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Cognitive Distortions and Suicide Attempts

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Abstract

Although theorists have posited that suicidal individuals are more likely than non-suicidal individuals to experience cognitive distortions, little empirical work has examined whether those who recently attempted suicide are more likely to engage in cognitive distortions than those who have not recently attempted suicide. In the present study, 111 participants who attempted suicide in the 30 days prior to participation and 57 psychiatric control participants completed measures of cognitive distortions, depression, and hopelessness. Findings support the hypothesis that individuals who recently attempted suicide are more likely than psychiatric controls to experience cognitive distortions, even when controlling for depression and hopelessness. Fortune telling was the only cognitive distortion uniquely associated with suicide attempt status. However, fortune telling was no longer significantly associated with suicide attempt status when controlling for hopelessness. Findings underscore the importance of directly targeting cognitive distortions when treating individuals at risk for suicide.

Keywords

Suicide Attempts; Cognitive Distortions; Fortune Telling; Hopelessness

Suicide is a major public health problem, accounting for approximately 35,000 deaths each year in the United States alone (Crosby, Ortega, & Melanson, 2011). Suicide attempts occur 8-25 times more frequently than suicides and are robust predictors of completed suicides (e.g., Moscicki, 2001). As such, research focused on identifying vulnerability factors and correlates of suicide attempts is imperative. Although cognitive distortions are thought to play an integral role in the development and maintenance of suicide ideation and behaviors (e.g., Joiner, 2005; Rudd, 2004; Wenzel, Brown, & Beck, 2009), there is a dearth of

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Disclosures

Drs. Jager-Hyman, Cunningham, Wenzel, Mattei, Brown, and Beck declare that they have no conflict of interest. A subset of these data was previously presented at the Annual Association of Behavioral and Cognitive Therapies Convention. All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. The study was approved by the IRB at the University of Pennsylvania. Prior to study participation, informed consent was obtained from all patients for inclusion in the study. No animals were used in this study.

empirical work examining the relation between specific cognitive distortions and suicide attempts.

For decades, theorists have suggested that suicidal individuals are characterized by unique cognitive styles. Specifically, theorists and researchers have posited that suicidal individuals are more likely than non-suicidal individuals to experience cognitive distortions, defined as errors in both cognitive processing and content that result in maladaptive or unhelpful interpretations of incoming stimuli (Alford & Beck, 1997). For example, early research on cognition and suicide found that individuals who attempted suicide are more likely to demonstrate cognitive rigidity, dichotomous thinking, overgeneralization, and selective abstraction relative to psychiatric comparison participants and normal controls (e.g., Neuringer, 1961; Prezant & Neimeyer, 1988). More recently, suicidal individuals have been found to display higher levels of hopelessness (Brown, Jeglic, Henriques, & Beck, 2006), irrational beliefs (Ellis & Ellis, 2006), overgeneral memory (Williams, Barnhofer, Crane, & Duggan, 2006), perfectionism (Hewitt, Flett, Sherry, & Caelian, 2006), and problem-solving deficits (Reinecke, 2006). Finally, several recent influential theories have implicated cognitive distortions in the development and maintenance of suicidal ideation and behaviors (e.g., Joiner, 2005; Rudd, 2004; Wenzel et al., 2009).

Despite the theoretical attention paid to cognitive distortions in suicidal individuals, to our knowledge, only two studies have utilized a case-control design to examine differences in cognitive characteristics between individuals who recently attempted suicide and non-suicidal psychiatric comparison participants. First, Ellis and Ratliff (1986) found that, as compared to psychiatric control participants (n = 20), recent attempters (n = 20) endorsed significantly more dysfunctional attitudes as assessed by the Dysfunctional Attitudes Scale (DAS; Weissman & Beck, 1978) and the Irrational Beliefs Test (IBT; Ellis & Ratliff, 1986). Although the composite IBT score significantly differentiated suicidal and nonsuicidal participants, only one (i.e., emotional irresponsibility) of the measure's 10 scales yielded significant group differences. Second, Jekkel and Tringer (2004) found that individuals who attempted suicide (n = 40) reported the following specific dysfunctional attitudes more frequently than psychiatric controls (n = 40) who did not attempt suicide: the belief that one must always be happy, hopelessness, external locus of control, and anticipation of more negative events in the future.

