Personality Disorders: Theory, Research, and Treatment
2016, Vol. 7, No. 3, 293–302


1949-2715/16/$12.00 http://dx.doi.org/10.1037/per0000160

# "Impulsive" Suicide Attempts: What Do We Really Mean?

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Suicide attempts are often regarded as impulsive acts. However, there is little consensus regarding the definition or clinical characteristics of an "impulsive" attempt. To clarify this issue, we examined 3 indicators of the impulsivity of an attempt: (a) preparation, (b) time contemplating the attempt, and (c) self-report that impulsivity motivated the attempt. We examined relationships among the indicators and their relationship to trait impulsivity and characteristics of the suicide attempt. Adult participants ($N$ = 205) with a history of suicide attempts were administered validated interviews and questionnaires. In general, the 3 attempt impulsivity indicators correlated only moderately with each other and not at all with trait impulsivity or with important characteristics of the attempt (e.g., lethality, preattempt communication, motivations). However, there were 2 exceptions. First, intent to die was inversely related to the 3 attempt impulsivity indicators ($r$s ranged from −.17 to .45) such that more impulsive attempts were associated with lower intent. Second, self-report that the attempt was motivated by impulsivity was related to 3 facets of trait impulsivity ($r$s ranged from .16 to .41). These findings suggest that individuals endorsing trait impulsivity are likely to describe their attempts as motivated by impulsivity, regardless of the presence of preparation or prolonged contemplation. Overall, study results suggest that the common conception of a unidimensional impulsive attempt may be inaccurate and that the emphasis on general impulsivity in prevention guidelines should be tempered. Implications for suicide risk assessment and prevention are discussed.

*Keywords:* impulsivity, suicide attempt, planning, contemplation, impulsive personality traits



Despite a growing body of suicidology research and increased prevention efforts, rates of suicide have either remained constant or increased in North America and across much of the globe (World Health Organization, 2014). Each year, more than 800,000 people die of suicide worldwide and it is estimated a further 10–20 million people make suicide attempts (World Health Organization, 2014). A key limitation to progress in the field is incomplete or imprecise models of suicide and suicide risk. A particularly prominent yet misunderstood component of those models is the role of impulsivity.

Impulsivity has long been considered important to the etiology and prediction of suicide. It is included in many theories of suicide. For example, Mann, Waternaux, Haas, and Malone (1999, p. 181) present an influential clinical model of suicidal behavior suggesting that impulsivity makes individuals "more likely to act on suicidal feelings." Likewise, Bryan and Rudd (2006, p. 195) state that impulsivity "may actually be a more significant indicator of suicide attempt than the presence of a specific suicide plan." Impulsivity has also widely been adopted as a risk factor for suicide in clinical guidelines. The Centre for Addiction and Mental Health, Canada's largest mental health teaching hospital, includes "impulsive personality" among a short list of suicide risk factors (Centre for Addiction and Mental Health, 2011), as does the United States' Substance Abuse and Mental Health Administration (SAMSHA)'s Quick Guide for Clinicians (SAMSHA, 2013). Prevention organizations also often list a history of "impulsive behavior" and "impulsive tendencies" as a suicide warning sign or risk factor (American Association of Suicidology, 2013; American Foundation for Suicide Prevention, 2014). However, as reviewed below, the empirical support for the role of impulsivity in suicide is complex and inconsistent.

In 2004, Conner issued a call for increased and improved research on impulsive and planned suicidal behavior. In the intervening decade, the research literature has grown, but it remains relatively small and limited by methodological problems. Two clinical assumptions have persisted: (a) impulsive people are more likely to make suicide attempts and (b) attempts themselves may be impulsive.

It is perhaps surprising that research does not consistently support the first assumption. Specifically, trait impulsivity does not strongly nor reliably differ between attempters and nonattempters. In a recent meta-analysis of the relationship between trait impulsivity and suicidal behavior, Anestis, Soberay, Gutierrez, Hernandez, and Joiner (2014) found only a small effect ($g$ = .34) and wide variability. Although some studies find higher trait impulsivity among attempters (Brodsky et al., 2001; Corruble, Damy, & Guelfi, 1999), many find no difference (Oquendo et al., 2000; Swann et al., 2005; Yen et al., 2009). For example, Perroud, Baud, Mouthon, Courtet, and Malafosse (2011) found that trait impulsivity was higher among depressed individuals with attempts than those without, but that there was no difference in trait impulsivity between bipolar individuals with and without attempts. Heterogeneity in the definition of trait impulsivity and the diversity of tools

This article was published Online First December 14, 2015.

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used to measure it may contribute to the incongruous findings (Sharma, Kohl, Morgan, & Clark, 2013; Sharma, Markon, & Clark, 2014). Another possibility is that the relationship between trait impulsivity and suicidal behavior is smaller or less direct than generally assumed. For example, impulsivity may increase chaotic life events and stress and thereby increase the likelihood of suicide ideation, rather than relating directly to attempts. Alternatively, individuals high in trait impulsivity may experience more frequent painful life events (e.g., accidents, fights, drug abuse), which may indirectly increase capacity for suicidal behavior (Bender, Gordon, Bresin, & Joiner, 2011).

It is important to note that the clinical models presented earlier outline a specific role for impulsivity in suicide: that impulsivity facilitates progression from suicide ideation to attempts (Mann et al., 1999). Therefore, attempters should score higher on measures of trait impulsivity than individuals who have considered suicide but never attempted (henceforth referred to as "ideators"). However, most domains of impulsivity do not differentiate suicide ideators and attempters (Brezo et al., 2007). For example, a study of nonclinical samples found that three domains of impulsivity—sensation-seeking, poor perseverance, and negative urgency—were equivalent between ideators and attempters. Only one domain of impulsivity, poor planning (i.e., the inability to think through the consequences of one's actions), was higher in attempters compared with ideators, but the size of the effect was small (Klonsky & May, 2010).

