

PERCEIVED BURDENSOMENESS AND SUICIDALITY: TWO STUDIES ON THE SUICIDE NOTES OF THOSE ATTEMPTING AND THOSE COMPLETING SUICIDE

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From an evolutionary-psychological perspective, it has been argued that a *sense of burdensomeness toward kin* may erode self-preservation motives, which in turn, fosters suicidality. We reasoned that if this were so, perceived burdensomeness should specifically characterize those who complete suicide, even as compared to those who attempt suicide, whereas other dimensions (e.g., hopelessness, emotional pain) may not differentiate completers from attempters. Moreover, we predicted that perceived burdensomeness may be related to more lethal means of suicide among those who complete suicide. Two samples of suicide notes were rated on dimensions of burdensomeness, desire to control one's own feelings, desire to control others, emotional pain, and hopelessness. Perceived burdensomeness significantly correlated with completer status and with more lethal means of suicide, even controlling for other relevant dimensions. The other dimensions, in contrast, did not significantly correlate with suicide completion or with lethality of method. The possibility that perceived burdensomeness is a relatively specific feature of completed suicide deserves continued study.

Durkheim (1897) reified the notion of altruistically motivated suicide (i.e., self-sacrifice for the greater good among those deeply connected to

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their society), which notion has existed since antiquity (e.g., Sparta's Lycurgus exacted the promise that the people would maintain his laws until his return, then departed to Delphi, where he starved himself to death and thus delayed his return indefinitely). The concept is of contemporary relevance as well—as one example, Blake (1978) found that cohesiveness of combat unit predicted altruistic suicide in combat (e.g., intentionally falling on a grenade) among those awarded the U.S. Congressional Medal of Honor.

The topic is also relevant in light of evolutionary-psychological thought on suicide. DeCatanzaro (e.g., 1991, 1995) has argued that a *sense of burdensomeness toward kin* may erode self-preservational motives, which in turn, fosters suicidality.¹ This model thus suggests that perceived liability to one's relatives is a precursor of completed suicide. Using different approaches, studies by DeCatanzaro (1995) and Brown, Dahlen, Mills, Rick, and Biblarz (1999) obtained predicted correlations between perceived burdensomeness toward family, reproductive status, and suicidal symptoms, within several different samples (e.g., undergraduates, community participants, psychiatric participants).

A relation between perceived burdensomeness and suicidality, while consistent with an evolutionary-psychological view of suicide, does not necessitate that evolutionary processes operated in such a way as to select this association. Indeed, a burdensomeness conceptualization of suicide may be explained in other theoretical terms, such as a combination of Cialdini et al.'s (1987) negative state model and Shneidman's (1957; 1961) catalogical error. Briefly, Cialdini et al. posit that people help others in order to counteract their own negative affective state (e.g., feeling like a burden to loved ones). Shneidman notes, however, that although individuals may view suicide as a means of producing a desired effect on their environment (e.g., lessening the burden on others to improve their own affect), they will not be alive to experience the intended benefits of this action. He refers to this erroneous cognitive process as a catalogical error, and argues that it may lead distressed individuals to act upon suicidal ideations. Such interpersonal and cognitive explanations of suicide do not invoke evolutionary theory, even though they may be consistent with it.

Nevertheless, we adopt an evolutionary-psychological framework in the present study as one means of conceptualizing the relationship be-

1. We would like to be very clear from the outset that we are *not* arguing that suicide is in any way desirable (indeed, we have worked hard to reduce it; e.g., Rudd et al., 1996; Rudd, Joiner, & Rajab, 2000). The desirability of a behavior can be (and in this case, is) a separate question from possible evolutionary pressures on a behavior.

tween burdensomeness and suicide. We do so recognizing that competing theoretical models may be advanced. Further, we encourage the development of alternative models and hope that competing models may be tested against one another empirically.

