

Prison Inmate Characteristics and Suicide Attempt Lethality: An Exploratory Study

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Working with suicidal inmates is among the most demanding elements of clinical practice in corrections, yet few studies regarding the characteristics of prison inmate suicide attempters or their attempts exist. This represents a significant gap as the method of attempt, the prison context, and the resulting lethality of these incidents may be different from attempts made outside of prison. This exploratory study is the first to apply a continuous scale rating of suicide attempt lethality to incidents where an inmate survived a suicide attempt. It describes the attempt incident dynamics and resulting range of lethality scores found within the study sample. It also examines the inmate adjustment and mental health characteristics that were associated with the lethality rating. Preliminary findings suggest that increases in suicide attempt lethality are associated with the presence of Axis II disorders, favorable staff interactions, and the decreased use of drugs other than marijuana, alcohol, cocaine, or depressants. A call for research to extend this exploration through replication is made and recommendations for clinical practice are considered.

Keywords: inmates, offenders, correctional mental health services, lethality

The administrative importance of comprehensive suicide prevention policies for correctional systems has taken root, and suicide prevention has been established as a key element of effective contemporary correctional management (American Correctional Association, 2003). The necessity of training all corrections staff in suicide prevention and intervention procedures is no longer questioned (Hayes, 1995; National Commission on Correctional Health-

care, 2003). Mental health professionals practicing in corrections indicate that conducting suicide risk assessments is among the most important aspects of their job (Boothby & Clements, 2000; Magaletta, Patry, Dietz, & Ax, 2007). Furthermore, researchers and clinicians continue to understand prison suicide as a “serious public health problem” (Haycock, 1991, p. 81). Despite this sustained attention, however, corrections administrators, managers, staff trainers, and mental health professionals struggle to find relevant empirical literature that can advance their suicide prevention programs, strategies, and knowledge (Ax et al., 2007).

A large majority of the empirical literature on suicide prevention in corrections has taken an autopsy approach, in which the characteristics of inmates who completed suicide are elucidated (Anno, 1985; Leese, Thomas, & Snow, 2006; Lester, 1982; Mumola, 2005; White, Schimmel, & Frickey, 2002). This literature can be championed for effectively raising consciousness and drawing resources to support suicide prevention and intervention efforts in corrections. Studies have been relatively consis-

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tent in noting several high-risk subgroups among suicide completers. Among the most frequently cited are high-security offenders serving long sentences and offenders in segregated housing units.

Despite the overall strengths of the autopsy approach, it should be noted that the data examined in this type of work may be limited (Hawton, 2001). Sample sizes remain restrictive and create selection bias that cannot be controlled for statistically. In addition, data only become available in clinical or official records after the fact. To continue understanding and empirically informing suicide prevention in corrections, work that extends beyond measurement of those who have completed suicide is needed. Through the eyes of a correctional clinician, *suicide* represents an entire spectrum of biological, cognitive, and behavioral realities (Beck, Weissman, Lester, & Trexler, 1976), and the study of completed suicides may not fully inform the necessary work of correctional clinicians who assess and treat the living.

Less frequently pursued in the literature on suicide prevention and intervention in corrections but of immense clinical and empirical value is the study of inmates who have survived a suicide attempt. The most common approach made in this literature involves exploring factors that distinguish inmates with and without an attempt history. Liebling (1999) summarized findings from this stream of literature, suggesting that suicide attempts reflect low coping resources and destructive behavior patterns that create a vulnerability that is acted on in the suicide attempt. It is worth noting that several prominent corrections researchers from various international jurisdictions have produced, replicated, or extended such findings (Bonner & Rich, 1990; Couturier, 2001; Daniel & Fleming, 2005; Ivanoff, 1992; Ivanoff, Smyth, Grochowski, Jang, & Klein, 1992; Meltzer, Jenkins, Singleton, Charlton, & Yar, 2003; Toch & Adams, 2002; Zamble & Porporino, 1988).