The extant research examining the relation between cognitive distortions and suicide is hampered by several limitations. First, existing studies have relied on measures of cognitive distortions that focus on distortions common in depression. Although a majority of people who attempt suicide also experience depression, a sizable minority of suicide attempters do not meet criteria for a depressive disorder (American Foundation of Suicide Prevention, 2012). Thus, it is important to examine suicide-relevant cognitive distortions transdiagnostically, where suicidal thoughts and behaviors are common variables rather than a diagnosis of depression. Second, research examining cognitive distortions in suicidal individuals has been largely limited to Caucasian samples. As such, further research is warranted in order to determine if findings generalize to more ethnically diverse samples. Finally, many of the studies examining cognitive distortions in suicide attempters were conducted with notably small samples, resulting in limited power to detect effects. Thus,

investigating the relation between cognitive distortions and suicide attempts in larger samples is an important next step.

The primary aim of the current study was to build upon prior research by examining whether individuals who made recent suicide attempts experience cognitive distortions to a greater degree than psychiatric controls in an ethnically diverse sample. To achieve this aim, the following cognitive distortions that demonstrated adequate reliability were examined in individuals who recently attempted suicide and psychiatric controls: (a) *externalizing of self-worth*, defined as the development and maintenance of self-worth based primarily on others' opinions; (b) *fortune telling*, defined as predicting and firmly believing that negative outcomes will arise from future events; (c) *comparison to others*, defined as the act of negatively comparing oneself to others; (d) *magnification*, defined as the tendency to exaggerate or magnify the importance or consequence of a personal trait or circumstance; (e) *labeling*, defined as applying a fixed or global label on oneself or others (self-labels are generally derogatory); and (f) *arbitrary inference*, defined as drawing negative conclusions in the absence of sufficient evidence to support these conclusions. On the basis of the extant literature, we expected that individuals who recently attempted suicide would score higher than the psychiatric control participants on each cognitive distortion as well as on the global index of cognitive distortions.

Method

Sample and Procedure

A total of 168 participants took part in this study, 111 of whom attempted suicide in the 30 days prior to participation and 57 of whom presented at a psychiatric emergency department (ED) in the absence of a recent suicide attempt (psychiatric control participants). The mean age of participants was 39.81 years (SD = 11.14, range = 18-69). Of the 168 patients, 90 (44%) were female. Sixty-three percent (n = 105) of participants identified as African American, 29% (n = 48) identified as Caucasian, 4% (n = 6) identified as Native American or Alaskan Native, 2% (n = 4) identified as Hispanic or Latino, and the remaining 3% (n = 5) did not specify a specific ethnicity. The majority of participants (69%, n = 115) were single (i.e., separated, divorced, widowed, or never married) and reported annual incomes of less than $20,000 (83%, n = 140). Individuals who recently attempted suicide and psychiatric controls did not differ with regard to sex, $\chi^2(2) = .11$, education, $\chi^2(5) = 1.35$, income, $\chi^2(12) = .15.87$, or marital status, $\chi^2(2) = 4.31$. However, the psychiatric control group was significantly older than those who recently attempted suicide, $t(161) = 2.52$, $p = .013$.

All participants were recruited from emergency departments or psychiatric inpatient units in the Philadelphia area. To be included in the group of participants who made recent suicide attempts, participants were required to report a suicide attempt warranting medical or psychiatric attention within 30 days prior to the study assessment. Inclusion criteria for psychiatric controls consisted of: (a) a psychiatric inpatient admission within 30 days prior to study assessment; and (b) the absence of a suicide attempt in the previous two years. Additional inclusion criteria for both groups consisted of: (a) age 18 or older; (b) ability to

speak English; and (c) absence of acute psychosis or cognitive impairment, as well as the ability to comprehend and provide informed consent.

Written informed consent was obtained from all participants and participants received $25 compensation for their participation. Assessments were conducted by doctoral- or master's-level interviewers. The study was approved by the Institutional Review Board at the University of Pennsylvania.