A second line of research has explored whether a suicide attempt itself can be impulsive. One of the primary problems with synthesizing this research is the lack of a consistent conceptual and operational definition of an "impulsive" suicide attempt. Conceptually, many different characteristics of the attempt have been used to index attempt impulsivity. These have included degree of premeditation (Giegling et al., 2009); combination of planning and preparation (Baca-Garcia et al., 2001; Brown, Overholser, Spirito, & Fritz, 1991); time between deciding to attempt suicide and actually attempting (Simon et al., 2001); presence of a plan (Witte et al., 2008); time spent planning the attempt (Wojnar et al., 2009); length of time contemplating the attempt (Spokas, Wenzel, Brown, & Beck, 2012; Wei et al., 2013); and a composite scale that includes items indexing planning, preparation, final acts, preattempt communication, the absence of a note, timing, isolation, and precautions against being interrupted (Baca-Garcia et al., 2005; Nakagawa et al., 2009). In general, each study used just one of these definitions of attempt impulsivity; therefore, it is difficult to make generalizations across studies. A study by Bagge, Littlefield, and Lee (2013) is an exception, having examined three indicators of attempt impulsivity in a single sample (i.e., contemplation, planning, decision to act). Interestingly, although the correlations among the indicators were all positive, they varied greatly in strength from minimal (.20) to high (.76), suggesting these various indicators of attempt impulsivity are not one and the same.

In addition, even when different studies used the same conceptual definition of attempt impulsivity, the operational definition has widely varied. For example, one study defined an impulsive attempt as having been preceded by suicidal thinking of less than 2 hr (Wei et al., 2013) whereas another study defined an attempt as impulsive if it was preceded by suicidal thoughts of less than 7 consecutive days (Conner et al., 2006). Likewise, an attempt has been considered impulsive if the time between deciding to act and acting was anywhere from less than 5 min (Simon et al., 2001) to less than 3 hr (Bagge et al., 2013).

The consequences of inconsistent definitions for impulsive suicide attempts are apparent in two areas: (a) estimates of the prevalence of impulsive attempts and (b) correlates of impulsive attempts. Regarding prevalence, the proportion of attempts estimated to be impulsive has ranged widely, from a low of 20% to a high of 97% (Razin et al., 1991; Witte et al., 2008). Within a single study that described multiple indicators of attempt impulsivity, rates ranged from 43% to 85%, depending on the definition (Bagge et al., 2013).

In addition to prevalence, the reported correlates of impulsive attempts, including demographics, psychiatric diagnoses, and attempt characteristics, have also substantially varied. For example, among studies reporting the relationship between employment and attempt impulsivity, employment was found to be associated with more impulsive attempts (Wei et al., 2013), less impulsive attempts (Wojnar et al., 2009), and to be unrelated to the impulsivity of the attempt (Conner et al., 2006; Nakagawa et al., 2009). Regarding characteristics of the attempt, lower perceived lethality generally appears to be related to less impulsive attempts (Conner et al., 2006; Simon et al., 2001; Spokas, Wenzel, Brown, & Beck, 2012); however, the findings for actual lethality are mixed, with some studies finding impulsive attempts relating to less lethal outcomes (Baca-Garcia et al., 2005; Conner et al., 2006; Nakagawa et al., 2009) and others finding no difference based on impulsivity (Simon et al., 2001; Spokas et al., 2012; Wyder & de Leo, 2007). One of the more consistent findings is the inverse relationship between attempt impulsivity and depression (Baca-Garcia et al., 2005; Bagge et al., 2013; Conner et al., 2006; Simon et al., 2001; Spokas et al., 2012; Wei et al., 2013; Wyder & de Leo, 2007), although some studies do not detect this relationship (Nakagawa et al., 2009; Wojnar et al., 2009). The variability in the prevalence estimates and correlates suggests that different indicators of attempt impulsivity are not indexing the same construct. Importantly, the literature reviewed focused on proximal premeditation (contemplation or planning that happened as an immediate precursor to the attempt) and indexes whether there is a shorter or longer latency from premeditation to attempt. Short proximal premeditation does not preclude the presence of ideation intermittently for weeks, months, or years without the immediate intent to act.

Whereas the studies summarized thus far examined the relation of attempt impulsivity indicators to each other and to clinical correlates, other studies have examined the relationship of attempt impulsivity to personality trait impulsivity. In other words, are impulsive people the ones making impulsive suicide attempts? Strikingly, these studies have yielded counterintuitive findings. Studies of adult attempters find that attempt impulsivity and trait impulsivity are unrelated (Baca-Garcia et al., 2005; Wyder & De Leo, 2007). Furthermore, a large study of adolescents found that those endorsing more impulsive attempts (i.e., not reporting a suicide plan) endorsed fewer impulsive behaviors (e.g., substance use, risky driving behavior, number of sexual partners; Witte et al., 2008). In short, contrary to what may have been expected, there is not a positive relationship between trait impulsivity and attempt impulsivity.

Taken together, the studies described highlight two critical limitations of current knowledge about impulsivity and suicide.

First, when characterizing the role of impulsivity in suicide, there is a clear disconnect between clinical guidelines and empirical research. Although impulsive traits and behaviors are believed to be important to increasing suicide risk, and particularly the likelihood that suicidal ideation will lead to suicide attempts, there is little, if any, evidence to support this conceptualization, and some evidence to contradict it. Second, the field does not yet understand the relationships between different indicators of attempt and trait impulsivity nor their relative importance to suicide risk and theory. The use of different conceptual and operational definitions of attempt impulsivity in different studies has contributed to this lack of understanding.