Although these studies have also advanced correctional practices, they too are not without their limitations. Typically, there has been little agreement on how to define and measure distinctions within suicide attempts (Liebling, 1999; Light, 1990; Michie & Cooke, 2006). This problem only grows when common correctional mental health concepts such as self-harm, threats, and manipulation are introduced

(O'Carroll, Berman, Maris, & Moscicki, 1996; Haycock, 1989). This lack of a clear operationalization has led to a circumstance where the literature has not reached its full potential.

In corrections research, where the context of the 24-hr a day correctional environment counts for so much, there is a need to explore and develop measures that can accommodate the full range of ecologically relevant factors associated with an inmate's suicide attempt. An important consideration in this area of research remains the exploration of constructs and measures that can accommodate the mutual contributions of inmate and environmental factors associated with suicide attempt incidents in prison. The construct holding the most potential for demonstrating both operational precision and ecological consideration is lethality.

Suicide Attempt Lethality

The term *lethality* was originally used to refer to the seriousness (i.e., deadliness or severity) of a particular suicide attempt incident (Card, 1974), and it remains an important tool in understanding those who have survived a suicide attempt (Hawton, 2001). Conceptualized this way, suicide attempt incidents can be calibrated as a continuous measure that spans beyond a dichotomous categorical value. Choosing seriousness as part of the operationalization and anchoring it to the medical "likelihood of death" is important as it allows for suicide attempt methods to be scaled on a continuum (Bongar, Maris, Berman, & Litman, 1993; Lester, 1970). For corrections research, this presents a tremendous opportunity. To date, the studies that have sampled prison inmates have done little to elucidate the methods used in the suicide attempt or the lethality of suicide attempts made in correctional facilities. The paucity of attention given to this area represents a significant gap in our empirical understanding of suicide because the methods available for taking one's life in custody differ from the methods traditionally available for ending one's life in the community.

Other advantages of using this construct in corrections research are that it allows for the circumstances surrounding the attempt to influence the degree to which severity is ascribed. Several prominent corrections researchers have noted that correctional facilities are "total envi-

ronments" (Ruback & Innes, 1988; Toch & Adams, 2002), and the lethality construct is broad enough to accommodate this ecological perspective (Bronfenbrenner, 1979). By examining both the medical lethality of the method and the circumstances surrounding the suicide attempt, corrections researchers can take fuller advantage of exploring factors that might be associated with increasing the lethality of a given incident. A final advantage of the lethality construct is that it links to important outcomes, at least in noncorrectional populations. For example, higher levels of suicide attempt lethality have been demonstrated to have a negative relationship with impulsivity (Baca-Garcia et al., 2001) and help-seeking communications (Barnes, Ikeda, & Kresnow, 2001; Handwerk, Larzelere, Friman, & Mitchell, 1998), and positive relationships with anxiety disorders (Fawcett, 2001), general mental disorders (Tarter, Tessler, & Perley, 1975), psychotic disorders (Radomsky, Haas, Mann, & Sweeney, 1999), and finally, completed suicides (Hawton, 2001; Pallis & Barraclough, 1977).

The purpose of the present study was to explore the use of an ecologically relevant suicide attempt lethality measure (Lethality of Suicide Attempt Rating Scale [LSARS]; Smith, Conroy & Ehler, 2002) with a group of prison inmates who survived an in-prison suicide attempt. To accomplish this purpose, we have created a master database from several smaller operational data sources. This allows several groups of independent measures to be parsed and clarified and provides a base for our initial exploration into the dynamics of the suicide attempt incidents (e.g., location within the prison, method) and the assignment of a LSARS rating. It also provides a design that allows for inmate adjustment (e.g., violence with other offenders, desire for an institutional transfer, help-seeking behaviors) and mental health and substance abuse characteristics (e.g., Axis I and II diagnosis, number of prior suicide attempts, opiate use) to be explored for their potential association with the assigned LSARS rating.