Measures

The *Inventory of Cognitive Distortions* (ICD; Yurica, 2002), a 69-item self-report questionnaire designed for use in transdiagnostic clinical populations, was used to assess cognitive distortions. The ICD contains the following 11 scales, each tapping a distinct cognitive distortion: (a) externalizing of self-worth (e.g., “I need others to approve of me in order to feel that I am worth something”), (b) fortune telling (e.g., “I act as if I have a crystal ball forecasting negative events in my life”), (c) perfectionism (e.g., “It is important to strive for perfection in everything I do”), (d) comparison to others (e.g., “Most people are better at things than I am”), (e) emotional reasoning (e.g., “My feelings are an accurate reflection of the way things really are”), (f) magnification (e.g., “I blow things out of proportion”), (g) labeling (“I call myself negative names”), (h) emotional decision making (e.g., “I go with my gut feeling when deciding something”), (i) arbitrary inference (e.g., “I jump to conclusions without considering alternative points of view”), (j) minimization (“I underestimate the seriousness of situations”), and (k) mind-reading (e.g., “I believe I know how someone feels about me without him/her ever saying so”). Each item is rated on a likert scale from 1 (“never”) to 5 (“always”), with total scores ranging from 69 to 345. This measure has demonstrated sound psychometric properties in several unpublished studies of both psychiatric and non-psychiatric samples. In the present study, internal consistency reliability of the ICD as a whole was excellent ($\alpha = .96$). Internal consistency for the individual scales ranged from poor (emotional decision making,$\alpha = .48$) to excellent (externalization of self-worth, $\alpha = .90$). Only subscales with alphas above .70 were included in subsequent analyses, thus precluding the examination of emotional decision making, emotional reasoning, minimization, mind-reading, and perfectionism scales. The ICD has also demonstrated strong concurrent validity with measures of dysfunctional attitudes and correlates positively with measures of depression and anxiety (Yurica, 2002).

The *Beck Depression Inventory-II* (BDI; Beck, Steer, & Brown, 1996), a 21-item self-report questionnaire, was used to assess depressive symptomatology. For each item, participants chose one of four statements describing a particular symptom of depression. In order to avoid confounding the measure with the outcome of interest (i.e., suicide attempts), we removed the BDI item assessing suicide ideation from the total score. Thus, BDI scores ranged from 0 to 60 in the present study, with higher scores indicating greater severity of depressive symptoms. The BDI has demonstrated strong convergent validity with other measures of depression, as well as high internal consistency ($\alpha > .90$), construct validity, and test-retest reliability (Steer & Beck, 2000). In the present study, internal consistency of the BDI was high ($\alpha = .93$).

The *Beck Hopelessness Scale* (BHS; Beck & Steer, 1988) is a self-report measure consisting of 20 true-false statements designed to assess beliefs about the future. Total scores, ranging from 0-20, are calculated by summing the pessimistic responses for each of the 20 items. The BHS has demonstrated high internal reliability (Kuder-Richardson reliabilities = .87-.93; Beck & Steer, 1988) in both clinical and nonclinical populations, as well as moderate to high concurrent validity with clinical ratings of hopelessness. Moreover, the BHS has demonstrated predictive validity and has been established as an important risk factor for suicide attempts in prospective studies (e.g., Brown, Beck, Steer, & Grisham, 2000). Internal consistency of the BHS was strong (α = .92) in the present study.

Results

Preliminary Analyses

Individuals who recently attempted suicide scored significantly higher on the BDI (Attempters M = 25.92, SD = 12.12, Psychiatric Controls M = 19.2, SD = 12.16, $t(165)$ = 3.32, p = .001) and BHS (Attempters M = 10.54, SD = 6.19, Psychiatric Controls M = 6.75, SD = 5.12, $t(164)$ = 3.93, p <.001) than individuals in the psychiatric control group. In addition, participants who made recent suicide attempts scored significantly higher than psychiatric controls on the following ICD subscales: externalization of self-worth (Attempters M = 46.27, SD = 10.38, Psychiatric Controls M = 40.40, SD = 12.66, $t(146)$ = 3.06, p = .003), fortune telling (Attempters M = 34.35, SD = 7.10, Psychiatric Controls M = 29.44, SD = 8.90, $t(146)$ = 3.70, p < .001), labeling (Attempters M = 15.58, SD = 4.29, Psychiatric Controls M = 13.85, SD = 3.68, $t(146)$ = 2.49, p = .014), and comparison to others (Attempters M = 12.32, SD = 3.27, Psychiatric Controls M = 10.85, SD = 3.27, $t(146)$ = 2.70, p = .008).