This article was conceived to clarify the role of impulsivity in suicide by examining multiple possible indicators of attempt impulsivity in relation to themselves as well as to trait impulsivity and key characteristics of suicide attempts in a single episode. The three indicators of attempt impulsivity are (a) preparation for the attempt, (b) time contemplating the attempt, and (c) the degree to which impulsivity played a role in causing the attempt. Three sets of relationships will be examined: (a) how indicators of attempt impulsivity relate to each other, (b) how they relate to trait measures of impulsivity, and (c) how they relate to important characteristics of the suicide attempt itself.

## Method

Suicide attempters with either recent (within the last 3 years) or acute (within the last 14 days) attempts were included in this study. Recent attempters were recruited as part of a larger study on motivations for suicide attempts. The study was advertised on a university campus and with postings throughout the local community. Acute attempters were recruited from three inpatient psychiatric wards of a local hospital. Patients admitted because of a suicide attempt were approached and invited to participate in the study while on the ward.

Potential participants answered screening questions to determine whether their experience fit the study's definition of an attempt. A suicide attempt was defined as "self-inflicted, potentially injurious behavior with a nonfatal outcome for which there is evidence of intent to die" (Silverman, Berman, Sanddal, O'Carroll, & Joiner, 2007). Specifically, they were asked whether they had tried to hurt themselves with at least some intent to die. The attempt was then further assessed with a semistructured interview (see *Measures*). Exclusion criteria included either language or cognitive barriers that prevented completion of the study protocol. Signed informed consent was obtained from all participants. The study was approved by the university's and the hospital's behavioral research ethics boards.

Eligible participants attended a research session in which they completed questionnaires and a semistructured interview. At the end of the session participants were debriefed as to the purpose of the research, positive coping strategies were highlighted as a reminder of healthy ways to manage distress, and current feelings of safety were assessed. Recent attempters were compensated with either extra credit points or $30 and bus fare or parking validation if needed. Acute attempters did not receive compensation.

### Participants

Participants consisted of 205 adults with suicide attempts. Seventy-four percent ($n$ = 151) were undergraduates or outpatients recruited from the community (i.e., recent attempters) and 26% ($n$ = 54) were inpatients recruited at the hospital (i.e., acute attempters). The sample was predominantly female (70%), aged 19–75 years ($Mdn$ = 24, interquartile range [IQR] = 20–37). Regarding ethnicity, 34% identified as of East Asian descent, 36% of European descent, 9% of Indian-South Asian descent, 10% of mixed descent, and 11% of other descents. Twenty-one percent of the sample identified as part of a minority sexual orientation (i.e., bisexual, gay, lesbian, questioning).

Regarding history of suicidality, participants reported onset of suicide ideation in the midteens ($Mdn$ = 15 years, IQR = 13–18) and a median of two lifetime suicide attempts (IQR = 1–4). The most common methods used in the most recent attempt were overdose/poisoning (61%), cutting/stabbing (15%), hanging (5%), and drowning (4%). Among recent attempters, the attempt assessed occurred a mean of 19 months before the study appointment ($SD$ = 12.7) and 50% of participants reported requiring medical attention. Among acute attempters, the attempt assessed occurred a mean of 4 days before the study appointment ($SD$ = 3.6). All presented to the emergency department.

There were no differences between the groups in gender or sexual orientation. Compared with the recent attempters, acute attempters were older ($M$ = 36 years $SD$ = 14 vs. $M$ = 28 years $SD$ = 11), more likely to be Caucasian (50% vs. 31%), and less likely to be East Asian (22% vs. 39%). There were no differences between the recent and acute attempters in their history of suicidality (i.e., number of attempts, age of onset). Acute attempters were more likely to have overdosed rather than used another method (74% vs. 56%).

### Measures

**Measurement of impulsivity.**

***Preparation.*** Item 6 from the Suicide Intent Scale (SIS; Beck, Schuyler, & Herman, 1974) indexed preparation, the first indicator of attempt impulsivity. This item codes the degree of active preparation for the attempt with ratings of 0 (*none*), 1 (*minimal to moderate*), and 2 (*extensive*). Because of the small number of participants with extensive preparation (2%), this item was dichotomized into either the presence or absence of preparation. The SIS is a 15-item interviewer-coded measure of suicide attempt intent in which each item is scored 0–2. The SIS has been shown to have good internal reliability and concurrent validity (Öjehagen, Regnell, & Traskman-Bendz, 1991; Power, Cooke, & Brooks, 1985).

***Contemplation.*** Item 15 from the SIS (Beck et al., 1974) indexed contemplation, the second indicator of attempt impulsivity. Findings from Bagge et al. (2013) suggest that contemplation beginning less than 3 hr before the attempt is an empirically supported cutpoint for an impulsivity indicator. Thus, the item was dichotomized such that ratings of 0 (*none*; *impulsive*) and 1 (*suicide contemplated for ≤3 hr before attempt*) were coded as 0 and ratings of 2 (*suicide contemplated for >3 hr before attempt*) were coded as 1.

***Motivation.*** A scale from the Inventory of Motivations for Suicide Attempts (IMSA; May & Klonsky, 2013) was used to index the degree to which the attempt occurred due to impulsivity,

the third indicator of attempt impulsivity. The scale is referred to as "Impulsive Motivations." The IMSA is a self-report questionnaire assessing the motivations for suicide attempts. It consists of 9 five-item scales as well as nine additional items. Items are rated on 5-point Likert scales ranging from 0 (*not at all important*) to 4 (*most important*) and all begin with the stem "I attempted suicide because . . .". The IMSA has a two-factor structure: Communicative Motivations (two scales; $\alpha = .81$) and Internal Motivations (six scales; $\alpha = .80$). The IMSA Impulsivity scale did not load to criterion on either factor during measure development; thus, it was retained as an independent scale. The Impulsivity subscale included four items, such as "The idea just came to me, I didn't really think about it" and "I acted on impulse." The Impulsivity subscale demonstrated good reliability ($\alpha = .74$).