Method

Sample

The sampling frame was male inmates in federal custody between June 1998 and Novem-

ber 2000. Inmates entered the sample if (a) they had made and survived a suicide attempt (representing an actual behavior, not an ideation or threat) during this timeframe, (b) the attempt was discovered and documented as an incident by custody staff, and (c) a suicide risk assessment was conducted and documented by the psychologist at the particular prison where the attempt occurred. These inclusion criteria were necessary to construct the narrative records database that would allow the LSARS to be applied. Suicide completions were excluded because the LSARS is not intended for use with individuals who have completed suicide. With this nonprobability sampling design, the following two operational data sources were used to examine the suicide attempt incident dynamics and the relevant inmate characteristics of the 205 inmates who entered the sample.

Archived incident reports. This paper document is used to make an official record and to communicate the dynamics of significant correctional incidents. These are typically completed by the staff who observe or are involved in the incident, and they contain general incident information (e.g., who was involved, what was the method, what was the outcome). Of note, each report typically concludes with a narrative summary of the incident. Written reports are retained in an offender's central file and a copy is archived in a central location. During the sampling timeframe, when one of these reports was forwarded to the central location and confirmed to be a suicide attempt critical incident, the national suicide prevention coordinator was notified. Thus, the archived incident reports became a data source for the study, and select suicide attempt dynamics (including the incident time, location, and method) were coded and entered into the database.

Psychology data system (PDS). PDS is the system of electronic mental health records for all psychology services provided to Bureau of Prisons inmates. Examples of records include intake screenings, segregation reviews, suicide risk assessments, individual and group therapy notes, crisis intervention, and medication consultations. Once offenders had been identified through the archived incident report, the narrative text from their PDS records was extracted. Again, using a simple yes/no scoring matrix, prison adjustment and mental health data were coded and entered into the database.

Data points coded included such entries as prior and current diagnoses (both Axis I and II), prior suicide attempts, number of prior risk assessments conducted, and substance abuse history. In addition, the specific suicide risk assessment that corresponded with the archived incident reports was used to document the various incident dynamics on the coding sheet.

Lethality of Suicide Attempt Rating Scale (LSARS)

The LSARS is a standardized suicide lethality scale (Smith et al., 2002) that yields an interval score from 0–9 based on two composite assessments: the life-threatening impact of the specific method used (e.g., depth of laceration, dosage of medication consumed, etc.) and the circumstances surrounding the attempt (e.g., was the attempt made in sight of others, did they tell anyone first, etc.). Once the circumstances surrounding the attempt are examined, then the severity of the method can be modified so that the final rating reflects the overall lethality of the entire incident, not just the medical severity of the method.

The LSARS is used only with suicide attempters (i.e., even the highest value “9” indicates an attempt that does not end in death) and has been demonstrated to possess good concurrent validity and interrater reliability (Berman, Shepherd, & Silverman, 2003; Goldston, 2003), with interrater agreement ranging from 93% to 99% (Diamond et al., 2005; Handwerk et al., 1998; Smith et al., 2002). Two aspects of this instrument make it superior to other lethality instruments (Berman et al., 2003). First, it includes an extensive table of various ingested substances and the medical severity of each. Second, it contains a broad range of descriptive guidelines for scoring, as well as specific anchors for each assigned interval. For example, the 0 anchor is *Death is an impossible result of the suicidal behavior*; 3.5 is *Death is improbable so long as first aid is administered by victim or other agent. Victim usually makes a communication or commits the act in a public way or takes no measures to hide self or injury*; 8 is *Death would ordinarily be considered the outcome to the suicidal act, unless saved by another agent in a “calculated” risk. One or both of the following are true: (a) makes no direct communication; (b) takes action in private*. In

general, higher lethality scores indicate that death would be at least a probable outcome of the incident unless immediate and vigorous medical attention was provided. Lower scores indicate that death would be highly improbable as an outcome of the incident.