As described earlier, empirical work demonstrates an association between burdensomeness and suicide. However, this relation between burdensomeness and suicidality is not particularly compelling, for at least two reasons. First, a sense of burdensomeness may be highly correlated with other variables (e.g., hopelessness, generalized emotional pain, interpersonal anger, etc.), themselves correlates of suicidality. It is thus possible that a sense of burdensomeness is related to suicidality merely because it is related to these other variables. If so, burdensomeness would not play any special role in suicidality (which it does according to the evolutionary-psychological account). Second, many people experience suicidal symptoms (Paykel, Myers, Lindenthal, & Tanner, 1974), but a relatively small subset of those experiencing symptoms actually attempt suicide, and fewer still complete suicide. If the evolutionary-psychological view has merit, the relation of completed suicide to sense of burdensomeness should exceed the relation between non-fatal suicidality and sense of burdensomeness.

Therefore, a compelling test of the evolutionary-psychological view would involve the following parameters: (a) those who completed suicide would be compared to those who attempted suicide; (b) the comparison would involve not only perceived burdensomeness, but would also involve related issues of hopelessness, general emotional pain, interpersonal anger, and the like; and (c) the result would be that completers differ from attempters on the dimension of burdensomeness, but not on other dimensions. The comparison to the dimensions of hopelessness, general emotional pain, and interpersonal feelings (e.g., crying out to others, controlling others) is particularly important, insofar as Beck (e.g., Beck, Brown, Berchick, & Stewart, 1990), Shneidman (1985), and Linehan (1993) have characterized them as key commonalities of completed suicide.

Although not on completed suicide, a study by Brown, Linehan, and Comtois (2002) possessed many of these compelling features, and provided results consistent with the view suggested here. Specifically, these authors reported that genuine suicide attempts were often characterized by a desire to make others better off, whereas non-suicidal self-injury was often characterized by desires to express anger or punish oneself (see also Bancroft, Skrimshire, & Simkin, 1976). Persuasive parameters of the study were that suicide attempters were compared to a compelling control group (those engaging in non-suicidal self-injury), and that

burdensomeness was compared to other relevant dimensions, such as anger expression and self-punishment.

But how to conduct a similar study regarding completed suicide? One possibility is to compare the suicide notes left by those who completed versus those who attempted suicide. If a sense of burdensomeness is particularly characteristic of those who complete versus those who attempt suicide, even as compared to other emotional and interpersonal dimensions, this may be reflected in suicide notes. Similarly, perceived burdensomeness may be associated with lethality of means of suicide among those who complete suicide.

Several previous studies have examined the suicide notes left by those who completed versus those who attempted suicide (but none have addressed the specific questions framed here). Leenaars et al. (1992) found no differences between those completing and those attempting suicides regarding eight areas (i.e., unbearable pain, interpersonal relations, rejection-aggression, inability to adjust, indirect expressions, identification-ego, and cognitive constriction). As a general rule, blind raters (even if experienced) have difficulty discerning the notes of attempters versus completers (Black & Lester, 1995 found that raters were unable to distinguish between completers and attempters at a level better than chance; see also O'Donnell, Farmer, & Catalan, 1993), and few variables from notes appear to reliably distinguish completers from attempters (see Brevard, Lester, & Yang, 1990). Other studies of suicide notes (but which did not compare completers and attempters) were provided by Leenaars (1987), Lester (1997), and Lester and Linn (1997).

The present studies involved two archives of suicide notes. In Study 1, we rated a sample of 40 suicide notes (half left by completers; half, by attempters) on the following dimensions: (a) sense of burdensomeness; (b) hopelessness; (c) view that suicide would help control the note-writer's negative emotions; (d) view that suicide would help regulate the note writer's interpersonal relations; and (e) sense of general emotional pain. Our hypothesis was that sense of burdensomeness toward loved ones would characterize completers more so than attempters, whereas on the other dimensions, completers and attempters would not differ. (In Study 2, described later, we relate perceived burdensomeness to lethality of means of completed suicide).

