



**PERSEREC**

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Technical Report 16-03  
June 2016

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<p>ABSTRACT: Despite the importance of both suicide and violence prevention in the military, little is known about how these behaviors relate to one another. The current research sought to elucidate the relationship between early warning signs for suicide and violence in a military population. This study included a review of 200 military law enforcement records maintained by the Naval Criminal Investigative Service (NCIS) and identification of early warning signs that may be observable to military law enforcement personnel. Statistical analyses tested for differences in warning signs between cases of suicide, violence, or both suicide and violence. The suicide-only and suicide/violence groups were more likely than the violence-only group to show early warning signs for: (1) psychological issues of depression, anxiety, hopelessness, a mental health diagnosis, and participation in treatment, (2) physical changes and impulsive behaviors, particularly substance abuse, (3) social warning signs, specifically social withdrawal, and (4) occupational issues, including diminished performance and interest at work. By contrast, the suicide/violence group was more likely than the other groups to show early warning signs of anger and aggression. Our findings suggest that Service members at risk for both suicide and violence are similar to those exclusively at risk for suicide, and they each differ from those solely at risk for violence. Our findings also suggest that the emotional trajectory that those who are both suicidal and violent follow is more aggressive, hostile, and angry than those who are either strictly suicidal or violent. The findings from this effort may enhance the ability of law enforcement and command personnel to prevent further acts of suicide and violence among military personnel. Recommendations for policy and future research are discussed.</p>					
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## PREFACE

In 2013, the Defense Suicide Prevention Office (DSPO) was designated as the Department of Defense (DoD) policy office for suicide prevention, intervention, and postvention. In 2015, DSPO funded the Defense Personnel Security Research Center (PERSEREC) to conduct research on warning signs for suicide and violence found in military law enforcement records. The present study utilizes the comprehensive data contained in these files to understand the relationship between observable early warning signs in Service members who are at risk for suicide, violence, or both.

The findings from this study highlight opportunities to enhance the ability of law enforcement and command personnel to effectively prevent acts of suicide and violence in military Service members. Intervention strategies are offered, as well as ideas for future research in this domain.

Eric L. Lang, Ph.D.  
Director, PERSEREC



## EXECUTIVE SUMMARY

### INTRODUCTION

Suicide and interpersonal violence prevention are top priorities for the Department of Defense (DoD) in the effort to promote Service member wellness. However, little is known about the intersection of suicide and violence in a military population. Because of this, military law enforcement personnel may not be vigilant about a potential suicide risk in situations where suicide is not the presenting issue, such as when a Service member engages in an unauthorized act of violence. The current research sought to clarify the relationship between the early warning signs of suicide and violence in military law enforcement records. The overarching goal of this work is to highlight opportunities to identify instances in which a Service member who commits an unauthorized act of violence may be at risk for suicide.

### METHODOLOGY

This study included a review of 200 closed military law enforcement records<sup>1</sup> from 2011-2015 maintained by the Naval Criminal Investigative Service (NCIS). The files included cases involving: (1) Suicides, suicide attempts, or concerns, (2) Violent behavior such as assaults, death, stalking, domestic violence, kidnapping, workplace violence/threats, and sexual assault, and (3) Both suicidal and violent behaviors. The suicide-only group consisted of 64 individuals, the violence-only group consisted of 76 individuals, and the suicide and violence group consisted of 60 individuals.

Code development included a review of professional and academic literature on suicide and violence that identified behaviors that may be observed by law enforcement personnel. The review resulted in codes grouped into four clusters: (1) Psychological indicators, (2) Behavioral Change indicators, (3) Social indicators, and (4) Occupational indicators. Statistical analyses were conducted to test for differences in coded indicators between the suicide-only, suicide/violence, and violence-only groups.

### FINDINGS

The suicide-only and suicide/violence groups were each more likely than the violence-only group to have psychological issues (specifically depression, anxiety, hopelessness, presence of a mental health diagnosis, and participation in mental health treatment). They were also more likely to have a recent physical change and engage in impulsive behaviors, particularly substance abuse. In terms of social early warning signs, the suicide-only and suicide/violence groups were more likely

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<sup>1</sup> Although the vast majority of the investigation case files (180 out of 200) belonged to military personnel, the remaining 20 files belonged to civilians.

## EXECUTIVE SUMMARY

than the violence-only group to exhibit social withdrawal and relationship problems. These two groups also had more occupational issues than the violence-only group, specifically diminished performance/interest at work.

By contrast, the suicide/violence group was more likely to show early warning signs of anger, rage, and hostility than both the suicide-only and violence-only groups, and they were significantly more likely than the violence-only group and marginally more likely than the suicide-only group to have observable conflicts with supervisors and co-workers. Similarly, the suicide/violence group showed more aggressive behaviors, especially threatening and intimidating behaviors, than the violence-only group.

## CONCLUSION

This research provides insight into early warning signs related to suicidal behavior in Service members who engage in violent acts and potential opportunities for law enforcement and Navy command personnel to enhance suicide prevention and intervention. Our findings suggest that Service members at risk for both suicide and violence are more similar to Service members only at risk for suicide than they are to Service members only at risk for violence. Our findings also suggest that the trajectory those who are both suicidal and violent follow is more aggressive, hostile, and angry than those who are either strictly suicidal or violent. Taken together, these findings may enhance the ability of law enforcement and command personnel to intervene early and appropriately to prevent further acts of suicide and violence.

## RECOMMENDATIONS

- (1) ***Increase Awareness of Heightened Risk for Suicide during Personal Crisis Events and Make Appropriate Referrals.*** Service members may already be engaged with command and military law enforcement in connection with certain crisis points (e.g., separation from military, disciplinary events) that may suggest the need for heightened awareness and intervention from mental health professionals. Awareness of the heightened risk of suicide during these crisis points has the potential to trigger better efforts to share information to promote intervention and prevention activity.
- (2) ***Enhance Communication Between Mental Health Professionals and Military Law Enforcement Personnel.*** Mental health care providers could benefit from better communication with military law enforcement to learn of violence risk factors such as prior aggressive behavior (e.g., domestic abuse and threats) that may signal a potential suicide risk.
- (3) ***Adopt a Threat Assessment Approach with Mental Health and Law Enforcement Personnel.*** When assessing Service members for potential harm to self during crises, mental health practitioners could benefit from assessing the presence of anger, grievances, or conflicts toward other parties (e.g.,

relationship or Service-related) that could potentially trigger violence toward others. A threat assessment approach employed jointly by mental health and law enforcement could minimize impacts for Service members by creating opportunities to prevent violence.

- (4) ***Expand the Role of Military Command Leadership in Suicide Prevention Efforts.*** Military commanders and senior enlisted leaders may potentially serve as a primary nexus to facilitate suicide prevention efforts as they are most likely to be exposed to the various emotional, behavioral, and disciplinary issues that may signal enhanced risk for the Service member to demonstrate suicidal and violent behavior.

## RECOMMENDATIONS FOR FUTURE RESEARCH

- (1) ***Examine Additional Suicide and Violence Indicators.*** Future research should explore additional distinct and overlapping warning signs of suicide and violence with the goal of increasing the ability to detect how and where they appear.
- (2) ***Include a Non-suicidal, Non-violent Comparison Control Group.*** Future research should include a matched non-suicide, non-violent control group for the cases evaluated in the present study in order to strengthen the internal validity of the research.
- (3) ***Assess Indicator Recognition Interventions.*** Future research should assess the effectiveness of interventions aimed at increasing recognition of the critical warning signs observed in our research.
- (4) ***Include Larger and More Diverse Samples.*** Future research should be conducted with larger and more diverse samples to replicate these findings and to examine potential differences in warning signs among subgroups of those who die by suicide and commit violent acts.



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## INTRODUCTION

### PROBLEM

Military law enforcement personnel act as gatekeepers and first responders in situations of crisis. In turn, they are often asked to participate in decision-making related to preventing future adverse events. Law enforcement investigations of Service members who engage in an unauthorized violent act, either directed toward the self or others, often result in information about behaviors that could identify a potential suicide risk, and/or risk for aggressive or violent behavior. Although law enforcement personnel generally have access to this information, they may not necessarily be vigilant about a potential suicide risk in situations in which suicide is not the presenting issue. For instance, if an officer responds to a domestic violence incident, they may not purposefully look for warning signs of suicide. Recognition of the psychological, behavioral, social, and occupational warning signs of suicide in perpetrators or alleged perpetrators of violence creates a vital prevention opportunity for Service members at risk for suicide.

### CURRENT STUDY

The Defense Suicide Prevention Office (DSPO) funded the Defense Personnel and Security Research Center (PERSEREC), a division of the Defense Manpower Data Center (DMDC), to conduct research investigating warning signs for suicide and violence in military law enforcement records. This study recognizes the probable overlap between suicide and violence while being vigilant not to contribute to the stigma surrounding suicide. The current research therefore assesses the relationship between these behaviors to highlight opportunities to identify instances in which a Service member who engages in an unauthorized violent act may be at risk for suicide.

This study included a review of 200 closed military law enforcement records maintained by the Naval Criminal Investigative Service (NCIS). Investigations represented in these records included suicides, suicide attempts, and suicide concerns, investigations of violent behavior (e.g., assaults, homicide, stalking, domestic violence, and sexual assault), and those that included both violence and suicidal behaviors. Our examination focused primarily on how the subset of Service members at risk for both suicide and violence compare to those who are exclusively at risk for either suicide or violence. Notably, data reviewed for the purposes of this study consisted of behavioral evidence presented in law enforcement records rather than psychological constructs.

### BACKGROUND

Suicide is a serious concern for the military Service components and is the subject of close surveillance and regular Department of Defense (DoD) reports (e.g., *DoD Quarterly Suicide Report* and *Department of Defense Suicide Event Report*

## INTRODUCTION

[DoDSER]). In 2014, there were 273 total suicides across active Service components and 169 suicides across reserve components (DSPO, 2015). DSPO was established in 2013 as the primary DoD policy office for suicide prevention. DSPO's mission is to "serve as the DoD oversight authority for the strategic development, implementation, centralization, standardization, communication, and evaluation of DoD suicide and risk reduction programs, policies, and surveillance activities to reduce the impact of suicide on Service members and their families" (DSPO, n.d.). The DoD has also established offices that focus on preventing specific types of targeted violence, like the Sexual Assault Prevention and Response Office (SAPRO) and the Family Advocacy Program (FAP). Violent behavior by Service members toward others has also been explored in several research efforts (e.g., Elbogen, et al., 2014; Jakupcak et al., 2007; MacManus et al., 2013; Millikan et al., 2012; Kessler, 2014). Despite ongoing efforts to better understand both suicide and violence, their relationship has yet to be clearly elucidated (Bryan, Jennings, Jobes & Bradley, 2012).

There is a lack of clarity regarding the ways in which suicide and violence relate primarily because they are typically examined separately from one another. Despite this, many experts consider suicide and violence "different expressions of the same phenomenon" (e.g., Unnithan, Huff-Corzine, Corzine, & Whitt, 1994, p. 10). Substantial recent research, for example, has noted the comorbidity of suicidal and violent behavior across a range of settings (e.g., Cerulli, Stephens & Bossarte, 2014; Large & Nielssen, 2013; Witt, Hawton & Fazel, 2013) and developmentally from adolescence into adulthood (Stack, 2014; Van Dulmen et al., 2013; Zimmerman & Posick, 2014). Also in line with the notion that suicide and violence overlap, additional research suggests that harm toward self and others share some risk factors and warning signs (Lubell & Vetter, 2006). For example, in severe scenarios of overlapping violence and suicide such as homicide-suicide, perpetrators may struggle with many of the same general personal issues typically encountered by individuals who are strictly suicidal (Lankford, 2013). A history of violence is also a potential risk for suicidal activity (e.g., Swogger, Van Orden & Conner, 2014; Van Dulmen et al., 2013), and violent behavior and anger are often included as a warning sign for suicide (DSPO, n.d.; Navy Personnel Command, n.d.). These findings provide initial evidence that a relationship between suicide and violence exists.