For the present study, the archived incident reports and the suicide risk assessment as it appeared in the PDS records for the inmate provided the description of the suicide attempt that was coded using the LSARS. To accomplish this, two doctoral psychology graduate student raters were trained by a licensed clinical psychologist who had expertise in the use of the LSARS with a correctional population. The raters were provided with intensive training on how to use the scale and assign ratings. Next, the raters practiced making ratings and were then evaluated for accuracy by the expert. When an adequate number of cases had been properly rated, the raters began applying the instrument to the records provided. Their work was supervised by the expert, and when rating assignments were unclear, the expert and the raters made several iterative passes through the rating scale literature and the data in the records until consensus was reached for a score.

Results

Description of the Sample

The sample consisted of 205 male inmates. The mean age for the inmates in this sample was 34.2 years ($SD = 9.5$) and was slightly younger than the national average (i.e., 38 years). In terms of race, 40% ($n = 82$) were White, 23.9% ($n = 49$) were Black, 28.3% ($n = 58$) were Hispanic, 4.4% ($n = 9$) were Native American, and 2.4% ($n = 5$) were Asian (2 offenders were from other races). In terms of criminal history and institutional adjustment, almost 40% of the sample had a prior conviction for a violent crime ($n = 81$), and 60% of the sample ($n = 123$) had a record of institutional violence with other inmates. About a third of the sample (32.7%, $n = 67$) had expressed a desire for a transfer to another institution, 59% ($n = 121$) were characterized as having had poor institutional adjustment, and 55.6% ($n = 114$) were characterized as having had negative interactions with prison staff (based on review of institutional records). About half of the sam-

ple (47.8%, $n = 98$) had at least one incident of malingering on record. Table 1 presents data on inmates in the sample in terms of historical substance use and mental disorders.¹

For suicide attempts history, half of the sample (50.2%, $n = 103$) had communicated suicidal intent beforehand, and more than half (57.6%, $n = 118$) had expressed willingness to agree to a suicide contract. In nearly half of the cases (48.3%, $n = 99$), the rated suicide attempt was the individual's first documented suicide attempt in prison. More than a third of the inmates in the sample (37.8%, $n = 77$) had 1 or 2 previously documented in-prison suicide attempts; the number of total suicide attempts (including the rated attempt) ranged from 1 to 17, with a mean of 2.2 ($SD = 2.2$).

Incident Dynamics

In terms of location within the prison where the suicide attempts were made, findings were consistent with previous research. More than half (55.6%, $n = 114$) of the suicide attempts occurred while the inmate was in a segregated housing unit. Unfortunately, from the data sources used it was not possible to obtain a greater level of differential for segregated housing unit status (i.e., protective custody, disciplinary, or administrative housing). An additional 7.3% ($n = 15$) of the attempts occurred when the inmate was under some form of increased professional staff surveillance, and the remaining 37.1% ($n = 76$) of the attempts were

Table 2
Time of Day and Methods of Prison Inmate Suicide Attempts

Incident descriptors	%	<i>n</i>
Time of day		
Midnight–3 a.m.	11.2	23
3 a.m.–6 a.m.	2.9	6
6 a.m.–9 a.m.	7.8	16
9 a.m.–noon	12.2	25
Noon–3 p.m.	18.5	38
3 p.m.–6 p.m.	14.6	30
6 p.m.–9 p.m.	20.0	41
9 p.m.–midnight	12.7	26
Method of suicide attempt		
Hanging	44.4	91
Laceration(s)	39.0	80
Ingestion/overdose	12.2	25
Suffocation	2.0	4
Jumping	0.5	1
Drowning	0.5	1
Electrocution	0.5	1
Banging head	1.0	2

made in a general population unit. Time of day when the suicide attempt was discovered is presented in Table 2. In terms of methods of attempt, hanging and lacerations were by far the most common (44.4% and 39.0%, respectively, see Table 2). Mental health factors were cited as the key reasons for two thirds of the suicide attempts (66.3%, $n = 136$), and social relations or family issues were the main reasons for 9.8% ($n = 20$) of the attempts, and another 8.3% ($n = 17$) of the suicide attempts were attributed to institutional interpersonal factors or prison environment causes.