Primary Analyses

To examine whether the ICD and its subscales predicted group membership (suicide attempters and psychiatric controls), we conducted a hierarchical logistic regression analysis. First, because there were significant group differences with regard to age and depressive symptoms, we entered these variables as covariates in Step 1 of the analysis. We then entered the total ICD score as the predictor variable in Step 2 with group status as the criterion variable. Consistent with our hypotheses, cognitive distortions significantly predicted group membership above and beyond the effect of depressive symptoms and age such that individuals who scored higher on the ICD were more likely to be attempters than psychiatric controls (see Table 1).

Next, in order to determine the unique contribution of each ICD scale over and above the effects of age and depressive symptomatology, we entered age and BDI in Step 1 of a binary logistic regression analysis, followed by each of the ICD scales in Step 2 with group membership as the criterion variable (see Table 2). Of the specific cognitive distortions examined, only fortune telling significantly predicted group membership when controlling for depression and age.[1]

Finally, to determine the unique contribution of each ICD scale beyond the effects of hopelessness in addition to age and depression, we repeated the above analyses controlling for all three variables. Consistent with hypotheses, the total ICD score remained significant even when hopelessness was included in the regression model ($\beta(1)=.01$, $p=.04$). However, none of the ICD subscales were significantly associated with suicide attempts when hopelessness was included in the equation.

Discussion

Consistent with the extant literature, findings from the current study support the conjecture that individuals who recently attempted suicide are more likely than psychiatric controls to endorse thinking styles characterized by cognitive distortions. The association between cognitive distortions and suicide attempt status remained significant when controlling for depressive symptomatology and hopelessness, suggesting that the cognitive distortions examined were uniquely associated with suicide attempt status above and beyond the contribution of depressive symptoms and hopelessness. This finding has important clinical implications and is consistent with the assertion that it is imperative to treat suicide-relevant cognitions directly rather than treating depression in an effort to indirectly reduce suicidal thinking (e.g., Wenzel & Jager-Hyman, 2012). In addition, although hopelessness is an important predictor of suicide attempts, these findings suggest that cognitive distortions are uniquely related to suicide attempt status and this relationship is not better accounted for by the effects of hopelessness.

In contrast to our hypothesis, fortune telling was the only cognitive distortion to uniquely predict suicide attempt status. To our knowledge, this study is the first to examine fortune telling in relation to suicide attempts. Akin to catastrophizing, fortune telling refers to predicting negative outcomes in the future without considering other, more probable outcomes. It is important to note, however, that fortune telling was no longer significantly associated with suicide attempt status when controlling for hopelessness. A potential explanation for this finding is that fortune telling and hopelessness may be overlapping constructs. Specifically, both fortune telling and hopelessness involve the belief that negative outcomes will occur in the future. In the current study, these two constructs were strongly, but not perfectly, correlated ($r = .41$). It is possible that fortune telling may represent one specific component of hopelessness. These findings underscore the importance of directly targeting hopelessness in clinical interventions for suicide prevention. Specifically, cognitive work focused on evaluating the belief that negative outcomes will inevitably occur and entertaining potential alternative outcomes may be important in decreasing hopelessness, increasing engagement in coping strategies, and in turn, decreasing suicidal ideation and behaviors.

The remaining cognitive distortions examined (i.e., externalization of self-worth, arbitrary influence, magnification, labeling, and comparison to others) were not significant predictors of suicide attempt status when fortune telling, hopelessness, and depression were included in

[1]Results did not differ when depression and age were not included as covariates. That is, fortune telling remained the only significant subscale in the prediction of group membership when the analysis was rerun excluding BDI scores and age as covariates.

the regression model. One explanation for this finding is that these cognitive distortions are all significantly correlated with one another. Although multicollinearity was ruled out, it is possible that the shared variance between these subscales precluded the ability to establish individual subscales as *unique* predictors of suicide attempt status.

Several strengths of the current study are worth noting. First, in contrast to previous work examining the relation between cognitive distortions and suicide, our sample was relatively large and ethnically diverse. Results confirm that the previously established finding that cognitive distortions are more common among individuals who attempt suicide than psychiatric controls extends to ethnically diverse samples. Second, to our knowledge, this study was the first to use the ICD to measure cognitive distortions in individuals who made recent suicide attempts. In contrast to other measures of cognitive distortions (e.g., Dysfunctional Attitudes Scale [Weissman & Beck, 1978]), the ICD was designed to assess transdiagnostic cognitive distortions rather than cognitive distortions specifically associated with depression. In addition, individuals were recruited for participation based on the presence or absence of a recent suicide attempt, rather than based on diagnostic categories. In recognizing the heterogeneity of the population of suicidal individuals, this transdiagnostic approach is important for increasing the generalizability of the understanding of suicidal thoughts and behaviors.