Law enforcement entities collect information from suspects, victims, bystanders and other sources (e.g., work supervisors, social media, phone records, crime scene evidence) in the course of their investigations for suicides, suicide attempts, and violence directed toward others. These records include descriptions of behaviors, which if recognized could potentially identify individuals at risk for violence and/or suicide. Recognition of early warning signs has long been noted as an important step for identifying and managing individuals who pose a threat to themselves or others (Meloy et al., 2004; Rudd, 2006). Threat assessment, used commonly to detect and manage potential violence and threats, is based on detecting observable

warning signs and examining them in context. Threat assessment and management research has identified numerous behaviors that are precursors to targeted violence (e.g., stalking, workplace violence, mass shootings, etc.) (Fein & Vossekuil, 1999; Calhoun & Weston, 2003; Meloy, Hoffmann, Guldemann & James, 2011; Scalora, Baumgartner & Plank, 2003). Many of these behaviors overlap with warning signs of suicide. For these reasons, the primary focus of this study is on early warning signs (observable behaviors or conditions) recorded in law enforcement records. Early warning signs for suicide and violent behaviors are more directly observable than risk factors because the latter must be reported by the individual to be known.

Law enforcement investigations are most often geared toward determining if a crime has occurred, but in many cases law enforcement personnel are also asked to participate in decision making related to preventing future adverse events, such as determining if persons are imminently dangerous to themselves, are mentally ill, or a danger to others. The assessment of warning signs is critical for effective prediction and prevention activity. Warning signs that are indicative of different potential outcomes (i.e., suicide and/or violence toward others) could lead law enforcement down different paths of intervention. For example, Service members at risk for suicide may initially present as violent and may not be identified as a suicide risk because warning signs for suicide are eclipsed by those associated with violence, or because the warning signs are the same. The resulting interventions depend upon how these behaviors are interpreted. A brief review of academic and professional literature outlined in the following sections highlights specific studies in which warning signs overlap for suicide and violence<sup>2</sup>.

### **Psychological**

A history of mental health issues influences both suicide and violence. For instance, research in military samples shows that Service members with overlapping suicide and violence histories are more likely to have significant mental health difficulties (Cerulli, Stephens & Bossarte, 2014; Schry et al., 2015). Related work shows that expressions of anger, rage, hostility, jealousy, and revenge-seeking are warning signs of both violence towards others and harm to self (American Association of Suicidology, 2015; Commandant of the Marine Corps, 2012; Cox et al., 2011; Wortman, Hesse, & Shechter, forthcoming), as are depressed mood and negative thoughts (Meloy et al., 2013; Mohandie & Hatcher, 1999; Plutchik, 1995; Randell, Eggert, & Pike, 2001; Trezza & Popp, 2000; White et al., 1994; Zimmerman, 2014). And finally, expressions of depression, hopelessness, and inevitability, especially among law enforcement and military samples (Commandant of the Marine Corps, 2012; Mohandie & Hatcher, 1999), are considered to be warning signs of both violence and suicidality (American Association of Suicidology,

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<sup>2</sup> A table containing a comprehensive overview of previous research that has examined warning signs individually in cases of suicide and violence, as well as both suicide and violence, is provided in Appendix A.

## **INTRODUCTION**

2015; Beck, Steer, Kovacs, & Garrison, 1985; Brown, Beck, Steer, & Grisham, 2000; Bryan & Rudd, 2006; Cox et al., 2011; Hesse, Bryan, & Rose, 2015).

### **Behavioral**

Research on the behaviors associated with both suicide and violence also provides evidence for overlap in their warning signs. A host of studies suggests that impulsivity is a shared warning sign of suicide and violence towards others (Brent et al., 2003; Fawcett, 2001; Lubell & Vetter, 2006; Mann, Waternaux, Haas, & Malone, 1999; Martin et al., 2009; Nock et al., 2008; Plutchik, 1995; Randell et al., 2001; Rudd et al., 2006; Trezza & Popp, 2000; White et al., 1994; Zimmerman, 2014; Zouk, Tousignant, Seguin, Lesage, & Turecki, 2006). Indicators of impulsivity, or a loss of self-control, can manifest as substance abuse, increased aggression, and excessive risk-taking (Bryan & Rudd, 2006; Martin et al., 2009; Zouk et al., 2006). Substance abuse is perhaps most prominent among impulsive behaviors associated with suicide and violence; a host of research shows that increased or excessive substance use is a warning sign for both suicide and violence towards others (American Association of Suicidology, 2015; Buzawa & Buzawa, 2013; Commandant of the Marine Corps, 2012; Elbogen, Fuller, et al., 2010; Elbogen, et al., 2014; Mandrusiak et al., 2006; Rudd et al., 2006). Additional behavioral warning signs shared between suicide and violence include physical changes, such as deteriorating appearance and hygiene (Abramsky & Helfman, 1999; Commandant of the Marine Corps, 2012; Defense Science Board, 2012; Mohandie & Hatcher, 1999) and atypical eating patterns and weight loss/gain, and changes in sleeping patterns (Commandant of the Marine Corps, 2012; Rudd, 2008).

### **Social**

Numerous social problems are warning signs associated with both suicide and violence toward others. Such indicators include social withdrawal (American Association of Suicidology, 2015; Commandant of the Marine Corps, 2012; Mandrusiak et al., 2006; Rudd et al., 2006) and lack of stability in personal relationships, specifically persistent marital conflict and failing relationships (Abramsky & Helfman, 1999; Bryan & Rudd, 2006; Martin et al., 2009; Shneidman, 1996; Rose & Hesse, 2015). Relationship difficulties have been specifically cited as a precursor to suicide and violence for law enforcement officers and Service members (Mohandie & Hatcher, 1999; Benda, 2005). Interpersonal difficulties are also seen in those who are both suicidal and violent. More specifically, domestic conflict frequently precedes instances of homicide-suicide (Carretta, Burgess, & Wellner, 2015; Knoll & Hatters-Friedman, 2015).

### **Occupational**

Occupational problems are also critical factors when considering the overlap between suicide and violence in military and law enforcement populations. Shared

indicators include a loss of interest in or diminished performance at work or school (Commandant of the Marine Corps, 2012; Cox et al., 2011; Martin et al., 2009; Meloy et al., 2013; Mohandie & Hatcher, 1999; Shneidman, 1996), boundary or procedural violations, belligerence, explicit insubordination (Commandant of the Marine Corps, 2012; Miller, 2005; Mohandie & Hatcher, 1999), and general dissatisfaction with employment (Rose & Hesse, 2015).

### **The Current Research**

The existing body of research indicates that those who act out in violent and aggressive ways display many of the same indicators as those who are suicidal; previous research has identified a host of psychological, behavioral, social, and occupational warning signs that are seen in both suicidal persons and those who engage in violent acts. However, the precise relationship between suicide and violence is unclear. Analysis of the surveyed research provides indirect evidence from separate studies that have examined suicide and violence in isolation and often in non-military samples. The current research seeks to identify how warning signs of suicide and violence relate in members of a military sample that exhibited either suicidal or violent behavior, or both, from a law enforcement perspective, with the ultimate goal of preventing suicides in individuals who show early warning signs of potential violence.

## METHOD

## METHOD

### RECORD SOURCES

The source of records for this study consisted of 200 closed Naval Criminal Investigative Service (NCIS) investigation case files. The files were closed within the last 5 years and were chosen by the NCIS records personnel to represent a mix of investigations, arrests, charges, and convictions. The sampling was purposeful and meant to represent a mix of crimes against adults that included an element of personal aggression. The researchers gave NCIS a list of crimes that met these criteria, and NCIS personnel chose cases meeting these criteria in a randomized fashion from the constellation of cases closed within the previous 5 years. These records contained information gathered from interviews with subjects, witnesses, and others with pertinent information. The case files fell into two categories: (1) cases involving suicides, suicide attempts, or concerns and (2) cases involving violent behavior such as assaults, death, stalking, domestic violence, kidnapping, workplace violence/threats, and sexual assault<sup>3</sup>.

### Group Definitions

Several variables were used to define cases as suicide-only, violence-only, and suicide/violence. To form the groups, violence was defined as the presence of any of the following:

- (1) Previous law enforcement contact related to: assault, murder, stalking, domestic violence, kidnapping, workplace violence, and/or sexual assault.
- (2) Recent behavioral changes with any aggression.
- (3) Current military and/or civilian administrative and/or legal problems involving assault or fighting; and/or,
- (4) Previous approaches toward a person who was the object of the subject's aggression. Approach behavior was defined as:
  - (a) Threatening physical approach toward the current target of violence;
  - (b) Attempted assault of the current target of violence;
  - (c) Actual assault of the current target of violence;
  - (d) Physical approach toward another target.

Suicide behavior was defined as any case involving a current suicide or attempted suicide, and/or the presence of any of the following:

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<sup>3</sup> Cases of child sexual assault as the primary crime of investigation were excluded from the list of crimes sought for review to restrict comparison to adult-on-adult violence.

- (1) Previous suicide attempt;
- (2) Suicidal ideation;
- (3) Suicide threat, and/or;
- (4) Previous law enforcement contacts for a suicide concern.

The initial breakdown of cases had an NCIS investigative code drawn from the case files that indicated whether the case being investigated was suicide, violence, or both (Table 1).

**Table 1**  
**Type of Law Enforcement Case**

<b>Group</b>	<b>Frequency</b>	<b>Percent</b>
Suicide-only	93	46.5%
Violence-only	95	47.5%
Both Suicide and Violence	12	6.0%
Total	200	100.0%

Researchers from the Public Policy Center at the University of Nebraska-Lincoln (UNL) reviewed the case files and reclassified them according to the definitions described earlier. This reclassification was based on the incidence of aggression and violent criminal behavior in the cases in which suicide was the initial focus of the investigation or in which suicidal behaviors (serious attempts) were evident in violence cases. As a result, about one-third of the suicide cases and one-fourth of the violence cases were reclassified as suicide/violence (both) cases (Table 2).

**Table 2**  
**Reclassified Cases**

<b>Group</b>	<b>Frequency</b>	<b>Percent</b>
Suicide-only	64	32.0%
Violence-only	76	38.0%
Both Suicide and Violence	60	30.0%
Total	200	100.0%

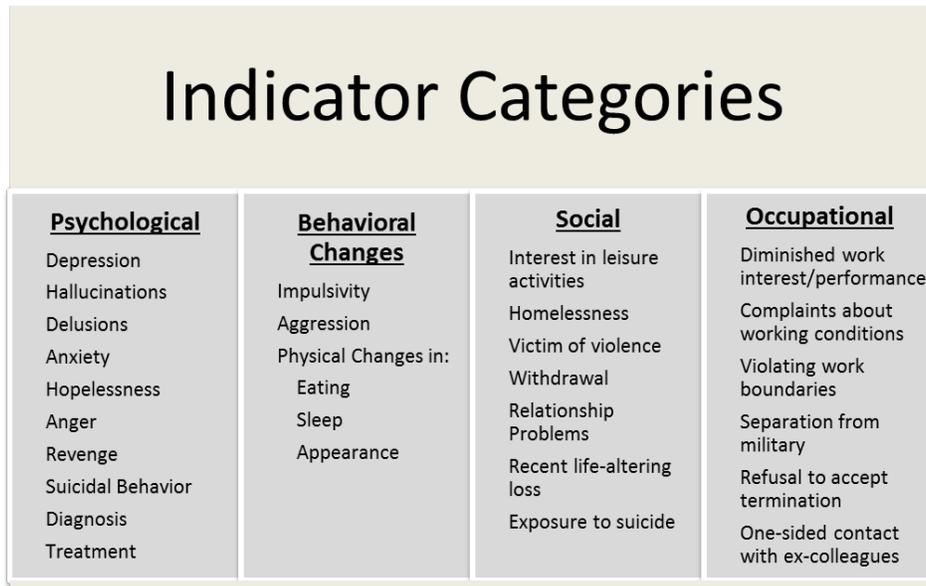
## Coding

UNL researchers developed the coding scheme and coded the NCIS case files (see Appendices B and C for copies of the coding definitions and coding sheet that was used to evaluate and record information from each case file). The purpose of the coding scheme was to identify consistent indicators of suicide and/or violence in the files. The behaviors identified in this effort are all behaviors that may be observed by law enforcement personnel. Code development began with the review of professional and academic literature on suicide and violence. The literature review

## METHOD

resulted in codes grouped into four main clusters: (1) Psychological, (2) Behavioral Change, (3) Social, and (4) Occupational<sup>4</sup> (see Figure 1 for examples of behaviors that comprised the warning sign categories that comprised the initial coding scheme). The clusters were defined as follows:

- (1) Psychological Indicators: the record included evidence of any psychological problems;
- (2) Behavioral Change Indicators: the record included evidence that the subject exhibited any marked changes in behavior;
- (3) Social Indicators: the record included evidence that the subject had any social problems, and;
- (4) Occupational Indicators: the record included evidence that the subject had any employment problems.