***Impulsive personality traits.*** The UPPS Impulsive Behavior Scale (UPPS; Whiteside & Lynam, 2001) is a factor-analytically derived self-report measure of four types of impulsive characteristics: Negative Urgency, (Lack of) Perseverance, (Lack of) Premeditation, and Sensation-Seeking. The convergent, discriminant, and predictive validity of the UPPS has been demonstrated (Smith et al., 2007; Whiteside, Lynam, Miller, & Reynolds, 2005). This study used the 16-item short-form, which consists of four items from each impulsivity subscale (available from the authors). The short form was created by selecting the four items from each subscale that had the highest item-total correlations in the original study (Whiteside & Lyman, 2001) and has been used in previous studies of self-injurious behaviors (Glenn & Klonsky, 2010; Klonsky & May, 2010). In the present study, the UPPS subscales demonstrated good reliability ($\alpha$s range from .71 to .80).

**Measurement of other variables.**

***Demographics.*** Standard demographic information such as age, gender, race/ethnicity, and sexual orientation were collected on a self-report form.

***History of suicidality.*** The Suicide History Form (SHF) is a brief self-report measure constructed by our laboratory. Items were based on language from the World Mental Health-2000 Composite International Diagnostic Interview (WMH-CIDI; Kessler & Ustun, 2004), the Self Injurious Thoughts and Behaviors Interview (SITBI; Nock, Holmberg, Photos, & Michel, 2007), and the Suicide Attempt Self Injury Interview (SASII; Linehan, Comtois, Brown, Heard, & Wagner, 2006). Age at first ideation and number of attempts were assessed with language from the SITBI.

***Suicide attempt characteristics.*** Three measures were used to assess details of the most recent suicide attempt. The SASII (Linehan et al., 2006) is a structured interview designed to assess the frequency, method, severity, context, intent, reasons, and outcomes of self-injurious behaviors. It consists of open-ended, forced choice, yes/no, and Likert-rated questions. The validity of SASII items has been established by comparing interview reports with therapist notes, medical records, and coding by expert raters (Linehan et al., 2006). This interview was used to assess preattempt communication or suicide threats, likelihood of interruption during attempt, presence of a suicide note, medical risk of method, and severity of injury incurred. Episodes of nonsuicidal self-injury were not assessed. Second, the SIS (Beck et al., 1974) total score (not including items 6 or 15) quantified participants' level of suicidal intent ($\alpha = .73$). Finally, the IMSA (May & Klonsky, 2013) quantified participants' motivations for attempt.

Data are presented for the combined sample. However, analyses were also completed with the samples independently (tables available from authors). Any differences between recent and acute attempters are noted in the tables and further described in the corresponding results section. First, descriptive statistics were calculated to characterize the sample (see Table 1). Second, independent sample $t$ tests and $\chi^2$ tests were calculated for dichotomous impulsivity indicators (i.e., preparation, contemplation) and Pearson's correlations ($r$), and point-biserial correlations ($r_{pb}$) were calculated for continuous impulsivity indicators (i.e., impulsive motivations) to examine the relationship between each indicator of suicide attempt impulsivity and each variable of interest. For ease of comparison, all effect sizes—regardless of whether the statistical analysis was a $t$ test, $\chi^2$, Pearson correlation, or point-biserial correlation—are reported as (and when necessary were converted to) $r$s. In addition, all models, with one exception, were run controlling for sex, race (white vs. other), and age. No differences were found; thus, bivariate relationships are reported. Relationships between impulsivity indicators and the presence of a suicide note could not be examined by gender because there were too few males who left suicide notes to conduct analyses.

## Results

### Attempt Impulsivity Indicators

First, we examined the endorsement of each impulsivity indicator. Approximately two thirds of participants reported no preparation (67%) and a similar number reported that contemplation of the attempt did not begin until less than 3 hr before the attempt occurred (70%). Regarding identifying impulsivity as a reason the attempt occurred, participants had a mean score of 5.0 ($SD = 3.9$, range = 0–15). The prevalence of impulsivity indicators did not differ between the samples.

Table 1
*Range, Means, and Standard Deviations for Trait Impulsivity and Attempt Characteristics*

| Variable (possible range) | $N$[a] | $M$ ($SD$) or % ($n$) |
|---|---|---|
| UPPS Lack of Premeditation (4–16) | 200 | 9.0 (2.6) |
| UPPS Negative Urgency (4–16) | 199 | 11.6 (2.8) |
| UPPS Sensation-Seeking (4–16) | 200 | 10.1 (3.3) |
| UPPS Lack of Perseverance (4–16) | 195 | 8.4 (2.6) |
| Intent (SIS; 0–26) | 205 | 12.3 (4.7) |
| Note | 205 | 16.0% (32) |
| Likelihood of Intervention (1–5) | 205 | 3.0 (1.1)[b] |
| Preattempt Communication (0–4) | 204 | 0.5 (0.8) |
| Medical Risk of Method (1–6) | 205 | 3.3 (1.4)[c] |
| Physical Condition (0–6) | 205 | 2.7 (1.5)[d] |
| Internal Motivation (0–20) | 159 | 11.8 (3.7) |
| Communication Motivation (0–20) | 168 | 5.1 (4.8) |

[a] Sample sizes vary because of missing data. Specifically, the IMSA was not administered to the first 30 participants in the outpatient sample [b] Mean was significantly lower in acute, $M$ ($SD$) = 2.7 (1.1) compared with recent, $M$ ($SD$) = 3.1 (1.0) attempters. [c] Mean was significantly higher in acute, $M$ ($SD$) = 4.0 (1.1) compared with recent, $M$ ($SD$) = 3.0 (1.3) attempters. [d] Mean was significantly higher in acute, $M$ ($SD$) = 3.3 (1.4) compared with recent, $M$ ($SD$) = 2.4 (1.4) attempters.