Hence, we investigated a modified version of the burdensomeness theory, in that we examined a sense of burdensomeness toward loved ones in general rather than toward biological kin per se. Nevertheless, notes also were rated on the dimension of perceived burdensomeness *toward biological kin*, in addition to perceived burdensomeness in general. Correlational results, presented later, were very similar for these two dimensions, with the exception that inter-rater reliability was low for the

dimension of perceived burdensomeness toward kin (probably because it was at times difficult to discern from notes who and who was not biological kin). Because of this issue, we present only the results on perceived burdensomeness in general, but we reiterate that results using perceived burdensomeness toward kin appeared quite similar.

STUDY 1

METHOD

SAMPLE OF SUICIDE NOTES

Samples of 20 suicide notes written by those who attempted suicide, and 20 suicide notes written by those who completed suicide, were collected within one community in the southwestern United States. The notes from attempted suicides were a consecutive series of notes found by police officers and other official personnel in contact with the attempters. Notes from completed suicides were obtained from consecutive files of deaths under investigation in a police department.²

Completers consisted of 13 men and seven women; attempters, of eight men and 12 women. The difference in proportion of women versus men in the completer versus attempter group approached statistical significance (chi-square [$df = 1$] = 3.64, $p = .056$); gender thus will be controlled in our statistical analyses. This gender difference, incidentally, mirrors the well-established finding that men are more likely than women to complete suicide, whereas women are more likely than men to attempt but not complete suicide (e.g., Fremouw, Perczel, & Ellis, 1990). Average age for completers (37.4, $SD = 14.33$) did not statistically differ from average age for attempters (35.8, $SD = 16.73$; $t[38] = 0.32$), and age will therefore be excluded from further analyses. Means of suicide were as follows: gunshot ($n = 14$); poisoning/overdose ($n = 10$); hanging ($n = 5$); electrocution ($n = 2$); cutting ($n = 2$); suffocation ($n = 2$); and fall under vehicle ($n = 1$). The method of attempt was unknown in six cases.

A dichotomous variable reflecting lethality was created (1 = relatively lower lethality; 2 = relatively higher lethality). Gunshot, hanging, fall under vehicle, and electrocution were viewed as relatively higher in

2. These notes are the same as those discussed by Brevard and Lester (1991). The goals, findings, and conclusions of the present study differ significantly from those of the Brevard and Lester study.

lethality than poisoning/overdose, cuts, and suffocation. This classification scheme is similar to those used in past work (e.g., Card, 1974).

RATINGS ON DIMENSIONS

Three raters (two clinical psychology graduate students and one advanced undergraduate psychology student), initially blind to the hypotheses of the present study and blind to whether notes were from completers or attempters, read each note in its entirety. The raters were told that the project was a study of suicide notes. Raters were truly blind—the study's topic had never been addressed or discussed in the particular setting of the project; and, during the time period when ratings were done, only the first author (who was not a rater) knew the true motivation for the study. The notes were presented in random order, with identifying information such as age and gender of the note writer removed. Thus, the only materials available to raters were the notes themselves, as well as rating scales, described next.

Each student rated each of the 40 notes on five dimensions. A question regarding sense of burdensomeness in general was To what degree does the passage imply the idea 'my loved ones will be better off when I'm gone'? A question regarding the extent to which suicide would help regulate emotion read, To what degree does the passage imply the idea 'suicide will help me control or affect my own negative feelings'? A question regarding the extent to which suicide would help regulate interpersonal relations read, To what degree does the passage imply the idea 'suicide will help me control or affect other people'? A question regarding general emotional pain read, To what degree does the passage convey a general sense of emotional pain? A question regarding hopelessness read, To what degree does the passage convey a general sense of hopelessness?

These questions were rated by the judges on the following scale: 1 = not at all, 2 = a little, 3 = moderately, 4 = a lot, 5 = very much. We followed the recommendations of Nunnally and Bernstein (1994, pp. 274-278) regarding the evaluation of inter-rater reliability using Hoyt's method. The reliability coefficients for all dimensions exceeded .70. No one judge substantially detracted from inter-rater agreement; accordingly, judges' ratings were averaged per each of the rated dimensions.