Suicide Attempt Lethality

Mean attempt lethality on the 9-point LSARS was 3.5 ($SD = 2.4$). Although there was a range of lethality scores, many (64%) were rated as less than 3.5, meaning that considering the method chosen and circumstances surrounding the attempt, death was not a likely outcome. Table 3 reports the frequency distribution of lethality scores.

Table 4 presents the results of a regression analysis with simultaneous entry that was used

Table 1
History of Substance Use and Mental Disorders Among a Sample of Prison Inmates (N = 205)

Historical measures	%	<i>n</i>
History of substance use		
Alcohol	43.9	90
Marijuana	34.6	71
Opiates	19.5	40
Stimulants	42.9	88
Depressants	5.4	11
PCP/LSD	19.0	39
Mental disorders		
Past diagnosis of mental disorder	78.5	161
Axis I disorder (at time of attempt)	61.5	126
Axis I polysubstance disorder	24.4	50
Axis II disorder	37.1	76
Self-mutilation	43.4	89

¹ For interested readers, the Appendix provides the significant bivariate relationships between the variables and with the overall lethality score.

to determine the prison inmate characteristics that significantly and independently (i.e., controlling for all other variables in the equation) were associated with the assigned suicide attempt lethality rating. The predictor variables listed in the table include a number of inmate adjustment factors (i.e., history of violence in prison, conviction for a violent crime, and malingering, having expressed desire for a transfer, adjustment to the institution, prior help seeking, and staff interactions) and inmate mental health and substance abuse factors.

The overall model accounted for 13% of the variance in the suicide attempt lethality rating.² Controlling for all of the other independent variables in the model, favorable staff interactions, PCP/LSD substance use (substances other than alcohol, marijuana, opiates, stimulants, and depressants), and current Axis II disorder were related to the lethality of the suicide attempt. The direction for some of these relationships is of interest. For example, favorable staff inter-

Table 3
Distribution of Suicide Attempt Lethality Scores in Prison Inmates

Lethality	Percentage of attempts	n	Cumulative percentage
0	1.0	2	1.0
0.5	2.0	4	2.9
1	14.1	29	17.1
1.5	12.2	25	29.3
2	13.2	27	42.4
2.5	5.9	12	48.3
3	10.7	22	59.0
3.5	5.4	11	64.4
4	2.9	6	67.3
4.5	1.0	2	68.3
5	12.2	25	80.5
6	1.5	3	82.0
7	3.9	8	85.9
7.5	6.3	13	92.2
8	3.9	8	96.1
8.5	2.9	6	99.0
9	1.0	2	100.0

Note. Lethality was rated on the Lethality of Suicide Attempt Rating Scale (LSARS), where 0 = Death is an impossible result of the suicidal behavior; 3.5 = Death is improbable so long as first aid is administered by victim or other agent. Victim usually makes a communication or commits the act in a public way or takes no measures to hide self or injury; 8 = Death would ordinarily be considered the outcome to the suicidal act, unless saved by another agent in a “calculated” risk. One or both of the following are true: (a) makes no direct communication; (b) takes action in private.