**Figure 1 Indicator Clusters and Categories**

A blended inductive approach was used to code the qualitative data. The techniques used were consistent with the components of Consensual Qualitative Research (CQR) (Hill, Thompson & Williams, 1997). The CQR approach incorporates elements of grounded theory and phenomenology and uses a team approach to compare data across cases, then reach consensus on the core ideas for each domain emanating from the data. Coders indicate the presence or absence of codes within records and provide narrative examples to illustrate coding choices. Multiple examples of a

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<sup>4</sup> Two additional themes emerged from this review: Observable Preparation for Action and Communications. Because many of the sub-indicators of these themes were categorically specific to either suicide or violence (e.g., arranging affairs for the end of life), they were excluded from the current analyses.

single code may be recorded from a case file, but the team does not perform a count beyond noting its presence or absence in the file.

UNL researchers coded records in phases, followed by formal discussions to refine the code definitions when agreement was not present. Inter-rater reliability across all coded variables was calculated for ten percent of the sample using Randolph's free-marginal multi-rater kappa (Randolph, 2005, 2008; Warrens, 2010). The raters agreed on 97% of the codes, with a kappa of .95.

### **Statistical Analyses**

A series of chi-square analyses were performed to test for differences in coded warning signs between the suicide-only, suicide/violence, and violence-only groups. Omnibus tests for each warning sign were conducted to determine if any differences were present between the groups. If the analysis revealed a significant difference in prevalence of the indicator across groups, follow-up pairwise comparisons were performed to assess specifically which groups differed from one another. In all analyses, the criterion for statistical significance was set to a level of  $\alpha = .01$ .

## RESULTS

## RESULTS

### DEMOGRAPHICS SUMMARY

Table 3 displays the NCIS sample demographic information. The majority of cases involved male and white/non-Hispanic persons, with some variability in marital status, rank, and age. The average age was 29.3 years old.

**Table 3**  
**Demographic Characteristics**

<b>Characteristic</b>	<b>Percent (n)</b> <b>(n = 200)</b>
Gender	
Male	92.5% (185)
Female	5.5% (11)
Unknown	2.0% (4)
Race/Ethnicity	
Hispanic, any race	15.5% (31)
Caucasian, non-Hispanic	58.0% (116)
African American, non-Hispanic	19.5% (39)
Asian/Pacific Islander, non-Hispanic	6.0% (12)
American Indian, non-Hispanic	0.5% (1)
Multiracial, non-Hispanic	0.0% (0)
Other, non-Hispanic	0.0% (0)
Unknown <sup>5</sup>	0.5% (1)
Marital Status	
Divorced or separated	14.0% (28)
Married	36.0% (72)
Single, never married	35.0% (70)
Widowed	0.0% (0)
Unknown	15.0% (30)
Military Status	
Military	89.5% (179)
Civilian	10.0% (20)
Unknown	0.5% (1)
Component	
Active Duty	83.5% (167)
Reserve	0.5% (1)
Other (i.e., retired, discharged, intern, recruit)	5.0% (10)

<sup>5</sup> “Unknown” characteristics refer to those that were missing from the NCIS case files.

<b>Characteristic</b>	<b>Percent (n) (n = 200)</b>
Not Applicable (Civilian)	10.0% (20)
Unknown	1.0% (2)
Rank	
E1; E2; E3	18.5% (37)
E-4; E-5	40.5% (81)
E-6; E-7	19.0% (38)
E-8; E-9	2.5% (5)
O-1, O-2 or O-3	2.5% (5)
O-4 or O-5	2.0% (4)
O-6 or above	0.0% (0)
Not Applicable (Civilian)	10.0% (20)
Unknown	5.0% (10)

Demographic characteristics did not significantly differ across the suicide-only, suicide/violence, and violence-only groups.

### Incidents

Incidents in the cases reviewed included investigations for crimes such as assault, stalking, and domestic violence. Table 4 shows the frequencies of these incidents for each group.

**Table 4**  
**Incident Type within each Group**

<b>Incident Type</b>	<b>Suicide Only n=63</b>	<b>Suicide and Violence n=60</b>	<b>Violence Only n=76</b>	<b>Overall n=199</b>
Assault	N/A	0.0% (0)	13.2% (10)	5.0% (10)
Death	N/A	5.0% (3a,)	7.9% (6)	4.5% (9)
Stalking	N/A	1.7% (1)	13.2% (10)	5.5% (11)
Domestic Violence	N/A	10.0% (6)	21.1% (16)	11.1% (22)
Kidnapping	N/A	0.0% (0)	6.6% (5)	2.5% (5)
Workplace Violence	N/A	1.7% (1)	0.0% (0)	0.5% (1)
Sexual Assault	1.6% (1)	0.0% (0)	21.1% (16)	8.5% (17)
Completed Suicide	81.0% (51)	35.0% (21)	N/A	36.2% (72)
Suicide Concern	17.5% (11)	11.7% (7)	N/A	9.0% (18)
Threat	N/A	10.0% (6)	13.2% (10)	8.0% (16)
Murder/Suicide	N/A	10.0% (6)	N/A	3.0% (6)
Multiple Incident Type Codes*	N/A	15.0% (9)	3.9% (3)	6.0% (12)

\*Coders were allowed to select more than one incident type.

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### Location of Incident

Generally, the incidents occurring off base are subject to civil law enforcement intervention. Data were not coded to denote whether the primary investigator was civilian or military law enforcement, however all cases were taken directly from NCIS records so that agency was involved in some way for all cases. The location of the incident included on base, off base, or both. Table 5 shows frequencies for location across the groups. The place of the incident did not differ significantly across groups ( $\chi^2(4) = 8.515, p = .074$ ).

**Table 5**  
**Location of Incident within each Group**

<b>Incident Type</b>	<b>Suicide Only n=63</b>	<b>Suicide and Violence n=58</b>	<b>Violence Only n=67</b>	<b>Overall n=188</b>
On Base	28.6% (18)	43.1% (25)	37.3% (25)	36.2% (68)
Off Base	71.4% (45)	51.7% (30)	55.2% (37)	59.6% (112)
Both On and Off Base	0.0% (0)	5.2% (3)	7.5% (5)	4.3% (8)

### Overview of Indicators

In total, UNL researchers coded for 41 indicators: 13 psychological indicators, eight behavioral change indicators, nine social indicators, five occupational indicators, and six indicators related to other concerning behaviors that did not neatly fit within any of the other categories. Table 6 outlines the prevalence of indicators in each of the categories.

**Table 6**  
**Percentages of Coded Indicators Present for each Group**

<b>Indicator</b>	<b>Suicide Only n=64</b>	<b>Suicide and Violence n=60</b>	<b>Violence Only n=76</b>	<b>Overall n=200</b>
Any Psychological Indicator	78.1% (50)	76.7% (46)	23.7% (18)	57.0% (114)
Depression	71.9% (46)	55.0% (33)	10.5% (8)	43.5% (87)
Delusions	0.0% (0)	1.7% (1)	3.9% (3)	2.0% (4)
Anxiety	21.9% (14)	21.7% (13)	5.3% (4)	15.5% (31)
Hopelessness	40.6% (26)	28.3% (17)	0.0% (0)	21.5% (43)
Anger/rage/hostility	9.4% (6)	40.0% (24)	14.5% (11)	20.5% (41)
Revenge	0.0% (0)	3.3% (2)	4.0% (3)	2.5% (5)
Any Diagnosis	32.8% (21)	19.0% (34)	6.0% (13)	23.0% (46)
Current Diagnosis	0.0 (0)	1.7% (1)	1.3% (1)	1.0% (2)
Receiving Treatment	40.6% (26)	56.7% (34)	17.1% (13)	36.5% (73)
Any Suicidal Ideation/Behaviors	79.7% (50)	83.3% (50)	N/A	50.0% (100)
Suicide Attempt	15.6% (10)	31.7% (19)	N/A	9.5% (19)
Self-Harm	6.3% (4)	11.7% (7)	N/A	5.5% (11)
Suicidal Ideation	40.6% (26)	51.7% (31)	N/A	28.5% (51)
Suicide Threat	51.6% (33)	61.7% (37)	N/A	35% (70)
Receiving Mental Health Treatment	34.4% (22)	41.7% (25)	7.9% (6)	26.5% (53)
Any Behavioral Changes	54.7% (35)	60.0% (36)	15.8% (12)	41.5% (83)
Physical Changes	20.3% (13)	21.7% (13)	5.3% (4)	15.0% (30)
Eating	4.7% (3)	5.0% (3)	0.0% (0)	3.0% (6)
Sleeping	15.6% (10)	13.3% (8)	4.0% (3)	10.5% (21)
Appearance	7.8% (5)	3.3% (2)	1.3% (1)	4.0% (8)
Impulsivity	45.3% (29)	50% (30)	14.5% (11)	35.0% (70)
Recklessness	6.25% (4)	16.7% (10)	9.2% (7)	10.5% (21)
Substance Abuse	39.1% (25)	33.3% (20)	4.0% (3)	24.0% (48)
Aggression	N/A	66.7% (40)	27.6% (21)	30.5% (61)
Threats/Intimidation	N/A	48.3% (29)	15.8% (12)	20.5% (41)
Sexual Abuse	N/A	6.7% (4)	5.3% (4)	4.0% (8)
Family Abuse	N/A	23.3% (14)	7.9% (6)	10.0% (20)
Social Problems	26.6% (17)	10.0% (6)	0.0% (0)	11.5% (23)
Social Withdrawal	25.0% (16)	8.3% (5)	0.0% (0)	10.5% (21)
Diminished Interest in Social Activities	4.7% (3)	3.3% (2)	0.0% (0)	2.5% (5)
Homelessness	0.0% (0)	0.0% (0)	1.7% (1)	.5% (1)
Victim of Violence	1.6% (1)	0.0% (0)	0.0% (0)	.5% (1)
Any Loss	39.1% (25)	36.7% (22)	19.7% (15)	31.0% (62)

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<b>Indicator</b>	<b>Suicide Only n=64</b>	<b>Suicide and Violence n=60</b>	<b>Violence Only n=76</b>	<b>Overall n=200</b>
Death	1.6% (1)	5.0% (3)	2.6% (2)	3.0% (6)
Divorce	14.1% (9)	16.7% (10)	4.0% (3)	11.0% (22)
Financial Loss	1.6% (1)	1.7% (1)	4.0% (3)	2.5% (5)
Breakup	28.1% (18)	16.7% (10)	13.6% (10)	19.0% (38)
Relationship Problems	54.7% (35)	63.3% (38)	32.9% (25)	49.0% (98)
Occupational Problems	48.4% (31)	55.0% (33)	13.2% (10)	37.0% (74)
Diminished Performance/Interest	29.7% (19)	38.3% (23)	9.2% (7)	24.5% (49)
Complaints about Work Conditions	14.1% (9)	15.0% (9)	5.3% (4)	11.0% (22)
Termination Refusal	0.0% (0)	5.0% (3)	1.3% (1)	2.0% (4)
Boundary Violations	3.1% (2)	3.3% (2)	4.0% (3)	3.5% (7)
Military Separation	17.2% (11)	26.7% (16)	6.6% (5)	16.0% (32)
Any Other Concerning Behavior	9.4% (6)	41.5% (25)	19.7% (15)	23.0% (46)
Conflicts	7.8% (5)	23.3% (14)	5.3% (4)	11.5% (23)
Belligerence	1.6% (1)	8.3% (5)	5.3% (4)	5.0% (10)
Challenges to Authority	3.1% (2)	8.3% (5)	5.3% (4)	5.5% (11)
Disruptiveness	0.0% (0)	5.0% (3)	1.3% (1)	2.0% (4)
Non-violent Criminal Behavior	0.0% (0)	10.0% (6)	2.6% (2)	4.0% (8)
Sexism	1.6% (1)	3.3% (2)	2.6% (2)	2.5% (5)

### Explanation of Tables

Forthcoming Tables 7-11 include only those indicators that differ significantly at the  $\alpha = .01$  level across groups. Across each row of the tables, groups with differing subscripts and cell colors are significantly different from one another, whereas those with the same subscript and cell color do not differ. A subscript of “a” and lighter color indicates groups with the highest percentages across a row, and a subscript of “b” and darker color indicates groups with lower percentages. Cells with diagonal lines indicate groups with equivalent percentages to each of the other two groups. Cells with “N/A” indicate that group was excluded from the analysis because the indicator did not apply to that particular group (e.g., those in the suicide-only group did not show aggression, thus were excluded from that analysis).