DATA-ANALYTIC APPROACH

We computed zero-order correlations between the dimensions and a variable reflecting attempter versus completer status, as well as partial

TABLE 1. Study 1: Means Standard Deviations of, and Intercorrelations between, All Measures

	1	2	3	4	5	6	7	8
1. Completer Status	—	—	—	—	—	—	—	—
2. Better off gone	.33*	2.01 (1.37)	—	—	—	—	—	—
3. Control Feelings	-.13	.09	3.18 (1.17)	—	—	—	—	—
4. Control People	.15	.07	.09	1.78 (1.21)	—	—	—	—
5. Emotional Pain	-.14	.03	.71*	.18	3.14 (1.15)	—	—	—
6. Hopelessness	-.10	.08	.54*	.16	.58*	3.51 (1.01)	—	—
7. Age	.05	.18	-.08	.18	.10	.19	36.60 (15.40)	—
8. Gender	-.30	-.08	.03	-.08	.15	.06	-.16	—

Note. $N = 40$ notes (20 completed suicides, 20 attempted suicides). For Completer Status variable, attempted = 1; completed = 2. For Gender men = 1; women = 2. Means and standard deviations (in parentheses) on diagonal. * $p < .05$.

correlations between each of the dimensions and attempter versus completer status, controlling for the other dimensions.

RESULTS AND DISCUSSION

Table 1 displays the means and standard deviations of the five rated questions and age, as well as the inter-correlations between all variables. Consistent with our prediction, the question regarding burdensomeness (i.e., loved ones better off when I'm gone) was the only one to significantly correlate with the variable reflecting completer versus attempter status. The direction of this correlation was such that completers endorsed more burdensomeness than did attempters. Importantly, the magnitude of this correlation remained virtually identical when the following variables were controlled, either singly or jointly: age, gender, and the other rated questions.

Was the correlation between burdensomeness and completer versus attempter status significantly greater than the correlations between the other four rated variables and completer versus attempter status? To address this question, we used Meng, Rosenthal, and Rubin's (1992) approach to comparing correlated correlation coefficients (the approach produces a Z statistic to test for the difference between correlations).

The correlation between burdensomeness and completer versus attempter status ($r = .33$; see Table 1) *was* significantly greater than the correlation between the hopelessness variable and completer versus attempter status ($r = -.10$; $Z = 2.04$, $p < .05$) *was* significantly greater than the correlation between the control feelings variable and completer versus attempter status ($r = -.13$; $Z = 2.10$, $p < .05$), and *was* significantly greater than the correlation between the emotional pain variable and completer versus attempter status ($r = -.14$; $Z = 2.08$, $p < .05$). However, the correlation between burdensomeness and completer versus attempter status ($r = .33$) *was* not significantly greater than the correlation between the control people variable and completer versus attempter status ($r = .15$; $Z = 0.82$, $p = \text{ns}$).

We determined whether the correlation between burdensomeness and completer versus attempter status was similar across gender. A regression equation was constructed, with burdensomeness ratings as the dependent variable, and completer versus attempter status and gender, as well as the interaction between them, as predictor variables. If the correlation between burdensomeness and completer versus attempter status differed among men versus women, the interaction term would emerge as a significant predictor. It did not ($pr = .26$, $t[36] = 1.76$, $p = \text{ns}$). Finally, we determined whether gender moderated the relation between the other rated questions and completer versus attempter status; in no case was the interaction between gender and the completer versus attempter status variable a significant predictor of the four other rated questions (i.e., hopelessness, control feelings, control people, and emotional pain).

We thus obtained some support for our prediction that burdensomeness would correlate with completer versus attempter status even when other well-known suicide-related dimensions (e.g., hopelessness) did not. In Study 2, described next, we sought to determine whether perceived burdensomeness would predict lethality of means of completed suicide.