Next, relationships among the impulsivity indicators were calculated using $\chi^2$ tests and point-biserial correlations. Contemplation and preparation were moderately related, $\chi^2(1) = 45.40$, $p < .001$, $r = .47$. Impulsive motivations were not correlated with preparation, $r = -.07$, $p = .31$. Impulsive motivations were moderately correlated with less contemplation, $r = -.27$, $p < .001$. One relationship differed in strength between the two samples. Recent attempters displayed a small association between greater impulsive motivations and shorter contemplation ($r_{pb} = -.19$) whereas the acute attempters displayed a stronger relationship ($r = -.49$; $z = 2.1$, $p = .03$).

## Impulsivity Indicators and Trait Impulsivity

Correlations among the four domains of trait impulsivity are reported in Table 2. The relationship between each indicator of attempt impulsivity and four facets of trait impulsivity were observed (see Table 3). Personality traits exhibited the strongest relationship with impulsive attempt motivations.

**Preparation.** Trait impulsivity (i.e., Negative Urgency, Lack of Premeditation, Lack of Perseverance, Sensation-Seeking) was not associated with attempt preparations (*r*s = −.07 to .02).

**Contemplation.** In the full sample, trait impulsivity was not related to the onset of contemplation (*r*s = −.13 to .01). When examined separately, among recent attempters there was no relationship between contemplation and Negative Urgency, $t(147) = 0.85$, $p = .40$, $r = -.07$; the acute sample displayed a small relationship, $t(48) = 2.17$, $p = .04$, $r = -.30$ ($z = 1.4$, $p = .07$).

**Impulsive motivations.** Greater impulsive motivations were associated with greater Negative Urgency ($r = .43$), Lack of Premeditation ($r = .31$), and minimally with Lack of Perseverance ($r = .16$). Sensation-Seeking was not associated with impulsive motivations ($r = .13$).

## Impulsivity Indicators and Trait Impulsivity in Relation to Attempt Characteristics

The relationship between each indicator of attempt impulsivity (i.e., preparation, contemplation, impulsive motivations) and eight characteristics of the attempt were observed (see Table 4). In addition, the relationship between each indicator of trait impulsivity and the eight attempt characteristics was also observed (see Table 5).

**Preparation.** Preparation for a suicide attempt had a moderately strong relationship with intent, such that not preparing for the attempt was associated with weaker intent to die, $t(203) = 7.15$, $p < .001$, $r = .45$. Other indicators of the severity of the attempt, such as the use of less risky methods, $t(203) = 3.71$, $p < .001$, $r = .25$, and less severe physical consequences, $t(203) = 2.12$, $p = .04$, $r = .15$, were also related to the absence of preparation. Lack of preparation for the attempt also had a small relationship with contextual characteristics, such as increased likelihood of intervention during the attempt, $t(203) = -2.98$, $p = .003$, $r = -.21$, decreased likelihood of leaving a note ($\chi^2(1) = 11.71$, $p < .001$, $r = .24$), and decreased internal motivations, $t(157) = 2.40$, $p = .02$, $r = .19$. No relationship was observed between degree of preparation and preattempt communication about suicidality or communicative motivations for the attempt.

When examined separately, recent attempters displayed a small relationship between preparation and risky attempt methods, $t(149) = 3.08$, $p = .002$, $r = .24$, whereas the acute sample displayed a somewhat weaker relationship, $t(52) = 1.10$, $p = .28$, $r = .15$ ($z = 0.6$, $p = .58$). Among recent attempters there was no relationship between preparation and internal motivations, $t(108) = 0.71$, $p = .48$, $r = .07$, whereas the acute sample displayed a moderate relationship, $t(47) = 2.73$, $p = .01$, $r = .37$ ($z = 1.8$, $p = .08$).

**Contemplation.** Contemplating the attempt more than 3 hr before it occurred was moderately associated with greater intent, $t(203) = 5.71$, $p < .001$, $r = .37$. Contemplating the attempt had a small association with two contextual characteristics of the attempt; a shorter duration of contemplation was related to increased likelihood of intervention, $t(203) = -3.86$, $p < .001$, $r = -.26$, and more communicative attempt motivations, $t(166) = -3.49$, $p < .001$, $r = -.26$. There was a weak relationship between longer contemplation and medical risk of method, $t(203) = 2.37$, $p = .02$, $r = .16$, physical condition, $t(203) = 2.20$, $p = .03$, $r = .15$, and internal motivations, $t(157) = 1.77$, $p = .08$, $r = .14$. There was no relationship between contemplation and preattempt communication about suicidality or likelihood of leaving a note.

**Impulsive motivations.** Impulsive attempt motivations were weakly related to lower intent ($r = -.17$). Endorsing impulsive attempt motivations was moderately correlated with greater communicative motivations ($r = .31$). Impulsive attempt motivations appeared to be weakly correlated with greater internal motivations ($r = .15$); however, this was driven by the acute sample ($r = .41$) rather than the recent sample, $r = .02$, $z = 2.5$, $p = .01$. There was no relationship between identifying one's attempt as impulsive and medical risk of method, severity of physical consequences, preattempt communication, presence of a note, or likelihood of intervention.