### Psychological Indicators

The Psychological indicator category consisted of signs of: depression, anxiety, hopelessness, anger/rage/hostility, revenge, suicidal behaviors, a diagnosed mental

illness, and receiving mental health treatment. Table 7 shows the significant differences for the indicators across the three groups.

**Table 7**  
**Psychological Indicators within each Group**

<b>Psychological Indicator</b>	<b>Suicide Only n=64</b>	<b>Suicide and Violence n=60</b>	<b>Violence Only n=76</b>	<b>Overall n=200</b>
Any Psychological Indicator	78.1% (50 <sub>a</sub> )	76.7% (46 <sub>a</sub> )	23.7% (18 <sub>b</sub> )	57.0% (114)
Depression	71.9% (46 <sub>a</sub> )	55.0% (33 <sub>a</sub> )	10.5% (8 <sub>b</sub> )	43.5% (87)
Anxiety	21.9% (14 <sub>a</sub> )	21.7% (13 <sub>a</sub> )	5.3% (4 <sub>b</sub> )	15.5% (31)
Hopelessness	40.6% (26 <sub>a</sub> )	28.3% (17 <sub>a</sub> )	0.0% (0 <sub>b</sub> )	21.5% (43)
Anger/rage/hostility	9.4% (6 <sub>b</sub> )	40.0% (24 <sub>a</sub> )	14.5% (11 <sub>b</sub> )	20.5% (41)
Any Diagnosis	32.8% (21 <sub>a</sub> )	19.0% (34 <sub>a</sub> )	6.0% (13 <sub>b</sub> )	23.0% (46)
Receiving Mental Health Treatment	34.4% (22 <sub>a</sub> )	41.7% (25 <sub>a</sub> )	7.9% (6 <sub>b</sub> )	26.5% (53)

Notes: Each subscript letter and cell color denotes a subset of group categories whose row proportions do not differ significantly from each other at the .01 level. Percentages represent the prevalence of the indicator within each group. Each row summarizes one analysis.

Signs of any psychological indicator significantly differed across the three groups ( $\chi^2(2) = 55.54, p < .001$ ). Those in the violence group were less likely to show mental health indicators as compared to both the suicide ( $\chi^2[2] = 41.22, p < .001$ ) and the suicide/violence groups ( $\chi^2[2] = 37.78, p < .001$ ).

Differences across the three groups were present for each of the following psychological indicators: depression ( $\chi^2[2] = 57.82, p < .001$ ); anxiety ( $\chi^2[2] = 9.81, p < .01$ ); hopelessness ( $\chi^2(2) = 36.35, p < .001$ ); anger, rage, and hostility ( $\chi^2[2] = 20.55, p < .001$ ); a mental health diagnosis ( $\chi^2[2] = 15.82, p < .001$ ); and receiving mental health treatment ( $\chi^2[2] = 22.63, p < .001$ ). As compared to the violence-only group, both the suicide-only and the suicide/violence groups showed more depression ( $\chi^2[1] = 55.19, p < .001$  and  $\chi^2[1] = 31.49, p < .001$ , respectively), anxiety ( $\chi^2[1] = 8.56, p < .01$  and  $\chi^2[1] = 8.25, p < .01$ ), hopelessness ( $\chi^2[1] = 37.92, p < .001$  and  $\chi^2[1] = 24.61, p < .001$ ), mental health diagnoses ( $\chi^2[1] = 13.86, p < .001$  and  $\chi^2[1] = 12.63, p < .001$ ), and received more mental health treatment ( $\chi^2[1] = 15.23, p < .001$  and  $\chi^2[1] = 21.73, p < .001$ ).

Differences in anger, rage, and hostility, however, showed a different pattern than the earlier indicators. The suicide/violence group was more likely to have anger, rage, or hostility present compared to both the suicide-only ( $\chi^2[1] = 15.84, p < .001$ ) and the violence-only groups ( $\chi^2[1] = 11.43, p < .001$ ).

### **Behavioral Change Indicators**

Behavioral change indicators included: physical changes (eating, sleeping, appearance), impulsivity (recklessness without regard for others, increased alcohol

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or drug use, other impulsive behavior), and aggression (threatening or intimidating, aggressive sexual behavior, abuse of family members, other aggression). Aggression was viewed as a behavioral change rather than expressed emotion. As such, it was coded when the record indicated that the subject exhibited aggressive behavior (e.g., was forceful, overly assertive, coercive, appeared ready for an attack of confrontation, violent attitude/mindset) as a part of the current incident being reviewed. Subcategories of aggression included threatening/intimidating behaviors unrelated to the current incident, aggressive sexual behavior, physical or verbal abuse of partner or children unrelated to the current incident, and other similar aggressive behaviors. Because aggressive behaviors were used to define the violence groups, the suicide-only group was excluded from this analysis. Table 8 shows the significant differences for indicators across the groups.

**Table 8**  
**Behavioral Change Indicators Present within each Group**

<b>Behavioral Change Indicator</b>	<b>Suicide Only n=64</b>	<b>Suicide and Violence n=60</b>	<b>Violence Only n=76</b>	<b>Overall n=200</b>
Any Behavioral Changes	54.7% (35 <sub>a</sub> )	60.0% (36 <sub>a</sub> )	15.8% (12 <sub>b</sub> )	41.5% (83)
Physical Changes	20.3% (13 <sub>a</sub> )	21.7% (13 <sub>a</sub> )	5.3% (4 <sub>b</sub> )	15.0% (30)
Impulsivity	45.3% (29 <sub>a</sub> )	50.0% (30 <sub>a</sub> )	14.5% (11 <sub>b</sub> )	35.0% (70)
Substance Abuse	39.1% (25 <sub>a</sub> )	33.3% (20 <sub>a</sub> )	4.0% (3 <sub>b</sub> )	24.0% (48)
Aggression	N/A	66.7% (40 <sub>a</sub> )	27.6% (21 <sub>b</sub> )	30.5% (61)
Threats and Intimidation	N/A	48.3% (29 <sub>a</sub> )	15.8% (12 <sub>b</sub> )	20.5% (41)
Family Abuse	N/A	23.3% (14 <sub>a</sub> )	7.9% (6 <sub>b</sub> )	10.0% (20)

Notes: Each subscript letter and cell color denotes a subset of group categories whose column proportions do not differ significantly from each other at the .01 level. Percentages represent the prevalence of the indicator within each group. Each row summarizes one analysis.

Behavioral changes differed across the three groups ( $\chi^2[2] = 30.77, p < .001$ )<sup>6</sup>. Follow-up analyses revealed that the suicide-only and the suicide/violence groups were each more likely to have shown behavioral changes as compared to the violence-only group ( $\chi^2[1] = 23.57, p < .001$  and  $\chi^2[1] = 28.70, p < .001$ , respectively). This difference was driven by the exhibition of physical changes ( $\chi^2[2] = 9.39, p < .01$ ) and impulsive behaviors ( $\chi^2[2] = 23.67, p < .001$ ). Those in the suicide-only and suicide/violence groups displayed more physical changes ( $\chi^2[1] = 7.80, p < .01$  and  $\chi^2[1] = 8.25, p < .01$ ) and impulsive behaviors ( $\chi^2[1] = 17.31, p < .001$  and  $\chi^2[1] = 20.10, p < .001$ ) than those in the violence-only group. The impulsivity effect was driven by differences in substance abuse across the groups ( $\chi^2[2] = 23.67, p < .001$ ).

<sup>6</sup> Because the Aggression indicator was used to define the groups, it was excluded and analyzed separately from the analysis of Any Behavioral Change indicators.

Those in the suicide-only and suicide/violence groups showed more substance abuse than those in the violence-only group ( $\chi^2[1] = 26.76, p < .001$  and  $\chi^2[1] = 20.61, p < .001$ ).

The suicide/violence group was more likely than the violence-only group overall to exhibit signs of aggression ( $\chi^2[1] = 21.63, p < .001$ ). When individual behavior categories within aggression were examined more closely, this difference was driven by greater threatening/intimidating behaviors ( $\chi^2[1] = 17.48, p < .001$ ) and abuse of family members ( $\chi^2[1] = 6.60, p = .01$ ).

### Social Indicators

Social indicators consisted of the following: diminished interest in leisure activities, homelessness, chronic victim of violence, social withdrawal, relationship problems, and recent loss (i.e., death, divorce, break-up). Table 9 shows differences for the indicators across the groups.

**Table 9**  
**Social Indicators Present within each Group**

<b>Social Indicator</b>	<b>Suicide Only n=64</b>	<b>Suicide and Violence n=60</b>	<b>Violence Only n=76</b>	<b>Overall n=200</b>
Social Problems	26.6% (17 <sub>a</sub> )	10.0% (6 <sub>a</sub> )	0.0% (0 <sub>b</sub> )	11.5% (23)
Social Withdrawal	25.0% (16 <sub>a</sub> )	8.3% (5 <sub>b</sub> )	0.0% (0 <sub>c</sub> )	10.5% (21)
Relationship Problems	54.7% (35 <sub>a</sub> )	63.3% (38 <sub>a</sub> )	32.9% (25 <sub>b</sub> )	49% (98)

Notes: Each subscript letter and cell color denotes a subset of group categories whose column proportions do not differ significantly from each other at the .01 level. Percentages represent the prevalence of the indicator within each group. Each row summarizes one analysis.

Social problems differed across the three groups ( $\chi^2[2] = 24.14, p < .001$ ), particularly signs of social withdrawal ( $\chi^2[2] = 23.54, p < .001$ ). More focused analyses revealed that, as compared to the violence-only groups, both suicide-only and suicide/violence groups had greater social indicators present ( $\chi^2[1] = 22.98, p < .001$  and  $\chi^2[1] = 8.09, p < .01$ , respectively). Similar to this pattern, further analyses revealed that, as compared to the violence-only group, both suicide-only and suicide/violence groups showed more social withdrawal ( $\chi^2[1] = 21.45, p < .001$  and  $\chi^2[1] = 6.58, p = .01$ ). The groups also differed in relationship problems ( $\chi^2[2] = 14.31, p = .001$ ). Compared to the violence-only group, the suicide-only and suicide/violence groups had more relationship problems ( $\chi^2[1] = 6.74, p < .01$  and  $\chi^2[1] = 12.49, p = .001$ ).

### Occupational Indicators

The Occupational category consisted of coding for problems that were exclusive to employment: diminished performance/interest at work/school, persistent complaints about the workplace, boundary violations, impending separation from

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the military, and refusing to accept termination. Table 10 shows differences for the indicators across the groups.

**Table 10**  
**Occupational Indicators Present within each Group**

<b>Occupational Indicator</b>	<b>Suicide Only n=64</b>	<b>Suicide and Violence n=60</b>	<b>Violence Only n=76</b>	<b>Overall n=200</b>
Occupational Problems	48.4% (31 <sub>a</sub> )	55.0% (33 <sub>a</sub> )	13.2% (10 <sub>b</sub> )	37.0% (74)
Diminished Performance/Interest	29.7% (19 <sub>a</sub> )	38.3% (23 <sub>a</sub> )	9.2% (7 <sub>b</sub> )	24.5% (49)
Military Separation	17.2% (11 <sub>a,b</sub> )	26.7% (16 <sub>a</sub> )	6.6% (5 <sub>b</sub> )	16.0% (32)

Notes: Each subscript letter and cell color denotes a subset of group categories whose column proportions do not differ significantly from each other at the .01 level. Percentages represent the prevalence of the indicator within each group. Each row summarizes one analysis.