Table 4
Regression Analysis of Suicide Attempt Lethality in Prison Inmates

Independent variable	β	t	p
<i>Inmate adjustment factors</i>			
Violence with other inmates	.031	0.380	.704
Conviction for a violent crime	.041	0.525	.601
Malingering	-.023	-0.270	.788
Desire for a transfer	.079	0.958	.340
Adjustment to institution	-.009	-0.118	.906
Help seeking	-.144	-1.883	.061
Favorable staff interactions	.191	2.396	.018*
<i>Inmate mental health and substance abuse factors</i>			
Alcohol use	-.029	-0.338	.736
Marijuana use	.002	0.026	.980
Opiate use	-.053	-0.675	.500
Stimulant use	.020	0.256	.798
Depressant use	.025	0.332	.740
PCP/LSD substance use	-.194	-2.265	.025*
Self-mutilation	-.042	-0.541	.589
Past diagnosis with a mental disorder	-.032	-0.334	.739
Axis I disorder	.155	1.754	.081
Axis I polysubstance disorder	-.030	-0.359	.720
Axis II disorder	.185	2.080	.039*
Number of suicide attempts	-.040	-0.523	.602

* Significant at $p < .05$.

actions—a variable operationalized as the absence of negative interactions with staff—were related to higher lethality. Counterintuitively, a history of PCP/LSD use was negatively associated with suicide attempt lethality. Diagnosis of a current Axis II disorder was associated directly with suicide attempt lethality ratings.

Discussion

This study is the first to apply a standardized lethality scale to a sample of prison inmate suicide attempts. Our exploration of the data with the regression analysis suggests that within this particular sample, when controlling for all of the other independent variables in the model, favorable staff interactions, past use of PCP/LSD, and the presence of an Axis II disorder were associated with suicide attempt lethality

² The overall model was only marginally significant, $R = .355$, $F(19, 184) = 1.40$, $p = .133$. However, we believe this to be an artifact resulting from the reduction in power caused by having such a large number of predictor variables relative to the sample size.

ratings. These early findings need to be interpreted with caution as this work represents a first, preliminary step in helping understand a process that is inherently complex.

The lack of statistical significance concerning an Axis I diagnosis in this sample was surprising and does not mirror findings from community-based studies (Holley, Arboleda-Florez, & Love, 1995). It should be noted, however, that in this sample, the presence of a current (not lifetime) Axis I diagnosis approached a significant statistical relationship in the predicted direction of increases in suicide attempt lethality. In this study, the Axis I diagnosis variable was used in a global sense—as an aggregate category for any Axis I diagnosis other than substance abuse. With the limited sample size, there might not have been enough types of disorders or refinement and representation within a particular diagnostic group to demonstrate effects on the dependent measure.

Findings concerning the specific Axis I disorders under substance abuse were curious. Specifically, it appears that there was a negative relationship between inmates who reported using drugs other than alcohol, marijuana, opiates, stimulants, or depressants (i.e., PCP/LSD) and suicide attempt lethality. This statistically significant finding is surprising given the global, general, and very strong link between substance abuse and suicidality. Some suggest that the risk for suicide among substance abusers is even greater than among individuals with mood disorders (Mack, 2006) or those who abuse specific drugs such as steroids (Thiblin, 1999). Interestingly, PCP-specific research from more than 25 years ago revealed a similar direction in the relationship pattern with suicidality for individuals who used PCP. Ward (1980) demonstrated that a decreased frequency of PCP use was associated with an increase in suicidal behavior. Other researchers, however, have demonstrated a positive relationship between PCP use and suicide attempts (Vega, 1993). What is clear from both previous research and the present study is the continued need to explicate relationships between those who abuse substances and make suicide attempts in prison.

The significant finding concerning current Axis II diagnoses warrants consideration, even at the exploratory level. When controlling for Axis I disorders, the presence of Axis II disorders still related to degree of lethality. Adding

to a growing literature on this theme (Douglas, Herbozo, Poythress, Belfrage, & Edens, 2006; Stanley, Gameraff, Michalsen, & Mann, 2001; Swahn, & Potter, 2001; Verona, Patrick, & Joiner, 2001), it appears that having an Axis II diagnosis does not provide a buffer from suicide attempts of high lethality. Clinicians practicing in corrections do well to recall that despite the day-to-day difficulties that arise in the management of offenders with an Axis II diagnosis, risk for suicide attempts of high lethality remain a distinct possibility for this group. The significance of this point cannot be overstated. Although it may be accurate to equate Axis II disorders with acting-out to achieve secondary gains, clinicians must be trained to remain conscious of the fact that the presence of a current Axis II disorder can also relate to increases in suicide attempt lethality, at least while in custody.