**Trait impulsivity.** Overall, there was little relationship between trait impulsivity facets and characteristics of the attempt. Higher levels of Negative Urgency, acting rashly in the face of negative emotion, were associated to a small degree with more communicative ($r = .25$) attempt motivations. They were also associated with more internal attempt motivations ($r = .21$), although this was driven by the acute sample ($r = .43$) rather than the recent sample ($r = .09$; $z = 2.10$, $p = .04$). Lack of Premeditation (i.e., giving little thought to the consequences of one's actions) was associated to a small degree with more serious physical consequences to the attempt ($r = .22$) and more communicative motivations ($r = .21$). Lack of Perseverance and Sensation-Seeking were not related to any attempt characteristics.

Table 2
*Intercorrelations Among UPPS Scales*

| Scale | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Negative Urgency | — | | | |
| 2. Lack of Premeditation | .38** | — | | |
| 3. Lack of Perseverance | −.02 | .39** | — | |
| 4. Sensation-Seeking | .07 | .34** | .12 | — |

** $p < .001$.

Table 3
*Tests of Associations Between Impulsivity Indicators and Trait Impulsivity*

| Scale | Preparation | | | | | Contemplation | | | | | Impulsive Motivations | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | None *M* (*SD*) | Minimal-extensive *M* (*SD*) | *t* | *r* | *p* | <3 hr *M* (*SD*) | >3 hr *M* (*SD*) | *t* | *r* | *p* | *r* | *p* |
| Negative Urgency | 11.7 (2.8) | 11.4 (2.7) | −0.52 | −.04 | .60 | 11.8 (2.8) | 11.0 (2.6) | −1.86[a] | −.13 | .07 | .43 | <.001 |
| Lack of Premeditation | 8.9 (2.6) | 9.0 (2.7) | 0.31 | .02 | .76 | 9.1 (2.6) | 8.7 (2.6) | −0.87 | −.06 | .38 | .31 | <.001 |
| Lack of Perseverance | 8.5 (2.6) | 8.3 (2.6) | −0.58 | −.04 | .56 | 8.4 (2.7) | 8.4 (2.4) | 0.10 | .01 | .92 | .16 | .03 |
| Sensation-Seeking | 10.3 (3.4) | 9.8 (3.0) | −1.00 | −.07 | .30 | 10.1 (3.2) | 10.0 (3.3) | −0.13 | −.01 | .90 | .13 | .08 |

*Note.* Analyses were run controlling for sex, race (White vs. non-White), and age and did not differ; thus, bivariate relationships are presented.
[a] Correlations differed between recent and acute attempters. See text for details.

## Discussion

Clinical guidelines highlight the role of impulsivity in increasing suicide risk. Common parlance describes a certain type of attempt as impulsive. However, there is a disconnect between the emphasis on impulsivity in suicide prevention and the state of existing research. First, there is little evidence to suggest trait impulsivity increases the risk of acting on suicidal thoughts. Second, the literature on impulsive attempts has been plagued by definitional and methodological problems, making it hard to draw any conclusions about the existence of a unidimensional impulsive attempt. This avenue of inquiry is important because many people describe minimal premeditation or planning directly before their attempts. This article examined three indicators of attempt impulsivity to better understand whether they reflect a unitary construct (i.e., an impulsive attempt) and to clarify how they relate to impulsive personality traits as well as other attempt characteristics.

Our results suggest that the absence of preparation, minimal contemplation, and impulsive motivations are common. However, they do not all describe the same construct. The lack of cohesiveness is apparent in at least two ways. First, the indicators were not consistently or strongly related to each other. Less time contemplating the suicidal urge was only moderately related to an absence of preparation for the attempt and a stronger belief that the attempt was motivated by impulsivity. Describing one's own attempt as caused by impulsivity did not coincide at all with whether or not preparation preceded the attempt. This result suggests that regardless of whether an individual prepares for an attempt (e.g., researching methods, gathering the means, deciding on a location), he or she is equally likely to describe the attempt as being caused by impulsivity. Preparation, contemplation, and self-reported impulsive attempt motivations do not appear to hang together as a single construct. A prerequisite for studying a phenomenon is the development of reliable and valid operational definitions. Our results suggest that this standard has not yet been met when it comes to identifying an impulsive suicide attempt.

A disconnect also exists between attempt impulsivity and the personality trait of impulsivity. Specifically, two indicators of attempt impulsivity, preparation and contemplation, exhibited negligible associations with measures of trait impulsivity. This is consistent with findings from other studies of attempters recruited from the community (Wyder & De Leo, 2007) and presenting to an emergency department (Baca-Garcia et al., 2005). In neither of the

Table 4
*Tests of Associations Between Impulsivity Indicators and Attempt Characteristics*

| Characteristics | Preparation | | | | | Contemplation | | | | | Impulsive motivations | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | None *M* (*SD*) | Minimal-extensive *M* (*SD*) | *t* | *r* | *p* | <3 hr *M* (*SD*) | >3 hr *M* (*SD*) | *t* | *r* | *p* | *r* | *p* |
| Intent | 11.0 (3.6) | 15.0 (4.1) | 7.15 | .45 | <.001 | 11.3 (3.9) | 14.7 (4.0) | 5.71 | .37 | <.001 | −.17 | .02 |
| Medical risk | 3.0 (1.3) | 3.8 (1.4) | 3.71[a] | .25 | <.001 | 3.1 (1.3) | 3.6 (1.3) | 2.37 | .16 | .02 | .05 | .52 |
| Physical condition | 2.5 (1.4) | 3.0 (1.6) | 2.12 | .15 | .04 | 2.5 (1.5) | 3.0 (1.4) | 2.20 | .15 | .03 | .06 | .36 |
| Likelihood of intervention | 3.2 (1.0) | 2.7 (1.1) | −2.98 | −.21 | .003 | 3.2 (1.0) | 2.6 (1.0) | −3.86 | −.26 | <.001 | .12 | .09 |
| Internal motivations | 11.3 (3.7) | 12.8 (3.4) | 2.40[a] | .19 | .02 | 11.4 (3.6) | 12.5 (3.8) | 1.77 | .14 | .08 | .15[a] | .05 |
| Communicative motivations | 5.2 (4.6) | 5.0 (5.2) | −0.24 | .02 | .81 | 5.9 (4.9) | 3.3 (3.9) | −3.49 | −.26 | <.001 | .31 | <.001 |
| | % (*n*) | % (*n*) | $\chi^2$ | *r* | *p* | % (*n*) | % (*n*) | $\chi^2$ | *r* | *p* | $r_{pb}$ | *p* |
| Preattempt communication | 37% (50) | 38% (26) | 0.04 | .01 | .84 | 36% (51) | 41% (25) | 0.52 | .05 | .47 | −.11 | .12 |
| Note | 10% (13) | 23% (19) | 11.71 | .24 | <.001 | 13% (19) | 21% (13) | 2.14 | .10 | .14 | −.10 | .14 |