Occupational problems differed across groups ( $\chi^2[2] = 31.13, p < .001$ ); the suicide-only and suicide/violence groups are more likely to have occupational problems than the violence-only group ( $\chi^2[1] = 20.88, p < .001$  and  $\chi^2[1] = 28.80, p < .001$ , respectively). Two sub-indicators drove this effect: diminished performance/interest at work ( $\chi^2[2] = 16.74, p < .001$ ) and impending separation from the military ( $\chi^2[2] = 10.17, p < .01$ ). Follow-up analyses showed that both the suicide-only and suicide-violence groups were more likely to show diminished performance/interest at work ( $\chi^2[1] = 9.63, p < .01$  and  $\chi^2[1] = 16.54, p < .001$ ). Further, as compared to the violence-only group, the suicide/violence group was more likely to be facing impending separation from the military ( $\chi^2[1] = 10.36, p = .001$ ).

### Other Concerning Behaviors

The other concerning behaviors category includes all behaviors that did not fit neatly under the above Psychological, Behavioral Change, Social, and Occupational categories. It includes behaviors that raise concerns among observers: conflicts at work, belligerence, challenges to authority, disruptiveness, non-violent criminal behavior, racism, sexism, refusing deployment, and prejudice. Table 11 shows significant differences in these indicators across the groups.

**Table 11**  
**Other Concerning Behavioral Indicators Present within each Group**

<b>Other Concerning Behavior Indicator</b>	<b>Suicide Only n=64</b>	<b>Suicide and Violence n=60</b>	<b>Violence Only n=76</b>	<b>Overall n=200</b>
Any Other Concerning Behavior	9.4% (6 <sub>b</sub> )	41.5% (25 <sub>a</sub> )	19.7% (15 <sub>b</sub> )	23.0% (46)
Conflicts	7.8% (5 <sub>a,b</sub> )	23.3% (14 <sub>a</sub> )	5.3% (4 <sub>b</sub> )	11.5% (23)

Notes: Each subscript letter denotes a subset of group categories whose column proportions do not differ significantly from each other at the .01 level. Percentages represent the prevalence of the indicator within each group. Each row summarizes one analysis.

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Other concerning behaviors differed across groups ( $\chi^2[2] = 18.97, p < .001$ ). The suicide/violence group showed more concerning behaviors than both the suicide-only and violence-only groups ( $\chi^2[1] = 17.22, p < .001$  and  $\chi^2[1] = 7.77, p < .01$ , respectively). This effect was driven by group differences in observable conflicts with supervisors and co-workers ( $\chi^2[2] = 11.86, p < .01$ ). The suicide/violence group also showed more conflicts than the violence-only group ( $\chi^2[1] = 9.53, p < .01$ ).

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Across the primary categories of Psychological, Behavioral Change, Social, and Occupational indicators, the NCIS suicide-only and the suicide/violence groups showed much coherence with each other, but each differed greatly when compared to those that showed exclusively violent behaviors. The suicide-only and suicide/violence groups were each more likely than the violence-only group to show early warning signs for psychological issues, specifically depression, anxiety, hopelessness, presence of a mental health diagnosis, and participation in treatment. They were also more likely to have a recent physical change and engage in impulsive behavior, particularly substance abuse. Regarding social indicators, the suicide-only and suicide/violence groups were more likely than the violence-only group to exhibit warning signs of social withdrawal and relationship problems. These two groups also had more occupational issues than the violence-only group, specifically diminished performance and/or interest at work.

The findings are in line with previous research and are remarkably consistent—the suicide-only and suicide-violence groups are not statistically different on the vast majority of examined indicators, whereas both groups significantly differ from the violence-only group. These findings suggest that Service members who are violent toward others and display the highlighted indicators may be at risk for suicide, and in turn should be more carefully considered for referral to appropriate screening resources by law enforcement personnel as compared to those who are violent toward others but do not present such indicators (see Figure 2 for a summary of early warning signs identified in the current research that a Service member who commits an act of violence may also be at risk for suicide). It is our hope that law enforcement personnel and command leadership teams will be able to apply these findings to real-world situations in order to more accurately and reliably discern if a violent offender is at risk for suicide. For example, if an officer is called to a scene in which an assault has taken place, given our findings, if the offender refers to (or shows as) being depressed, impulsive, or having relationship problems, the officer may need to be more vigilant about a potential suicide risk than if these indicators are not evident. Recognition of these indicators can more generally inform law enforcement and policy-makers about suicide prevention strategies for Service members who engage in unauthorized acts of violence.

## Early Warning Signs that Service Members Who Commit an Act of Violence may also be at Risk for Suicide

Psychological Issues:	Behavioral Changes:	Social Issues:	Occupational Issues:
Depression	Physical changes	Social withdrawal	Diminished interest in work
Anxiety	Impulsivity/substance use	Relationship problems	Diminished performance
Hopelessness			
Mental health diagnosis			
Mental health treatment			

**Figure 2 Early Warning Signs that Service Members Who Commit an Act of Violence or Aggression may also be at Risk for Suicide**

One important divergence from the largely consistent pattern of results was for indicators related to anger and conflict. The suicide/violence group was more likely to show anger, rage, and hostility than both the suicide-only and violence-only groups, and they were also significantly more likely than the violence-only group and marginally more likely than the suicide-only group to have observable conflicts with supervisors and co-workers. And, finally, the suicide/violence group also showed more aggressive behaviors, especially threatening and intimidating behaviors, than the violence-only group. These findings underscore one area where those who are both suicidal and violent are distinct from those who are strictly suicidal or violent. These behaviors may lead law enforcement to disregard suicide risk, which could potentially lead to critical missed opportunities for referral to appropriate screening entities, intervention, and ultimately the management of suicidal behaviors.

It is imperative to note that these data do not reflect an epidemiological study of comorbidity of suicide and violence within this military sample. Both suicidal and aggressive behaviors were oversampled in the current study in order to assess the range of factors that may differentiate behaviors of concern across groups. The available data highlight that most suicidal individuals *do not* pose a risk of violence toward others. This is important to consider, especially given that the suicide-only and suicide/violence groups display statistically equivalent levels of many of the

## DISCUSSION

same indicators. It is also important to recognize that the level of violence perpetrated by the vast majority of Service members studied was not akin to that of the severe scenarios examined in certain prior literature such as murder-suicide (e.g., Lankford, 2013; Patton, McNally, & Fremouw, 2015). Homicide was a rare outcome within this study's sample. The violence perpetrated by the Service members more often involved less severe forms of interpersonal violence such as assaults and domestic violence typically encountered by the military and law enforcement (e.g., Cerulli, Stephens & Bossarte, 2014; Wolford-Clevenger et al., 2015).

## CONCLUSION

The current study's findings highlight the unique warning signs related to suicidal behavior in Service members who engage in unauthorized acts of violence as well as potential opportunities for law enforcement and Navy command personnel to enhance their respective suicide prevention and intervention programs. This research suggests that Service members at risk for both suicide and violence are more similar to Service members only at risk for suicide than they are to Service members only at risk for violence. Our findings also suggest that the emotional trajectory individuals who are both suicidal and violent follow is more aggressive, hostile, and angry than those who are either strictly suicidal or violent. Taken together, these findings may enhance the ability of law enforcement and command personnel to intervene appropriately to prevent further acts of suicide and violence.

## LIMITATIONS

Despite generating important findings, this study has some limitations that are important to acknowledge. First, the methodology involved *post-hoc* coding from official records developed for non-research purposes. As a result, identifying behavioral warning signs was at times challenging. Furthermore, it is possible that instances in which files were not coded for one of the indicators was the result of different reporting strategies by law enforcement personnel (rather than the actual absence of an indicator). For instance, when investigating a suicide, law enforcement may have been more inclined to ask questions and report about psychological indicators than if they were investigating an assault. In addition, though the sample provided more than adequate statistical power, a larger and more diverse sample would allow for more confidence in generalizing the obtained findings to all Navy Service members and the other Service components.

## RECOMMENDATIONS FOR POLICY

- (1) ***Increase Awareness of Heightened Risk for Suicide during Personal Crisis Events and Make Appropriate Referrals.*** Service members may already be engaged with command and military law enforcement personnel in regard to various personal crises (e.g., separation from military, disciplinary events) that

may suggest the need for heightened awareness and intervention. Awareness of the heightened risk of suicide during these crises points has the potential to trigger better interdisciplinary efforts to collaborate and share information to promote intervention and prevention activity. In addition, military law enforcement may have an easier time accessing Service member mental health information compared to civilian counterparts. Military law enforcement learning of the presence of warning signs (e.g., depression, substance abuse) may facilitate referrals to mental health professionals or the Service member's command leadership.

- (2) ***Enhance Communication Between Mental Health Professionals and Military Law Enforcement Personnel.*** When assessing the findings from the present study and other research that highlights prior violence history being a potential risk for suicidal activity (e.g., Swogger, Van Orden and Conner, 2014; Van Dulmen et al., 2013), mental health care providers could benefit from better communications with military law enforcement to learn of violence risk-related factors such as prior aggressive behavior (e.g., domestic abuse and threats/intimidation) that may signal a potential suicide risk.
- (3) ***Adopt a Threat Assessment Approach with Mental Health and Law Enforcement Personnel.*** When assessing Service members for potential harm to self during crises, mental health practitioners and law enforcement personnel could benefit from assessing the presence of anger, grievances, or conflicts toward other parties (e.g., relationship or Service-related) that could potentially trigger violence toward others. In such cases, a threat assessment approach employed jointly by mental health and law enforcement could minimize impact when violence is contemplated or potentially escalating in addition to any suicide prevention activity (Defense Science Board, 2012; Meloy et al., 2004, 2011; Rudd, 2008; Scalora et al., 2002a, 2002b).
- (4) ***Expand the Role of Military Command Leadership Teams in Suicide Prevention Efforts.*** The command leadership team (i.e., Commanding Officer, Executive Officer, and Senior Enlisted Leader) may potentially serve as a primary nexus to facilitate suicide prevention efforts as they are most likely to be exposed to the various emotional, behavioral, and disciplinary issues that may signal enhanced risk for the Service member to demonstrate suicidal and violent behavior. Since command personnel are often on the front lines of dealing with both suicide concerns as well as legal and disciplinary issues, they may be in an ideal position to refer troubled Service members to appropriate screening and assistance when adjustment issues arise outside of typical triggering events for suicide concern.

## RECOMMENDATIONS FOR FUTURE RESEARCH

- (1) ***Examine Additional Suicide and Violence Indicators.*** Future research should explore additional potentially distinct and overlapping warning signs of

## DISCUSSION

suicide and violence. For example, previous research shows that Post-Traumatic Stress Disorder (PTSD) is strongly associated with both suicide and violence, but the association between PTSD and violence is diminished when risk and protective factors are also considered (Norma, Elbogen, & Schnurr, 2014). Exploring additional warning signs such as these that show overlap with suicide and violence may increase the ability to detect how and where they appear (e.g., command, law enforcement, mental health).

- (2) ***Include a Non-suicidal, Non-violent Comparison Control Group.*** Future research should include a matched control group for the cases evaluated in the present study. Doing so would minimize the potential impact of confounding variables and in effect enhance the study's internal validity, strengthening the degree of confidence we should place in the suicide and violence warning behaviors identified herein.
- (3) ***Assess Indicator Recognition Interventions.*** Future research should assess the effectiveness of interventions aimed at increasing recognition of the critical warning signs observed in our research. Previous research has shown that although warning signs may be observable to others, witnesses may not recognize the behavior as a warning of harm or may be unmotivated to report it to authorities. Investigating strategies to increase warning sign recognition and motivation to report will be an important step in preventing future acts of suicide.
- (4) ***Include Larger and More Diverse Samples.*** Future research should be conducted with larger and more diverse samples to replicate these findings and to examine potential differences in warning signs among subgroups of those who die by suicide and commit violent acts (e.g., differences by military branches, age, and gender). Doing so would increase the power to detect warning signs of suicide and violence and allow us to assess the generalizability of our findings to other populations within the military community.