STUDY 2

Consistent with the logic of an evolutionary-psychological view of suicide, we reasoned that if perceived burdensomeness comprised a risk for completed suicide, there may be a relation between lethality of suicidal behavior and sense of burdensomeness, such that those who particularly view themselves as a burden will choose more lethal suicidal means.

METHOD

SAMPLE OF SUICIDE NOTES

Forty suicide notes written by those who completed suicide were collected within one community in Germany.³ The sample consisted of 20 men and 20 women. Average age was (39.63, $SD = 16.38$; range = 15-70). Means of suicide were as follows: Poisoning/overdose ($n = 18$); hanging ($n = 11$); gunshot ($n = 3$); fall ($n = 2$); electrocution ($n = 2$); $ns = 1$ for cutting, burns, exposure to elements, and fall under vehicle.

As in Study 1, a dichotomous variable reflecting lethality was created (1 = relatively lower lethality; 2 = relatively higher lethality). Gunshot, hanging, fall, fall under vehicle, electrocution, and burns were viewed as relatively higher in lethality than poisoning/overdose, cuts, and exposure.

RATINGS ON DIMENSIONS

The identical procedures and rating scheme used in Study 1 were also used in Study 2. Each of four raters (two advanced clinical psychology graduate students and two advanced undergraduate psychology students; a distinct panel from that used in Study 1) rated each of the 40 notes on the five dimensions described in Study 1, with adequate inter-rater reliability ($> .70$ in all cases).

DATA-ANALYTIC APPROACH

We computed zero-order correlations between the dimensions and the lethality variable, as well as partial correlations between each of the dimensions and the lethality variable, controlling for the other dimensions.

RESULTS AND DISCUSSION

Table 2 displays the means and standard deviations of the five rated questions and age, as well as the inter-correlations between all variables. Importantly, the inter-correlations between the five rated variables and age and gender were very similar to those reported in Study 1, lending more support to the validity of these indices. Of note, we were some-

3. These notes are the same as those discussed by Lester and Heim (1992). The goals, findings, and conclusions of the present study differ completely from those of the Lester and Heim study.

TABLE 2. Study 2: Means, Standard Deviations of, and Intercorrelations between, All Measures

	1	2	3	4	5	6	7	8
1. Lethality	—	—	—	—	—	—	—	—
2. Better off gone	.40*	2.82 (1.45)	—	—	—	—	—	—
3. Control Feelings	-.09	-.17	3.31 (1.44)	—	—	—	—	—
4. Control People	.19	.39*	.16	1.91 (1.14)	—	—	—	—
5. Emotional Pain	-.13	.07	.63*	-.11	3.75 (1.44)	—	—	—
6. Hopelessness	-.20	-.14	.56*	.21	.40*	3.79 (1.38)	—	—
7. Age	.09	.07	-.06	-.01	.01	-.15	40.13 (16.30)	—
8. Gender	-.01	.01	-.07	.11	.04	.06	-.24	—

Note. $N = 40$. For Lethality variable, relatively lower lethality = 1; relatively higher lethality = 2. For Gender, men = 1; women = 2. Means and standard deviations (in parentheses) on diagonal. * p mbol < .05.

what surprised that there was no correlation between gender and lethality, such that men used more lethal means. Regarding suicidality in general, it is true that men are more violent (cf. Study 1's results); however, this may not hold true among those who complete suicide.

Consistent with our prediction, the question regarding burdensomeness (i.e., loved ones better off when I'm gone) was the only one to correlate significantly with the lethality variable. The direction of this correlation was such that those using more lethal means endorsed more burdensomeness than those using relatively less lethal means. Importantly, the magnitude of this correlation remained virtually identical when the following variables were controlled, either singly or jointly: age, gender, and the other rated questions. Moreover, using Meng et al.'s (1992) approach, the correlation between burdensomeness and lethality significantly exceeded the correlations between three of the four rated variables and lethality (as in Study 1, the only exception was the control people variable). Neither age nor gender moderated the relations between lethality and the rated dimensions.