The finding that the more favorable the relationship with staff the more likely it was a higher lethality score would be observed resonates with the work of Dumond and Dumond (2005). They reported, “to a large degree prisoner suicide is directly related to opportunity—the means and the ability to carry out actions undetected with little interference” (p. 17). Although this early result awaits further validation and replication, it may be worth noting that inmates who have better relationships with staff may be less difficult to manage in a custodial environment. However, this association does not mean that they create a vacuum of staff time and attention. There remain plenty of other inmates who do require intensive management and easily fill the void. Perhaps this type of attention required of staff makes it easier for those who do not act out to go undetected in their suicide attempts of higher lethality.

Taken together, our exploratory findings that inmates who get along with staff and inmates with Axis II disorders are both associated with increased suicide attempt lethality highlight the complexity of clinical practice in corrections, not to mention the administration and policy making for such services. Specifically, these paired findings further reinforce the existing movement in the field to implement suicide prevention and intervention policies and training that are broad, comprehensive, and provide coverage to all inmates in custody. The existing understanding is that inmates at risk for higher

suicide attempt lethality are not a homogeneous group. In addition to identifying high-risk groups of inmates on the basis of specific characteristics (see our exploratory finding concerning Axis II inmates), an equally important policy and staff training approach is to develop an understanding that all offenders, including those who have better relationships with staff, require the watchful eye of all available corrections staff in an effective suicide prevention program.

Placing these early findings in their proper context, several limitations should be noted. Although the sample drawn appeared to be an adequate size at first, the smaller number of suicide attempts of higher lethality may have led to weakened statistical power when examining the dependent lethality measure. Then again, finding statistical significance with this sample emphasizes the importance of further understanding these relationships. Next, this study represents only one sample of prison inmates within one jurisdiction and findings may not generalize to other correctional jurisdictions. In addition, it remains unclear how bias in the selection of cases might have influenced results, whether or not other attempters in the system were missed during the sampling timeframe, or how this sample delimits generalizability to the standing population from which the sample was drawn.

It is true that the phenomena of suicide itself is quite complex and refers to a continuum of smaller constructs. Beginning with ideation, moving toward the generation of a plan and then taking volition to act on that plan, or impulsively committing an unplanned attempt all describe dimensions of the suicide construct under investigation. The present work was able to explore only one of these aspects: attempt lethality among attempters who survived. Bias issues resulting from differences and distinctions between attempters, ideators, and completers all remain distinct possibilities. Similarly, unknown effects from measurement bias remain a distinct possibility because data were drawn from official records. Although standardized to a degree, it is likely that differences exist in record content both at the level of the particular institution where the incident took place as well as by author. A final caveat is that several other risk factors could have been related to attempt lethality but were not available for coding in the present work. For example, the impact of med-

ical and legal stressors in the sample remains unknown (Dumond & Dumond, 2005), as do more intrapsychic markers such as cognitive constriction and dichotomous thinking (Kral & Sakinofsky, 1994). These areas, along with an examination of impulsivity and traumatic brain injury, because they were not measured in the current work, all remain important areas for future research development.

In addition to replication with larger sample sizes in various jurisdictions (juvenile facilities, locked forensic units, state correctional systems and jails), an obvious next step in this line of research is intensive study of the LSARS's reliability and validity and the development of standardized corrections training for applying this scale. To our knowledge, this study represents the first time that the Smith et al. (2002) lethality scale has been applied to a sample of inmates. We are pleased to report that there does appear to be utility for its use; however, exploration and refinement of our original calibration of the measure for correctional populations await further study.