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**APPENDIX A:  
INDICATORS OF SUICIDE, SUICIDE AND VIOLENCE, AND VIOLENCE  
ONLY**

## APPENDIX A

**Table A-1**  
**Indicators of Suicide, Suicide and Violence, and Violence Only**

Suicide Only	Suicide and Violence	Violence Only
<i>Mental Illness</i>		
<p><b>Presence of a mental illness</b>            Mahon, Tobin, Cusack, Kelleher, &amp; Malone, 2005; Martin, Ghahramanlou-Holloway, Lou, &amp; Tucciarone, 2009; Nock et al., 2008; Cavanagh, Carson, Sharpe, &amp; Lawrie, 2003</p> <p><b>Mood disorders (major depression and bipolar disorder)</b>            Arsenaault-Lapierre, Kim, &amp; Turecki, 2004; Bryan &amp; Rudd, 2006; Isometsä, 2001; Martin et al., 2009; Rihmer, 2007</p> <p><b>Anxiety and Schizophrenia</b>            Bryan &amp; Rudd, 2006</p>	<p><b>Post-Traumatic Stress Disorder (PTSD)</b>            Calhoun, Malesky, Bosworth, &amp; Beckham, 2005; Elbogen, Beckham, Butterfield, Swartz, &amp; Swanson, 2008; Elbogen, Johnson, Newton, et al., 2012; Elbogen, Wagner, et al., 2010; Ferrada-Noli, Asberg, Ormstad, Lundin, &amp; Sundbom, 1998; Greenberg &amp; Rosenheck, 2009; Pandiani, Rosenheck, &amp; Banks, 2003; Saxon et al., 2001; Violanti, 2004</p>	<p><b>Depression</b>            Meloy, White, &amp; Hart, 2013; Mohandie &amp; Hatcher, 1999</p> <p><b>Mental illness and violence link is intensified with histories of combat trauma, living in violent and chaotic environments, head injuries and substance abuse</b>            Elbogen et al., 2008; Hoge et al., 2004; Kang &amp; Bullman, 2008; Martin et al., 2009; Zimmerman, 2014</p>
<i>Mood Symptoms</i>		
<p><b>Expressions of anxiety, agitation, and purposelessness</b>            American Association of Suicidology, 2015; Cox et al., 2011; Rudd et al., 2006</p> <p><b>Expressions of guilt, shame, and feelings of failure</b>            Cox et al., 2011</p> <p><b>Loss of pleasure</b>            Bryan &amp; Rudd, 2006; Fawcett et al., 1990; Nock &amp; Kazdin, 2002; Rudd, 2008</p>	<p><b>Expressions of anger, rage, hostility, jealousy, and revenge-seeking</b>            American Association of Suicidology, 2015; Commandant of the Marine Corps, 2012; Cox et al., 2011; Mohandie &amp; Hatcher, 1999</p> <p><b>Depressed mood and negative thoughts</b>            Meloy et al., 2013; Mohandie &amp; Hatcher, 1999; Plutchik, 1995; Randell, Eggert, &amp; Pike, 2001; Rudd, 2008; Shneidman, 1996; Trezza &amp; Popp, 2000; White et al., 1994; Zimmerman, 2014</p> <p><b>Expressions of depression, hopelessness, and inevitability, especially among law enforcement and military</b></p>	<p><b>Irritability, particularly in combination with PTSD and traumatic brain injury (TBI)</b>            Elbogen et.al. 2012; Burt, Mikolajewski, &amp; Larson, 2009; Kroner, Forth, &amp; Mills, 2005; McCoy &amp; Fremouw, 2010; Robertson, Daffern, &amp; Bucks, 2012</p> <p><b>High levels of anger, or difficulty controlling anger</b>            Elbogen, Cueva, et al., 2014; Elbogen, Fuller, et al., 2010; Jakupcak et al., 2007; Meloy et al., 2013; Mohandie &amp; Hatcher, 1999</p>

APPENDIX A

Suicide Only	Suicide and Violence	Violence Only
	<p>Commandant of the Marine Corps, 2012; Mohandie &amp; Hatcher, 1999; American Association of Suicidology, 2015; Beck, Steer, Kovacs, &amp; Garrison, 1985; Brezo, Paris, &amp; Turecki, 2006; Brown, Beck, Steer, &amp; Grisham, 2000; Bryan &amp; Rudd, 2006; Cox et al., 2011; Martin et al., 2009; Rudd et al., 2006</p> <p><b>Dramatic changes in mood</b> American Association of Suicidology, 2015; Rudd et al., 2006</p> <p><b>Loss of emotional control and intense emotional reactions</b> Abramsky &amp; Helfman, 1999; Mohandie &amp; Hatcher, 1999; Fawcett, 2001; Fawcett et al., 1990</p> <p><b>Feeling of inescapable distress</b> Nock et al., 2008;</p>	<p><b>Signs of distress or desperation, or expressing that there is no option other than violence</b> Meloy et al., 2011;</p> <p><b>Symptoms of depression and suicidality</b> Douglas, Guy, &amp; Hart, 2009</p>
<i>Psychotic Symptoms</i>		
	<p><b>Active hallucinations</b> Bryan &amp; Rudd, 2006; Commandant of the Marine Corps, 2012</p>	<p><b>General psychotic symptoms</b> Meloy et al., 2013; Meloy, 2011; James et al., 2008</p> <p><b>Delusions and exaggerated thoughts of being persecuted, rejected, or isolated</b> Bjorkly, 2002; Commandant of the Marine Corps, 2012; Cox et al., 2011; Mohandie &amp; Hatcher, 1999</p>
<i>Obsessions/Preoccupations</i>		
	<p><b>Frequently thinking about or being attracted to suicide, homicide, violence, or death</b> Meloy et al., 2013; Mohandie &amp; Hatcher, 1999; Rudd et al., 2006</p>	<p><b>Obsessions with survivalism, military, and law enforcement, holding grudges, persistently blaming others, and expressing unreasonable grievances or jealousy</b> Commandant of the Marine Corps, 2012; Dietz et al., 1991; Mohandie &amp; Hatcher, 1999; Meloy et al., 2013; Meloy et al., 2011; Mullen et al., 2009</p>

Suicide Only	Suicide and Violence	Violence Only
<i>Impulsivity</i>		
<p><b>Intoxication</b> Motto, 1991; Selby et al., 2011</p>	<p><b>General impulsivity</b> Ammerman, et al., 2015; Brent et al., 2003; Fawcett, 2001; Lubell &amp; Vetter, 2006; Mann, Waternaux, Haas, &amp; Malone, 1999; Martin et al., 2009; Nock et al., 2008; Plutchik, 1995; Randell et al., 2001; Rudd et al., 2006; Trezza &amp; Popp, 2000; White et al., 1994; Zimmerman, 2014; Zouk, Tousignant, Seguin, Lesage, &amp; Turecki, 2006</p> <p><b>Increased or excessive substance use</b> American Association of Suicidology, 2015; Buzawa &amp; Buzawa, 2013; Commandant of the Marine Corps, 2012; Elbogen et al., 2008; Elbogen, Fuller, et al., 2010; Elbogen, Johnson, et al., 2014; Mandrusiak et al., 2006; Rudd et al., 2006</p> <p><b>Substance use with severe mental illness</b> Elbogen et al., 2008; Cavanagh et al., 2003; Martin et al., 2009; Mohandie &amp; Hatcher, 1999</p> <p><b>Acting recklessly</b> American Association of Suicidology, 2015; Mandrusiak et al., 2006; Mohandie &amp; Hatcher, 1999</p> <p><b>Aggressive behavior</b> Abramsky &amp; Helfman, 1999; Commandant of the Marine Corps, 2012; Zimmerman, 2014; Bryan &amp; Rudd, 2006; Swogger, Van Orden, &amp; Conner, 2014; Commandant of the Marine Corps, 2012; Elbogen, Cueva, et al., 2014; Elbogen, Fuller, et al., 2010; Kessler, 2014; Meloy et al., 2013; Mohandie &amp; Hatcher, 1999</p>	<p><b>Substance use disorders</b> Heinz, Makin-Byrd, Blonigen, Reilly &amp; Timko, 2015; Kessler, 2014; Martin et al., 2009; Rihmer, 2007</p> <p><b>Aggressive behavior that appears unrelated to other warning signs of violence</b> Meloy et al., 2011</p> <p><b>Inappropriate/harassing communications with a target</b> Calhoun &amp; Weston, 2003; Commandant of the Marine Corps, 2012</p>
<i>Suicidal Ideation/ Behavior</i>		
<p><b>Recently attempted suicide</b> American Association of Suicidology, 2015; Bryan &amp; Rudd, 2006; Mandrusiak et al., 2006; Martin et al., 2009</p>	<p><b>Active suicidal ideation</b> American Association of Suicidology, 2015; Commandant of the Marine Corps, 2012; Meloy et al., 2013; Meloy, 2011; Shneidman, 1996; Bryan &amp; Rudd, 2006; Violanti, 2004</p>	<p><b>History of suicide behavior in conjunction with life in a downward spiral</b> Fein &amp; Vossekuil, 1998, 1999; James et al., 2007; Meloy et al., 2004</p>

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Suicide Only	Suicide and Violence	Violence Only
<p><b>Engaged in self-harm</b> Mahon et al., 2005</p> <p><b>Severity of the pain of self-inflicted injuries</b> Anestis et al., 2009</p> <p><b>Refusing to give the methods of self-harm</b> Rudd, 2008</p>		
<i>Treatment</i>		
<p><b>History of hospitalization for suicide concerns</b> Martin et al., 2009; Bryan &amp; Rudd, 2006</p>	<p><b>Refusal to cooperate with medications or behavioral health treatment, or showing little engagement</b> Meloy et al., 2013; Mohandie &amp; Hatcher, 1999; Rudd, 2008; Martin et al., 2009</p>	<p><b>Recent hospitalization for mental health and substance abuse issues</b> Commandant of the Marine Corps, 2012</p>
<i>Interpersonal Concerns</i>		
<p><b>Environment of violence at the neighborhood level</b> Zimmerman, 2014</p> <p><b>Perceived burdensomeness</b> Van Orden, Witte, Cukrowicz, Braithwaite, &amp; Selby, 2011; Cox et al., 2011; Selby et al., 2011</p> <p><b>Feeling a loss of acceptance</b> Van Orden et al., 2011; Cox et al., 2011; Selby et al., 2011</p>	<p><b>Social withdrawal</b> American Association of Suicidology, 2015; Commandant of the Marine Corps, 2012; Mandrusiak et al., 2006; Rudd et al., 2006</p> <p><b>Persistent marital conflict or failing relationships</b> Abramsky &amp; Helfman, 1999; Bryan &amp; Rudd, 2006; Martin et al., 2009; Shneidman, 1996; Mohandie &amp; Hatcher, 1999; Benda, 2005</p> <p><b>Victim of violence or bullying; feeling victimized</b> Bryan et al., 2013; Commandant of the Marine Corps, 2012; Kessler, 2014; Rigby &amp; Slee, 1999; Mohandie &amp; Hatcher, 1999</p> <p><b>Feeling a lack of social support</b> Rigby &amp; Slee, 1999; Bryan et al., 2013; Kessler, 2014</p>	<p><b>Dissatisfaction with general social support</b> Elbogen, Johnson, Wagner, et al., 2012</p>
<i>Employment</i>		
<p><b>Recent demotion or military medical downgrade</b> Cox et al., 2011; Mahon et al., 2005; Ressler &amp; Schoemaker, 2014;</p>	<p><b>Loss of interest in or diminished performance at work or school</b> Commandant of the Marine Corps, 2012; Cox et al., 2011; Martin et al., 2009; Meloy et al., 2013; Mohandie &amp; Hatcher,</p>	<p><b>Chronic complaints about working conditions</b> Mohandie &amp; Hatcher, 1999</p>

