations' with regard to self-harm, while also being cognizant that certain acts remain uncategorized. For example, wrist slashing is a characteristic of both suicide and self-injurious behavior, yet they are included as targeting the limbs in this study. Micro-level research methodologies, such as inmate-interviews, are necessary to further define and categorize the various manifestations of self-harm that occur in prison.

This study highlights the formidable challenge that self-harm poses to the prison milieu (see Smith and Kaminski, 2011); self-injurious behaviors were documented at rates 3.16 times higher than suicide threats, 3.49 times higher than suicide attempts, and 120.6 times higher than completed suicides.

The tripartite schema of self-harm was generally supported by this study, with situational variables being more diverse with regard to self-harm than institutional treatment responses. First, by

recognizing and excluding 'mixed events' a clear distinction between self-injury and suicidal processes was made. Self-injury in prison was more likely to involve the targeting of limbs, torso, and head/face resulting in minor and major injuries. In contrast, suicidal events involve targeting the neck, with few resulting injuries (due to the fact that most suicidal efforts are limited to suicidal threats or failed suicide attempts)10. This reinforces the notion that these two behaviors are nosologically distinct and thus warrant specific institutional responses. It is also suggestive that self-injurious behaviors are far more costly to the prison system when compared to suicidal processes.

Second, institutional response was distinct in terms of medical treatment and response type, but no statistically significant differences were identified in the application of force or number of staff needed. It is evident that when self-injurious behaviors occur in prison, they are much more likely to require medical treatment, particularly hospitalizations. One should note that these routine hospitalizations place additional demands on prison systems; particularly due to the additional staff time needed for transportation and security, as well as, inordinate medical expenditures for the often life-threatening trauma that require invasive medical procedures. In response to self-injurious events the inmate was assessed and typically medically treated in house (i.e., infirmary) and released back to their cell; although multiple suicidal protocols were used at statistically significant levels to address self-injury. This may be reflective of the chronic psychopathology underlying self-injurious behaviors, whereby multiple methods of restraint and evaluation are employed by staff in desultory efforts at reducing the behavior. Unfortunately, standards such as those offered by the National Commission on Correctional Health Care (2001) currently offer little utility for professional staff. Here, the NCHHC (2001) protocols are limited by the utilization of an inaccurate term (i.e., self-mutilation), are outdated (i.e., based on Dr. Quijano's twenty year old research using the DSM-III), and most precariously, instruct professional staff to consider the inmate's manipulative intent in self-injury in their delivery of institutional treatment (pp. 206-210). In contrast, suicidal threats and behaviors rarely necessitated externalized medical care at a county hospital, and there was no correlative evidence that the institutional response adhered to suicide protocols (i.e. crisis intervention, watch, restraint chair etc). This is likely due to the vast majority of suicidal processes being only threats, with little actual physical harm manifesting. While this study documented that self-injurious behaviors are more likely to lead to physical morbidity that necessitates medical care and hospitalizations; further research should re-examine all psychological autopsy reports detailing the completed suicides of prison inmates. To date, these assessments of suicide mortality have not included any consideration of major-self-injurious-behavior (see Favazza definition of major-SIB, 1989) as potential cause of death, specifically via the identification of scars at intake, the inmate's history of documented self-injury while incarcerated, and input of mental health staff trained to distinguish self-injury from suicide.

A reminder that these considerations of physical morbidity/mortality and the consequent need for medical resources is theoretical and for purposes of this study, and both self-injury and suicidal processes must always be taken as 'serious' by professional staff. As such, standards that recommend assessments of inmate 'intent' in self-harm continue to be risky ventures, particularly when devoid of

10 Time of day, as a proxy measure of social control, did not show variability between the 3 self-harming behaviors. This contradicts the findings of Doty *et al.*, (forthcoming) which found time differentials for self-injurious behaviors.

any established means of measuring inmate 'motive' (see Haycock, 1989). Instead, theoreticians must continue to disentangle the etiology, antecedents, and manifestations that separate self-injurious behavior from suicidal processes, while practitioners focus their expertise on the medical needs and psychopathological symptomology of the inmate. While Tartaro and Lester (2009) argue that they consider self-injurious behaviors and suicide attempts, “as equal threats to the security and stability of the corrections institution and inmates who reside there" (p. 5), this is clearly not the case when tested empirically.