Finally, with little rigorous empirical knowledge about how segregation interacts with inmate characteristics, much more detailed investigations into this area and suicide attempt lethality are warranted as well (Bonner, 2005; Clements et al., 2007; Magaletta, Ax, Patry, & Dietz, 2005). Our descriptive data suggest that, in the sample, segregation was the location where the most attempts were made. Location will be important to measure in future studies, as others have noted completed suicides in segregation occurring within the first few hours or days of placement there (White, Schimmel, & Frickey, 2002). It is also interesting to note a possible nexus with community literature on the topic, which has consistently pointed to geographic mobility as being a significant risk marker for suicide attempts of higher lethality (Potter et al., 2001). Perhaps it is the move to segregation, as opposed to the actual segregation environment, that represents a risk.

In summary, the study of lethality and its correlates within an incarcerated population represents a new venue of inquiry. It provides a powerful way to help develop knowledge on the process of suicide in inmates and to subsequently assist in the development of more effective and informed administrative policies and clinical treatment and training protocols for

corrections staff. It allows for a degree of standardization in the suicide literature generally and in the corrections-based suicide literature specifically. Although the present study is promising as one of the first to examine suicide attempt lethality in a prison inmate group, much work remains.

Working with suicidal inmates remains one of the most demanding and central elements of clinical practices in corrections. It is therefore imperative to continue the empirical pursuit of knowledge in this area. Although the general clinical literature provides a basis for understanding suicide in the community, far less information is available for understanding suicide in corrections. Overall, the empirical knowledge to inform suicide prevention policies, risk assessment, intervention, treatment, and training represents one of the most promising avenues to make a true public health impact. It also represents an opportunity to inform and influence the central beam that all correctional systems must travail: custody for and care of the inmates entrusted to their service.

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Appendix

Simple Bivariate Correlations

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
B	<i>ns</i>	–																		
C	<i>ns</i>	.18	–																	
D	<i>ns</i>	<i>ns</i>	.30	–																
E	<i>ns</i>	.29	.24	.40	–															
F	<i>ns</i>	–.19	–.19	–.15	–.15	–														
G	–.15	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	–													
H	<i>ns</i>	–.25	–.23	–.29	–.29	.28	<i>ns</i>	–												
I	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	–											
J	<i>ns</i>	.22	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.49	–										
K	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	–									
L	<i>ns</i>	.15	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.25	.34	.27	–								
M	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.19	.16	.23	–							
N	–.20	<i>ns</i>	.14	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.15	.35	.36	.28	.27	–						
O	<i>ns</i>	.25	.22	.25	.25	–.18	.22	–.20	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.18	–					
P	<i>ns</i>	.30	<i>ns</i>	<i>ns</i>	<i>ns</i>	–.19	–.19	<i>ns</i>	.21	.18	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	–				
Q	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.20	.22	<i>ns</i>	.14	<i>ns</i>	<i>ns</i>	<i>ns</i>	.51	–			
R	<i>ns</i>	.14	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.30	.30	.27	.33	<i>ns</i>	.30	<i>ns</i>	<i>ns</i>	<i>ns</i>	–		
S	<i>ns</i>	.24	.31	.24	.24	–.28	.28	–.28	.22	.22	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.27	.32	<i>ns</i>	.27	–	
T	<i>ns</i>	.14	.17	<i>ns</i>	.26	–.18	.27	<i>ns</i>	.17	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.15	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.23	–

Note. All numerical values are significant at $p < .05$. Alphabetical codes correspond to variables as follows: A = lethality; B = violence with other inmates; C = conviction for a violent crime; D = malingering; E = desire for a transfer; F = adjustment to institution; G = help seeking; H = favorable staff interactions; I = alcohol use; J = marijuana use; K = opiate use; L = stimulant use; M = depressant use; N = PCP/LSD substance use; O = self-mutilation; P = past diagnosis with a mental disorder; Q = Axis I disorder; R = Axis I polysubstance disorder; S = Axis II disorder; T = number of suicide attempts. *ns* = nonsignificant.

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