Suicide Only	Suicide and Violence	Violence Only
<p>Bryan &amp; Rudd, 2006</p> <p><b>Exposure to combat or professional violence (mixed findings)</b></p> <p>Institute of Medicine, 2008; Kang &amp; Bullman, 2008; Reger et al., 2015; Van Orden et al., 2011; Anestis et al., 2009; Selby et al., 2011; The Assessment and Management of Risk for Suicide Working Group, 2013; Van Orden et al., 2011; Zimmerman, 2014</p>	<p>1999; Shneidman, 1996</p> <p><b>Boundary or procedural violations, belligerence, and explicit insubordination</b></p> <p>Commandant of the Marine Corps, 2012; Miller, 2005; Mohandie &amp; Hatcher, 1999</p>	<p><b>Poor workplace relationships and conflicts with peers and supervisors</b></p> <p>Abramsky &amp; Helfman, 1999; Commandant of the Marine Corps, 2012; Mohandie &amp; Hatcher, 1999</p> <p><b>Impending separation from employment</b></p> <p>Abramsky &amp; Helfman, 1999</p> <p><b>Extreme job attachment</b></p> <p>Meloy et al., 2013</p> <p><b>Unemployment</b></p> <p>Benson &amp; Fox, 2004; Buzawa &amp; Buzawa, 2013; Elbogen, Johnson, Wagner, et al., 2012</p> <p><b>One-sided communications with former colleagues</b></p> <p><b>Refusing deployment</b></p> <p>Commandant of the Marine Corps, 2012</p> <p><b>Current or previous deployment (mixed findings)</b></p> <p>Ressler &amp; Schoomaker, 2014; Newby et al., 2005; Elbogen, Cueva, et al., 2014; Elbogen, Fuller, et al., 2010; Mohandie &amp; Hatcher, 1999</p>
<i>Loss</i>		
<p><b>Loss of one's identity or status</b></p> <p>Bryan &amp; Rudd, 2006; Cox et al., 2011</p> <p><b>Loss of status, sense of self with traumatic brain injury</b></p> <p>Brenner, Homaifar, Adler, Wolfman, &amp; Kemp, 2009; Cox et al., 2011</p>	<p><b>Loss paired with negative coping strategies</b></p> <p>Bryan &amp; Rudd, 2006; Meloy et al., 2013</p> <p><b>Loss of financial stability</b></p> <p>Benson &amp; Fox, 2004; Bryan &amp; Rudd, 2006; Buzawa &amp; Buzawa, 2013; Elbogen, Cueva, et al., 2014; Elbogen, Fuller, et al., 2010; Elbogen, Johnson, Wagner, et al., 2012; Renzetti, 2009</p>	<p><b>Homelessness, particularly with Veterans</b></p> <p>Elbogen et al., 2008; Elbogen, Johnson, Wagner, et al., 2012</p>

APPENDIX A

Suicide Only	Suicide and Violence	Violence Only
	<p><b>Loss of personal relationships</b> Bryan &amp; Rudd, 2006; Commandant of the Marine Corps, 2012; Meloy et al., 2013; Shneidman, 1996</p> <p><b>Exposure to completed or attempted suicides or acts of violence</b> Mohandie &amp; Hatcher, 1999</p>	
<i>Other Concerning Behaviors</i>		
	<p><b>Deteriorating appearance and hygiene</b> Abramsky &amp; Helfman, 1999; Commandant of the Marine Corps, 2012; Defense Science Board, 2012; Mohandie &amp; Hatcher, 1999</p> <p><b>Atypical eating patterns and weight loss/gain, or changes in sleeping patterns</b> Commandant of the Marine Corps, 2012; Rudd, 2008</p> <p><b>Legal difficulties or a history of non-violent criminal behavior</b> Commandant of the Marine Corps, 2012; Elbogen, Cueva, et al., 2014; Elbogen, Fuller, et al., 2010; Kessler, 2014; Martin et al., 2009; Meloy et al., 2013; Mohandie &amp; Hatcher, 1999</p>	<p><b>Engaging in multiple lawsuits or excessive litigiousness</b> Meloy et al., 2013</p> <p><b>Persistent assigning of blame</b> Meloy et al., 2013; Mohandie &amp; Hatcher, 1999</p> <p><b>Terrorism-related behaviors</b> Calhoun &amp; Weston, 2003; Commandant of the Marine Corps, 2012; Meloy et al., 2011</p> <p><b>Expressing extreme intolerance</b> Commandant of the Marine Corps, 2012</p> <p><b>Promoting use of violence or disruption</b> Commandant of the Marine Corps, 2012</p> <p><b>Exaggerated sense of self</b> Bryan &amp; Rudd, 2006; Calhoun &amp; Weston, 2003</p>
<i>Preparations for Action</i>		
<p><b>Increased time spent planning for suicide may increase risk</b> Van Orden et al., 2011</p>	<p><b>Developing or communicating a specific plan for harm</b> Abramsky &amp; Helfman, 1999; Bryan &amp; Rudd, 2006; F. S. Calhoun &amp; Weston, 2003; Fein &amp; Vossekuil, 1998, 1999; Meloy et al., 2011, 2013;</p>	<p><b>Fascination with weapons</b> Abramsky &amp; Helfman, 1999; Hempel, Meloy, &amp; Richards, 1999; Meloy, 2011</p> <p><b>Research, reconnaissance of targets</b></p>

Suicide Only	Suicide and Violence	Violence Only
	<p><b>Preparing for the end of life</b> Danto, 1978; Lester, 2014; Shneidman, 1996; Miller 2005</p> <p><b>Seeking and/or gaining access to means of harm</b> Abramsky &amp; Helfman, 1999; Bryan &amp; Rudd, 2006; F. S. Calhoun &amp; Weston, 2003; Meloy et al., 2013; Rudd et al., 2006</p> <p><b>Identified a method that is potentially lethal and available</b> Bryan &amp; Rudd, 2006; Commandant of the Marine Corps, 2012; Mohandie &amp; Hatcher, 1999; Resnick et al., 1997; Meloy et al., 2013</p> <p><b>Excessive or inappropriate use or possession of weapons</b> Commandant of the Marine Corps, 2012; Miller, 2005; Mohandie &amp; Hatcher, 1999; Helmkamp, 1996; Miller, 2005; Selby et al., 2011</p>	<p>Calhoun &amp; Weston, 2003; Commandant of the Marine Corps, 2012; Calhoun &amp; Weston, 2003; Mohandie &amp; Hatcher, 1999</p>
<i>Communication of Threats</i>		
	<p><b>Association between communication of threats and suicide/violence are mixed</b> Dietz et al., 1991; Mohandie &amp; Hatcher, 1999; Shneidman, 1996; Fein, Vossekuil, &amp; Holden, 1995</p> <p><b>Threats may be direct, shared indirectly with a third party, conditional, or veiled</b> Abramsky &amp; Helfman, 1999; Mandrusiak et al., 2006; Miller, 2005; Mohandie &amp; Hatcher, 1999</p> <p><b>Threats may vary in their level of specificity</b> Rudd, 2006, 2008; Mandrusiak et al., 2006; Warren, et al., 2008</p>	<p><b>Direct threats made about both suicide and homicide</b> Commandant of the Marine Corps, 2012; Mohandie &amp; Hatcher, 1999</p> <p><b>Threats (direct, indirect, or veiled) of violence made to target or third party</b> Fein &amp; Vossekuil, 1998; Meloy et al., 2011; Meloy &amp; O’Toole, 2011; Scalora et al., 2002a; Scalora, Baumgartner, &amp; Plank, 2003; Warren, et al., 2008; Warren, Mullen, &amp; Ogloff, 2011</p> <p><b>Range of Concerning Content</b> Dietz et al., 1991; Meloy, 2011; Scalora, et al., 2002a, 2002b; Scalora, 2014</p>



**APPENDIX B:  
CODE CLUSTERS AND DEFINITIONS**

## APPENDIX B

**Table B-1  
Code Clusters and Definitions**

<b>Cluster</b>	<b>Code</b>	<b>Definition</b>
Psychological	Depression	Subject expresses or exhibits depressive symptoms, including sadness, anhedonia, fatigue, low self-esteem
	Hallucinations	Subject exhibited signs he/she was experiencing hallucinations
	Delusions	Subject exhibited signs of deluded thinking (irrational and idiosyncratic beliefs, in spite of general knowledge or evidence)
	Anxiety	Subject expressed severe anxiety or agitation (restlessness, upset, irritation, sense of urgency, increase psychomotor activity)
	Hopelessness	Subject communicated verbally or nonverbally a lack of hope for the future, (not seeing a future beyond the current situation, stopped making plans, etc.)
	Anger	Subject had feelings of anger or rage (strong feelings of annoyance, displeasure, irritation), or subject exhibited verbal or behavioral hostility (unfriendliness, opposition, antagonism)
	Revenge	Subject communicated feelings of revenge, resentment, or desire for vengeance
	Suicidal Behavior	Any evidence of suicide attempts, ideation, threats, or self-harm
	Diagnosis	Subject had a specific mental health diagnosis given by a mental health or medical professional
	Treatment	Subject is actively receiving some form of treatment for a mental health concern.
Behavioral Changes	Impulsivity	Subject speaks or acts seemingly without forethought
	Aggression	Subject exhibited aggressive behavior (was forceful, overly assertive, coercive, appeared ready for an attack of confrontation; violent attitude/mindset) that a part of the current incident
	Changes in Eating	Subject exhibits atypical eating patterns, such as eating too much or eating too little, or exhibited unusual weight loss or gain.
	Changes in Sleep	Apply this code when record includes evidence that the subject is unable to sleep or is sleeping all the time, and that this sleeping pattern is not the norm for the subject.
	Changes in Appearance	Subject undergoes a significant change or deterioration in appearance (manner of dress, hairstyle, posture, etc.) or hygiene (bathing habits, brushing teeth/hair, etc.)
Social	Interest in leisure activities	Subject displays lower than normal interest in leisure activities and hobbies
	Homelessness	Subject has lacked a fixed, regular and adequate

**APPENDIX B**

<b>Cluster</b>	<b>Code</b>	<b>Definition</b>
		night-time residence at some point over the last 6 months, or if that residence was: a shelter designed to provide temporary accommodations, a temporary residence designed for those intended to be institutionalized, or a place not designed for sleeping accommodations for humans.
	Victim of violence	Subject is chronically targeted as a victim of violence.
	Withdrawal	Subject withdraws from family, friends and/or society.
	Relationship Problems	The subject had marital or relationship problems prior to the incident
	Recent life-altering loss	Subject experienced recent life-altering events including the death of a significant person, such as family member, friend, or co-worker.
	Exposure to suicide	Someone close to the subject, such as spouse, immediate family member, other family member, friend, or colleague ever attempted/completed suicide.
Occupational	Diminished work interest/performance	Subject displays lower than normal interest/performance in work duties.
	Complaints about working conditions	Subject lodged repeated formal or informal complaints about his or her working conditions or receiving poor treatment at work.
	Violating work boundaries	Subject engages in boundary violations at work, including ignoring or flouting department rules and explicit insubordination.
	Separation from the military	Subject had an impending separation from the military, such as Disciplinary, Administrative, Medical, ETS, Retirement.
	Refusal to accept termination	Subject has been informed that he or she has been terminated, and has difficulty accepting, or refuses to accept, the termination.
	One-sided contact with ex-colleagues	Subject has been recently terminated from employment and is engaging in one sided contact with former co-workers (continuously contacting them without receiving a response)

**APPENDIX C:**  
**CODING SHEET: SUICIDE AND VIOLENCE INDICATORS IN LAW  
ENFORCEMENT RECORDS**

**APPENDIX C**

Date Coded: \_\_\_\_\_

Case #: \_\_\_\_\_ Coder:  Mark  Mario  Double Coded

**DEMOGRAPHICS**

Age at time of incident: \_\_\_\_\_

Gender:  Male  Female

Case Type:  Suicide  Violence

Race:
<input type="checkbox"/> African American/Black
<input type="checkbox"/> Asian/Pacific Islander
<input type="checkbox"/> Caucasian/White
<input type="checkbox"/> Native American
<input type="checkbox"/> More than one Race
<input type="checkbox"/> Other: _____
<input type="checkbox"/> Unknown/Missing data

Ethnicity:
<input type="checkbox"/> Hispanic
<input type="checkbox"/> Not Hispanic
<input type="checkbox"/> Other: _____
<input type="checkbox"/> Unknown/Missing data

Marital Status:
<input type="checkbox"/> Single
<input type="checkbox"/> Cohabiting/Committed
<input type="checkbox"/> Married
<input type="checkbox"/> Divorced/Separated
<input type="checkbox"/> Widowed
<input type="checkbox"/> Other: _____
<input type="checkbox"/> Unknown/Missing data

Military Status: <input type="checkbox"/> No <input type="checkbox"/> Yes
<input type="checkbox"/> Active Duty
<input type="checkbox"/> Guard
<input type="checkbox"/> Reserve Component
<input type="checkbox"/> Other: _____
<input type="checkbox"/> Unknown/Missing data
<b>Military Rank (Write in):</b> _____

Branch:
<input type="checkbox"/> Navy
<input type="checkbox"/> Marines
<input type="checkbox"/> Coast Guard
<input type="checkbox"/> Other: _____
<input type="checkbox"/> Unknown/Missing data
<b># Deployments:</b> _____

Other Status <input type="checkbox"/> No <input type="checkbox"/> Yes
<input type="checkbox"/> DOD Contractor
<input type="checkbox"/> DOD Civilian Employee
<input type="checkbox"/> Family of SM/Civilian/Contractor
<input type="checkbox"/> Non DOD Civilian
<input type="checkbox"/> Other: _____
<input type="checkbox"/> Unknown/Missing data
<b>DOD Civilian GS (Write in):</b> _____