Despite these strengths, the current study has several limitations to keep in mind when interpreting the results. First, weak reliability precluded the examination of specific cognitive distortions, including perfectionism, which has been implicated in the literature. Although we were unable to determine whether these specific distortions were uniquely associated with individuals who made suicide attempts, the items assessing these distortions were included in the total ICD score, which was associated with individuals who made suicide attempts relative to psychiatric controls. Next, as mentioned previously, although multicollinearity was not suspected, our results may have been affected by the significant correlations between several subscales. Future research may benefit from larger samples allowing for a principal component analytical approach in order to consolidate the subscales and reduce the number of variables in examining cognitive distortions in individuals who attempt suicide.

In addition, this study compared individuals who made a recent suicide attempt with psychiatric control participants who had not made an attempt in the previous two years. This decision was made to ensure that all participants were recruited from a similar source and that all participants endorsed some degree of psychiatric symptoms. However, it is recommended that future researchers replicate this study with a “cleaner” control group of participants with no lifetime history of suicide attempts. Additionally, as diagnostic interviews were not administered, we are unable to confirm whether the two participant groups differed diagnostically.

It is also important to note that, given the cross-sectional nature of the study, the temporal relationships between the variables of interest cannot be confirmed. Although it is quite possible that cognitive distortions confer risk for suicidal thinking and behavior, it is also possible that suicide attempts may precede cognitive distortions. Prospective studies are

needed to confirm the temporal relationship between cognitive distortion and suicidal thoughts and behaviors.

In sum, the main finding from this study is that, even when controlling for depression, individuals who recently attempted suicide were more likely to engage in thinking characterized by cognitive distortions relative to psychiatric control participants. In particular, individuals who attempted suicide were more likely than psychiatric controls to engage in fortune telling. Clinically, these findings suggest the importance of addressing the tendency to engage in cognitive distortions, particularly catastrophizing, in an effort to reduce suicidal thoughts and behaviors.

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References

American Foundation for Suicide Prevention. Depression and Suicide Prevention. 2013. Retrieved from http://www.afsp.org/index.cfm?fuseaction=home.viewPage&page_id=050CDCA2-C158-FBAC-16ACCE9DC8B7026C

Alford, BA.; Beck, AT. The integrative power of cognitive therapy. Guilford Press; New York, NY: 1997.

Beck, AT.; Steer, RA. Manual for the Beck Hopelessness Scale. Psychological Corp.; San Antonio, TX: 1988.

Beck, AT.; Steer, RA.; Brown, GK. Manual for the BDI-II. The Psychological Corporation; San Antonio, TX: 1996.

Brown GK, Beck AT, Steer RA, Grisham JR. Risk factors for suicide in psychiatric outpatients: A 20-year prospective study. Journal of Consulting and Clinical Psychology. 2000; 68:371–377. [PubMed: 10883553]

Brown, GK.; Jeglic, E.; Henriques, GR.; Beck, AT. Cognitive therapy, cognition, and suicidal behavior.. In: Ellis, TE., editor. Cognition and suicide: Theory, research, and therapy. American Psychological Association; Washington, DC: 2006. p. 53-74.

Crosby, AE.; Ortega, L.; Melanson, C. Self-directed violence surveillance: Uniform definitions and recommended data elements. Center for Disease Control and Prevention; Atlanta, GA: 2011.

Ellis, A.; Ellis, TE. Suicide from the perspective of rational emotive behavior therapy.. In: Ellis, TE., editor. Cognition and suicide: Theory, research, and therapy. American Psychological Association; Washington, DC: 2006. p. 75-90.

Ellis TE, Ratliff KG. Cognitive characteristics of suicidal and nonsuicidal psychiatric inpatients. Cognitive Therapy and Research. 1986; 10:625–634.

Hewitt, PL.; Flett, GL.; Sherry, SB.; Caelian, C. Trait perfectionism dimensions and suicidal behavior.. In: Ellis, TE., editor. Cognition and suicide: Theory, research, and therapy. American Psychological Association; Washington, DC: 2006. p. 215-236.