*Note.* Analyses were run controlling for sex, race (White vs. non-White), and age and did not differ; thus, bivariate relationships are presented.
[a] Correlation differed between recent and acute attempters. See text for details.

Table 5
*Correlations Between Attempt Characteristics and Trait Impulsivity*

| | Trait Impulsivity | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Negative Urgency | | Lack of Premeditation | | Lack of Perseverance | | Sensation-Seeking | |
| Attempt characteristics | *r* | *p* | *r* | *p* | *r* | *p* | *r* | *p* |
| Severity | | | | | | | | |
| Intent | −.04 | .59 | .08 | .25 | .03 | .66 | −.03 | .72 |
| Medical risk of method | .14 | .05 | .11 | .21 | .03 | .69 | .03 | .70 |
| Physical condition | .04 | .57 | .22 | .002 | .01 | .94 | .08 | .26 |
| Contextual | | | | | | | | |
| Likelihood of intervention | .06 | .41 | .00 | .98 | −.05 | .50 | .13 | .06 |
| Internal motivation | .21[a] | .01 | .03 | .75 | −.11 | .17 | −.04 | .60 |
| Communicative motivation | .25 | .002 | .21 | .007 | −.02 | .78 | .10 | .23 |
| Preattempt communication | −.05 | .46 | −.09 | .19 | −.13 | .08 | −.09 | .21 |
| Note | .00 | .98 | .12 | .10 | −.01 | .95 | .02 | .82 |

*Note.* Analyses were run controlling for sex, race (White vs. non-White), and age and did not differ; thus, bivariate relationships are presented.
[a] Correlations differed between recent and acute attempters. See text for details.



samples was there an association between describing one's personality as impulsive and engaging in what was considered an impulsive suicide attempt. Confidence in the absence of an association is strengthened by the diversity of measures of trait impulsivity used (i.e., a different validated scale was used in each study) and the different operational definitions of impulsive attempt. Likewise, in our study, although participants may have described themselves as impulsive, their self-description was not reflected in their attempt behaviors (e.g., not preparing for the attempts or only considering the attempt directly before it occurred).

Just as attempt preparation and contemplation were minimally related to personality traits, these two indicators also tell us little about other characteristics of the attempt itself. Attempts involving preparation were only weakly associated with characteristics such as riskier methods, the presence of a note, and lower likelihood of intervention. Thus, it would not be uncommon for an attempt with no preparation to use a risky method or to be difficult to interrupt. Likewise, contemplating suicide for more than 3 hr was associated with a lower likelihood of intervention and was less prompted by communication motivations to a small degree, but it was unrelated to other aspects of the attempt. The absence of strong patterns between attempt impulsivity indicators and attempt characteristics further supports the complexity of the idea of an impulsive suicide attempt that is distinguished by a specific set of characteristics of the attempt or the attempter. These findings suggest a need for specificity when assessing and describing suicide attempts rather than labeling any individual attempt characteristic as indicative of whether or not the attempt was impulsive.

An exception to this series of minimal associations was intent, which was consistently and moderately related to two indicators of lower attempt impulsivity (i.e., preparation and contemplation) and somewhat related to less impulsive motivations. This pattern may have occurred in part because the SIS includes items likely to co-occur with preparation and contemplation, such as communication before the attempt, getting one's affairs in order, and precautions against discovery. However, the same pattern occurs when a single self-report item from the SASII is used to assess suicidal intent (analyses available from authors). Thus, the association of less impulsive attempts to greater suicidal intent seems to generalize across measures of attempt impulsivity and suicidal intent.

One explanation for this relationship may be that individuals engaging in impulsive attempts have a weaker wish to die. However, it is important to note that their attempts do not appear to be less deadly. Impulsivity did not consistently correspond with the actual outcomes of attempts; none of the attempt impulsivity indicators were substantially associated with lethality. Thus, it appears that the presence of preparation, extent of contemplation, and degree of impulsive motives give little information about the dangerousness of the attempt. This result is consistent with the existing literature, which finds either a small or nonexistent relationship between attempt impulsivity and actual lethality (Baca-Garcia et al., 2005; Conner et al., 2006; Nakagawa et al., 2009; Simon et al., 2001; Spokas et al., 2012; Wyder & De Leo, 2007). Although attempts marked by impulsivity indicators may be associated with a weaker wish to die, this does not clearly translate to the actual risk of a medically serious attempt. This finding clinically reinforces the importance of treating all attempts seriously, regardless of whether they happened with greater impulsivity or less planning or contemplation.