Third, in addition to differences between self-injurious behaviors and suicidal processes, we identified unique characteristics of a 'mixed group' of self-harming inmates. This group was likely to target limbs and head/face, but less likely to target their torso for harm (like self-injuring acts). The targeting of the 'other' body part is indicative of inmates who ingest items or enact multiple methods that are unusual. This manifestation is similar to Smith and Kaminski's (2011) national survey of prisons, in which mental health staff identified "very harmful and bizarre acts such as swallowing razor blades or other dangerous objects, eating nonfood materials (pica), washing with bleach or toilet cleaner, abusing laxatives, rubbing feces into open wounds, and tying ligatures (thread, string, wire) around limbs to restrict blood flow" (p. 34), as well as major acts such as self-castration and self-enucleation (p. 34). The 'mixed group' of self-harm was significantly more likely to result in infirmary medical treatment or 'treat and release' hospitalizations where the inmate was not formally admitted to hospital care (unlike self-injurious behaviors which feature more admitted hospitalizations). The decreased utilization of crisis intervention for these mixed events remains unexplained. However, the raison d'être of this form of self-harm is thought to be reflective of the nexus between self-injurious behaviors and suicide process. As Stanley et al., (2001) states, “self-mutilating [sic] suicide attempters have a history of childhood abuse, show more aggressive behavior, and have more evidence of borderline characteristics relating to affective instability and difficulties with interpersonal relationships" (p. 431). More research is needed to further explain this mixed group.

In summary, this research provides continued theoretical support for recognizing key differences between self-injurious behaviors and suicidal processes occurring in prison, lending credence to researchers operating under the second dichotomous paradigm of self-harm (Crighton & Towl, 2002; Pattison and Kahan, 1983; Sabo et al., 1995; Snow, 2002). In concord with Fulwiler et al., (1997), "prison self-mutilators [sic] and suicide attempters had very different clinical presentations and histories" (p. 69). Paradigmatic differences were evident for both the situational manifestation of self-harm in prison, and to a lesser extent, the corollary treatment response enacted by prison staff. However, one must also acknowledge the presence of a 'mixed group' set of behaviors which is more akin to the first paradigmatic inclusion of a self-harm continuum. Instead of a continuum effect, we posit that this 'mixed group' contains elements of both self-injurious behaviors and suicidal processes and thus self-harm should be considered under a tripartite schema. Further empiricism is needed to replicate testing of a 'mixed group', and we add the caveat that further subsets of self-harm are possible. This current research provides a nosological assessment of self-harming behaviors occurring in prison, and we concur that inmate 'suicide profiles' or 'self-injurious profiles' should be avoided (Kennedy & Homant, 1988). Preferably, evidence-based research on self-harming behaviors should work towards a definitive

nomenclature of prison self-harm in order to better guide professional staff who deal with this serious problem on a daily basis.

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Appendix A: Self-Harming Behaviors Coding Sheet

1. a. Suicide completion – Inmate completed a suicide attempt and was pronounced deceased.

b. Suicide attempt – Inmate conducts an activity or behavior that appears to be a suicide attempt.

c. Suicide threat – Inmate makes a verbal threat of suicide, but makes no or minimal action to complete the threat.

- Appears to be suicidal intent in the behavior with goal of death or high expectation of death.
- Expression of suicidal intent may be coupled with apparent suicidal action (e.g. pill overdose with statement "I just want to die") or statement in report from staff respondent (e.g. "Inmate Johnson stated that he was suicidal").
- Quotes in which the behavior was conducted to make others feel better (e.g. "Inmate stated that her would be better off if I she dead").
- Motivation appears to be psychological "escape" through suicide.
- Inmates who are psychotic, paranoid, or hearing voices and who appear to lack to coherence to formulate an active suicidal plan should be placed in another category.
- *Typical methods of injury*: Hanging, medication overdose, and wrist cutting w/ expression of intent to die. Light wrist cutting should be considered with reference to the total MINS report.

2. Mixed or "other" category

- Suicidal expression with no accompanying action or minimal action (e.g. small cuts on hand with statement "I just want to die").
- Bizarre and highly unusual MINS cases (i.e. also may involve unusual tools and methods for self-harm).
- May include psychotic or incoherent inmates.
- May also manifest as diverse set of injuries that are not included in categories 1 & 3.
- *Typical methods of injury*: Diverse set of injuries that are not included in categories 1 & 3.

3. Self-injurious behavior

- Motivation appears to be a need to "control" or "cope" rather than to kill themselves.

- No suicide threat expressed.
- Quotes in which the behavior was conducted to make the inmate him or herself feel better (e.g. “Inmate said he was very stressed out and cutting his leg provided him some relief”).
- MINS report may mention previous SIB events (e.g. “Inmate Jones had cut himself again”)
- Report includes quote of non-suicidal intent (e.g. “I wanted staff to move me to another cell”).
- *Typical methods of injury*: cutting or scratching with an object, scratching without an object, biting, bone breaking, burning or branding, head banging, inserting objects into body or under skin, opening old wounds, pulling own hair, and punching walls etc.