Jekkel E, Tringer L. Suicide and cognitive distortions. Horizons of Psychology. 2004; 13:139–150.

Joiner, TE. Why people die by suicide. Harvard University; Cambridge, MA: 2005.

Moscicki EK. Epidemiology of completed and attempted suicide: Toward a framework for prevention. Clinical Neuroscience Research. 2001; 1:310–323.

Neuringer C. Dichotomous evaluations in suicidal individuals. Journal of Consulting Psychology. 1961; 25:445–449. [PubMed: 14479241]

Prezant DW, Neimeyer RA. Cognitive predictors of depression and suicide ideation. Suicide and Life-Threatening Behavior. 1988; 18:259–264. [PubMed: 3188141]

Reinecke, MA. Problem solving: A conceptual approach to suicidality and psychotherapy.. In: Ellis, TE., editor. Cognition and suicide: Theory, research, and therapy. American Psychological Association; Washington, DC: 2006. p. 237-260.

Rudd MD. Cognitive therapy for suicidality: An integrative, comprehensive and practical approach to conceptualization. Journal of Contemporary Psychotherapy. 2004; 34:59–72.

Steer, RA.; Beck, AT. The Beck Depression Inventory–II.. In: Craighead, WE.; Nemeroff, CB., editors. The Corsini encyclopedia of psychology and behavioral science. 3rd ed.. Vol. 1. John Wiley; New York: 2000. p. 178-179.

Weissman, AN.; Beck, AT. Development and validation of the Dysfunctional Attitudes Scale: A preliminary investigation.. Paper presented at the meeting of the American Educational Research Association; Toronto. 1978.

Wenzel, A.; Brown, GK.; Beck, AT. Cognitive therapy for suicidal patients: Scientific and clinical applications. APA Books; Washington, DC: 2009.

Wenzel A, Jager-Hyman S. Cognitive Therapy for Suicidal Patients: Current Status. the Behavior Therapist. 2012; 35:121–130.

Williams, JMG.; Barnhofer, T.; Crane, C.; Duggan, DS. The role of overgeneral memory in suicidality.. In: Ellis, TE., editor. Cognition and suicide: Theory, research, and therapy. American Psychological Association; Washington, DC: 2006. p. 173-192.

Yurica, CL. Unpublished doctoral dissertation. Philadelphia College of Osteopathic Medicine; Pennsylvania: 2002. Inventory of cognitive distortions: Development and validation of a psychometric test for the measurement of cognitive distortions..

Table 1

Summary of Logistic Regression Analysis of Cognitive Distortions Predicting Suicide Attempt Status, Controlling for Age and Depressive Symptoms

Predictor	B	SE	Wald	*p* Value	OR	Lower CI	Upper CI
Step 1							
Age	−.05	.02	7.79	.01	.95	.92	.99
BDI Total Score	.03	.02	3.70	.06	1.03	.10	1.07
Step 2							
Total ICD Score	.01	.01	4.01	.04	1.01	1	1.02

Note. BDI = Beck Depression Inventory; ICD = Inventory of Cognitive Distortions; SE = Standard Error; OR = Odds Ratio; CI = Confidence Interval.

Table 2

Summary of Logistic Regression Analysis of Specific Cognitive Distortions Predicting Suicide Attempt Status, Controlling for Age and Depressive Symptoms

Predictor	B	SE	Wald	OR	*p* Value	Lower CI	Upper CI
Step 1							
Age	−.06	.02	8.16	.95	<.01	.91	.98
BDI Total Score	.02	.02	1.21	1.02	.27	.98	1.06
Step 2							
ICD Subscales							
Externalization of Self- Worth	.04	.04	1.48	1.04	.22	.97	1.12
Fortune Telling	.10	.05	4.55	1.10	.03	1.01	1.20
Magnification	−.08	.06	2.87	.92	.17	.82	1.04
Labeling	−.02	.07	.10	.10	.76	.89	1.18
Comparison	−.06	.10	.33	.97	.56	.78	1.15
Arbitrary Influence	−.10	.10	.93	.94	.36	.74	1.11

Note. BDI = Beck Depression Inventory; ICD = Inventory of Cognitive Distortions; SE = Standard Error; OR = Odds Ratio; CI = Confidence Interval.