The third indicator of attempt impulsivity, describing one's attempt as caused by impulsivity, displayed a somewhat different pattern of relationships compared with preparation and contemplation, although comparisons of the findings must be considered in light of the effect of method variance (i.e., self-report vs. interview, four-item scale vs. single-item measures). Impulsive attempt motivations were associated with three facets of trait impulsivity: Negative Urgency, Lack of Premeditation, and to a minimal degree Lack of Perseverance. Participants who describe themselves as acting rashly in the face of emotion, being poor planners, and having difficulty sticking with tasks also tend to describe their attempts as occurring on impulse. However, similar to preparation and contemplation, describing one's attempt as motivated by impulsivity was unrelated to most important attempt characteristics,

such as medical severity. At least regarding suicide attempts, it seems that thinking of oneself or one's actions as impulsive tells us more about self-perception than it does about the behavioral impulsivity of one's actions.

This finding has important assessment and treatment implications. When clinicians hear clients describe attempts as impulsive, they may assume that the attempt occurred without warning. The data suggest this is not necessarily the case and that clinicians are at risk of missing important information about their clients' suicidality history without further follow-up assessment. Clients who report their attempts occurred on impulse and with little forethought may be discounting earlier suicidal thinking or planning. When targeting suicidal thoughts and completing safety plans for the future, clinicians should look for important points of intervention, such as identifying triggers or restricting access to other methods that were considered, even when clients describe their attempts as "spur-of-the-moment decisions." In addition, assessing individual characteristics of suicide attempts independently also gives clinicians important information about the patient's understanding of their suicidal course. For example, if the patient identifies a short window between onset of suicidal thinking and acting on those thoughts, this knowledge can help develop a safety plan that is designed to quickly interrupt the suicidal process.

Domains of impulsive personality were similarly unrelated to attempt characteristics, suggesting that people who describe themselves as impulsive generally do not differ in the actual content of their suicide attempts. However, those who described themselves as acting rashly in the face of emotion or being poor planners did report more communicative motivations for their attempts. These individuals may have difficulty thinking through the consequences of using a suicide attempt as a means of interpersonal communication or help-seeking. Being a poor planner was also associated to a small degree with more serious physical consequences to the attempt.

For the most part, the strength of relationships among key study variables was similar across acute and recent attempters. However, there were some exceptions, which generally followed the same pattern: relationships were moderate in the acute sample versus negligible to small in the recent sample. Specifically, among the acute attempters, negative urgency, preparation, and impulsive attempt motivations were all moderately positively correlated with internal attempt motivations compared with negligible relationships in the recent sample. A similar pattern was observed between contemplation and negative urgency and impulsive attempt motivations.

Because the means and standard deviations of all of the variables involved did not differ between the two groups, the dissimilarity does not seem to be due to range restriction or sampling issues. The discrepancy is more likely due to a reporting effect. For example, the stronger relationship between negative urgency and minimal contemplation in the acute sample may be explained by the brief time between the attempt and study participation. Acute attempters may be drawing on the act of attempting as a key example of how they act in the face of negative emotion. Thus, those who reported a short window between considering and acting on their suicidal thoughts may be more likely to describe themselves as generally reactive to negative emotions. In contrast, attempters more distant from their attempt may draw on a wider array of salient experiences to answer questions about their reactions to negative emotion. Further research is needed to explore this and other possible explanations.

This study has important limitations that suggest directions for future research. Although this analysis was unique in its concurrent examination of multiple indicators of attempt impulsivity within one sample, preparation, contemplation, and impulsive motivations do not capture all of the ways of identifying an attempt as impulsive. Future research may want to explore other variables, such as the frequency of suicide ideation episodes before attempt and the degree of mental rehearsal of the attempt. Results were also limited by the use of some single-item measures. Future research will benefit from the development of scales to more thoroughly assess specific characteristics of attempt impulsivity. Particularly because of the potentially nonlinear development of ideation and plans over an extended period of time, novel measures are needed for a more comprehensive assessment. One recently developed measure, the Time Line Follow Back Interview for Suicide Attempts (TLFB-SA; Bagge, Glenn, & Lee, 2013), captures the 48 hr preceding the attempt in as much detail as possible. Interviews such as the TLFB-SA may help in fully capturing the complexity of the development of suicidal thoughts, plans, and behaviors. Another key focus of future research is the extent to which each facet of impulsivity confers important information about risk for a future attempt, particularly in the near future. For example, what kinds of contemplation or preparation indicate the most acute risk? This question should be the focus of prospective studies, which should take care to incorporate a multidimensional assessment of impulsivity constructs. Finally, a limitation of all work on nonlethal suicide attempts, although an important one to highlight, is that these results may not generalize to suicide deaths.

Overall, the results of this study suggest that the broad concept of an impulsive suicide attempt may not accurate. At least three intuitive indicators of an impulsive attempt occurred to varying degrees within the same sample and co-occurred to only a moderate degree. Furthermore, these attempt impulsivity indicators corresponded weakly, if at all, with most important characteristics of suicide attempts, particularly lethality. Thus, we may need to question the lay assumptions that attempts that are reported to occur on the spur of the moment or with little preparation are reliably different from other attempts. In addition, trait measures of impulsivity were not strongly associated with behavioral indicators of attempt impulsivity, such as preparation or amount of time spent contemplating the attempt. Thus, we may need to reconsider the belief that impulsive people make impulsive attempts. Our findings also suggest further areas for exploration in our standard risk assessment. Degree of preparation is a key aspects of a suicide risk assessment; however, the absence of preparation directly before the attempt may not be as protective of a factor as it is at times assumed to be. Future research, assessment, and clinical guidelines must be precise in the marker of attempt impulsivity being discussed and the way in which the indicator was measured. A more nuanced typology that takes into account several of these individual factors and attempt characteristics at the same time may, in fact, be more helpful in understanding and parsing the diverse landscape of nonfatal suicide attempts than relying on any one individual indicator alone.

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