**CURRENT CASE**

Incident Type:				
<input type="checkbox"/> Assault	<input type="checkbox"/> Death	<input type="checkbox"/> Stalking	<input type="checkbox"/> Domestic violence	<input type="checkbox"/> Kidnapping
<input type="checkbox"/> Workplace violence	<input type="checkbox"/> Sexual assault	<input type="checkbox"/> Completed suicide	<input type="checkbox"/> Suicide concern	<input type="checkbox"/> Other: _____
Primary Location of Incident				
<input type="checkbox"/> On base		<input type="checkbox"/> Off base		<input type="checkbox"/> Unknown/Missing Data
Target of Incident				
<input type="checkbox"/> Self	<input type="checkbox"/> Current Intimate Partner	<input type="checkbox"/> Past Intimate Partner	<input type="checkbox"/> Family Member	
<input type="checkbox"/> Friend/Acquaintance	<input type="checkbox"/> Co-worker	<input type="checkbox"/> Public Figure	<input type="checkbox"/> Group	
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Not Specified	<input type="checkbox"/> Unknown/Missing Data		

**CASE DETAILS**

<b>Present?</b>	<b>Indicator Category</b>	<b>Page #</b>
<input type="checkbox"/>	<b>Mental Illness</b> Depression, anxiety, anger, hallucinations, delusions	3
<input type="checkbox"/>	<b>Suicidal Ideation/Behaviors</b> Attempts, self-harm, threats	4
<input type="checkbox"/>	<b>Receiving Treatment</b> Medical, mental health, substance abuse, marital/relationship	5
<input type="checkbox"/>	<b>Behavioral Changes</b> Physical changes, impulsivity, aggression	6
<input type="checkbox"/>	<b>Social/Occupational Problems</b> Social, employment, relationship, legal, recent loss, exposure to suicide	7
<input type="checkbox"/>	<b>Other Concerning Behaviors</b> Workplace disruption, prejudicial attitudes, terror-related activities	8
<input type="checkbox"/>	<b>Past Approach Behaviors</b> Approach/contact type, thematic content, other targets	9
<input type="checkbox"/>	<b>Preparation Behaviors</b> Research, reconnaissance, means acquisition, evidence of planning	10
<input type="checkbox"/>	<b>Previous Law Enforcement Contacts</b> Violent crime, suicide concern	11

**SIGNS OF MENTAL ILLNESS**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Signs of depression</li> <li><input type="checkbox"/> Signs of anxiety</li> <li><input type="checkbox"/> Expressions of hopelessness</li> <li><input type="checkbox"/> Expressions of anger/rage/hostility</li> <li><input type="checkbox"/> Expressions of revenge-seeking</li> <li><input type="checkbox"/> <u>Hallucinations:</u> <ul style="list-style-type: none"> <li><input type="checkbox"/> Auditory</li> <li><input type="checkbox"/> Visual</li> <li><input type="checkbox"/> Command</li> <li><input type="checkbox"/> Other: _____</li> </ul> </li> <li><input type="checkbox"/> Mental Health Diagnoses<br/>(Specify lifetime or current):<br/>_____<br/>_____<br/>_____</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> <u>Delusions:</u> <ul style="list-style-type: none"> <li><input type="checkbox"/> Persecutory/Paranoid</li> <li><input type="checkbox"/> Grandiose</li> <li><input type="checkbox"/> Religious</li> <li><input type="checkbox"/> Being Controlled</li> <li><input type="checkbox"/> Mind Reading</li> <li><input type="checkbox"/> Thought Insertion</li> <li><input type="checkbox"/> Thought Withdrawal</li> <li><input type="checkbox"/> Thought Broadcasting</li> <li><input type="checkbox"/> Jealousy/Erotomania</li> <li><input type="checkbox"/> Ideas of Reference</li> <li><input type="checkbox"/> Malevolent Forces</li> <li><input type="checkbox"/> Other: _____</li> </ul> </li> </ul> |
|---|---|

**NOTES:**

**SUICIDAL IDEATION/BEHAVIORS**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> <u>Past suicide attempt:</u> <ul style="list-style-type: none"> <li><input type="checkbox"/> Near-lethal</li> <li><input type="checkbox"/> Not near-lethal</li> <li>Method: _____</li> </ul> </li> <li><input type="checkbox"/> Self harm/mutilation</li> <li><input type="checkbox"/> Suicidal ideation</li> <li><input type="checkbox"/> <u>Suicide threat:</u> <ul style="list-style-type: none"> <li><input type="checkbox"/> Direct (<i>to whom?</i>)</li> <li><input type="checkbox"/> Indirect (<i>to whom?</i>)</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> <u>How Suicide Threat or Ideation is Communicated:</u> <ul style="list-style-type: none"> <li><input type="checkbox"/> Letter/written</li> <li><input type="checkbox"/> Electronic (email, social media)</li> <li><input type="checkbox"/> Phone                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Voicemail</li> <li><input type="checkbox"/> Text message</li> <li><input type="checkbox"/> Conversation</li> </ul> </li> <li><input type="checkbox"/> Verbal statement</li> <li><input type="checkbox"/> Other: _____</li> </ul> </li> </ul> |
|--|---|

**NOTES:**

**APPENDIX C**

**RECEIVING TREATMENT**  
**(before the primary incident)**

- |   |   |
|---|---|
| <input type="checkbox"/> Medical              | <input type="checkbox"/> <u>Treatment Compliance:</u> |
| <input type="checkbox"/> Mental Health        | <input type="checkbox"/> Compliant                    |
| <input type="checkbox"/> Substance Abuse      | <input type="checkbox"/> Non-Compliant                |
| <input type="checkbox"/> Marital/Relationship |   |
| <input type="checkbox"/> Other _____          |   |

**NOTES:**

**BEHAVIORAL CHANGES**

- |   |   |
|---|---|
| <input type="checkbox"/> <u>Physical:</u>                   | <input type="checkbox"/> <u>Aggression:</u>         |
| <input type="checkbox"/> Eating changes                     | <input type="checkbox"/> Threatening/intimidating   |
| <input type="checkbox"/> Sleeping changes                   | <input type="checkbox"/> Aggressive sexual behavior |
| <input type="checkbox"/> Appearance changes                 | <input type="checkbox"/> Abuses family members      |
| <input type="checkbox"/> Other: _____                       | <input type="checkbox"/> Other: _____               |
| <input type="checkbox"/> <u>Impulsivity:</u>                |   |
| <input type="checkbox"/> Recklessness w/o regard for others |   |
| <input type="checkbox"/> Increased alcohol/drug use         |   |
| <input type="checkbox"/> Other: _____                       |   |

**NOTES:**

**SOCIAL/OCCUPATIONAL PROBLEMS**

- | <input type="checkbox"/> <u>Social:</u>                                 | <input type="checkbox"/> <u>Legal/Administrative:</u>      | <i>Mil</i>               | <i>Civ</i>               |
|---|--|--------------------------|--------------------------|
| <input type="checkbox"/> Diminished interest in leisure activities      | <input type="checkbox"/> Unable to pass PFT                | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Subject is homeless                            | <input type="checkbox"/> Unable to pass weight regulations | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Chronic victim of violence                     | <input type="checkbox"/> Drunk on duty                     | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Social withdrawal                              | <input type="checkbox"/> DUI                               | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> <u>Employment:</u>                             | <input type="checkbox"/> Abuse of prescription             | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Diminished performance/interest at work/school | <input type="checkbox"/> Abuse of illicit substances       | <input type="checkbox"/> | <input type="checkbox"/> |

- |  |   |                          |                          |
|--|---|--------------------------|--------------------------|
| <input type="checkbox"/> Persistent complaints about workplace   | <input type="checkbox"/> Failing to complete rehab    | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Boundary violations   | <input type="checkbox"/> Disrespect                   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Impending separation from military<br>( <i>indicate type</i> )                                    | <input type="checkbox"/> Assault or fighting          | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Refuses to accept termination   | <input type="checkbox"/> Failure to report            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> One-sided communication with colleagues after termination   | <input type="checkbox"/> AWOL                         | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> <u>Relationship:</u>  | <input type="checkbox"/> Overdrawn account            | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Subject wants to end relationship   | <input type="checkbox"/> Unpaid bills/Indebtedness    | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Partner wants to end relationship   | <input type="checkbox"/> Failure to pay child support | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Mutual desire to end relationship   | <input type="checkbox"/> Committing fraud             | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Subject wants to deny death benefits to heirs   | <input type="checkbox"/> Divorce issues               | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Subject is unfaithful   | <input type="checkbox"/> Custody issues               | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Partner is unfaithful   | <input type="checkbox"/> Other: _____                 | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Subject is victim of IPV<br><input type="checkbox"/> Reported <input type="checkbox"/> Unreported |   |                          |                          |
| <input type="checkbox"/> <u>Recent Loss:</u>   |   |                          |                          |
| <input type="checkbox"/> Death <input type="checkbox"/> Divorce  |   |                          |                          |
| <input type="checkbox"/> Financial <input type="checkbox"/> Breakup  |   |                          |                          |
| <input type="checkbox"/> <u>Exposure to suicide:</u> ( <i>indicate relationship</i> )                                      |   |                          |                          |
| <input type="checkbox"/> Attempted <input type="checkbox"/> Completed  |   |                          |                          |

**OTHER CONCERNING BEHAVIORS**

- |  |  |
|--|--|
| <input type="checkbox"/> Conflicts with supervisors and co-workers | <input type="checkbox"/> Refuses deployment on personal, religious, or political grounds |
| <input type="checkbox"/> Belligerence/insubordination              | <input type="checkbox"/> Extreme prejudice   |
| <input type="checkbox"/> Challenges authority                      | <input type="checkbox"/> Hatred for US society/military operations                       |
| <input type="checkbox"/> Promotes disruptive behavior              | <input type="checkbox"/> Discusses knowledge of future terrorist events                  |
| <input type="checkbox"/> Non-violent criminal behavior             | <input type="checkbox"/> Collects materials helpful for terrorists outside of job duties |

## APPENDIX C

- Overtly racist behavior
- Overtly sexist behavior
- Refuses to give up method of self-harm
- Other: \_\_\_\_\_
- Associates with terrorists
- Monetary/Material support for terrorists
- Terrorist/paramilitary training

### NOTES:

#### PAST APPROACH BEHAVIORS

- Current Target Approach Type:
  - Nonthreatening, bizarre, harassing behavior
  - Nonthreatening, bizarre, harassing physical approach
  - Verbal or written threat
  - Damages or defaces property
  - Threatening or intimidating physical approach
  - Delivers object
  - Attempted Assault ( *with weapon*)
  - Actual Assault ( *with weapon*)
  - Other: \_\_\_\_\_
- Contact Type:
  - Letters/Written
  - Electronic (email, social media)
  - Phone
    - Voice mail
    - Text Message
    - Conversation
  - Physical following
  - Public Statement
  - Face to face/interception with law enforcement
  - Face to face with target
- Thematic Content
  - Help seeking
  - Entitlement/Benefits
  - Religious
  - Threat language
  - Racist
  - Personal safety
  - Justified violence
  - Evidence of target research
  - Political Policy
  - Sexist
  - Harassment/degradation
  - Sexual
  - Personal rights
  - Delusion/Mental illness
  - Other \_\_\_\_\_
- Other Targets
  - Harassing
  - Threatening

Face to face with target's associates

Physical

Other: \_\_\_\_\_

Other: \_\_\_\_\_

**Notes:**

**PREPARATION BEHAVIORS**

Research

Target

Tactics

Means

Reconnaissance

Target

Location

Other: \_\_\_\_\_

Means Preparation

Purchased material/Acquired means

Unauthorized access to weapons

Inappropriate display/carriage of weapons at work, unrelated to job duty

Lethal means of harm identified

Evidence of planning:  suicide  violence

Attempts to bypass security

Rehearsal/Testing

Arranging affairs for end of life

**NOTES:**

**PREVIOUS LAW ENFORCEMENT CONTACTS**

Assault

Suicide concern

Death

Other: \_\_\_\_\_

Stalking

Domestic violence

Kidnapping

Workplace violence

Sexual assault

**NOTES:**