GENERAL DISCUSSION

In Study 1, based on evolutionary-psychological thought on suicide, we predicted that a sense of burdensomeness toward kin should specifi-

cally characterize those who complete suicide, even as compared to those who attempt but do not complete suicide. Moreover, we expected that the relation of burdensomeness to completed versus attempted suicide would exist, even where the relations of other indices (e.g., hopelessness, general emotional pain) to completed versus attempted suicide would *not* exist. In Study 2, we applied a similar line of reasoning regarding the relation between perceived burdensomeness and lethality of means of completed suicide.

Both studies of suicide notes provided some empirical support for our expectations. Specifically, in Study 1, a sense of burdensomeness was significantly correlated with completer versus attempter status (even controlling for other variables such as gender, controlling feelings, controlling others, general emotional pain, and hopelessness). By contrast, none of the other rated indices (i.e., controlling feelings, controlling others, general emotional pain, and hopelessness) was significantly correlated with completer versus attempter status; furthermore, three of these correlations were significantly lower than that between burdensomeness and completer versus attempter status. In Study 2, a sense of burdensomeness was significantly correlated with lethality, whereas other variables were not. Taken together, the pattern of findings provided some support for the view that perceived liability to one's loved ones is a feature of completed suicide.

Before discussing some implications of the studies, we first note its limitations. First, it is difficult to judge how representative note leavers are among all those who attempt or complete suicide. Studies on the proportion of note leavers among attempters and completers indicate a range of up to approximately 40%, with completers leaving more notes than attempters (Hays, Cheever, & Patel, 1996; Leenaars, 1988; O'Donnell et al., 1993; Shneidman, 1985). Although the general representativeness of our samples is indeterminate, a reassuring fact is that in our sample, like in representative samples, there was a tendency in Study 1 for gender and completer versus attempter status to be correlated, such that men were more likely to be completers (see Table 1; cf. Moscicki, 1995).

Another limitation involves the seemingly clear-cut distinction between notes identified as coming from attempters and those identified as coming from completers. Certainly there exists the possibility that there are unintentional attempters (i.e., those who truly intended completed suicide but their attempt was not fatal) and unintentional completers (i.e., those who truly intended a non-lethal gesture, but whose attempt was nonetheless fatal). Although this possibility exists and should be considered when interpreting our findings, it is likely to have biased our findings *against* (not in favor of) our hypothesis, in that error vari-

ance (due to miscategorization) would have been inflated, which, in turn, may have attenuated predicted effects.

A third limitation involves the wording of the question used to rate burdensomeness. The question asked, To what degree does the passage imply the idea 'my loved ones will be better off when I'm gone'? The subjective sense of loved ones does not necessarily refer to biological relatives or to mates; the term also may apply to close friends, romantic partners, and the like. Based on this semantic issue, it is possible that a sense of burdensomeness toward all significant others, not just biological relatives, is correlated with completed suicide. If so, the evolutionary-psychological, but not altruistic, interpretation of our findings would be weakened. Whether completed suicide and lethality of means are related to burdensomeness regarding biological kin versus loved ones in general thus represents a key question for an evolutionary-psychological view.

Of course, it should be emphasized that the studies included relatively low numbers of notes (i.e., 40). Therefore, statistical power for the studies was low. While this caution should be noted, the limitation applied across all analyses, and thus would not have systematically favored the predicted correlation over non-predicted ones. Finally, in Study 2, our approach to categorizing lethality was somewhat arbitrary (e.g., some means of poisoning are highly lethal, although we categorized poisoning as relatively low in lethality). Although this issue should be considered when interpreting our results, it is hard to see that it would have systematically biased our findings in favor of our predictions, and our categorization approach was similar to schemes used in past work (Card, 1974).

In forming the comparison dimensions (i.e., controlling feelings, controlling others, generalized emotional pain, and hopelessness), we were guided by two overarching considerations. First, we attempted to place our hypotheses in grave danger of refutation (cf. Popper, 1959; Meehl, 1991), by comparing burdensomeness to dimensions that were previously theorized to characterize suicide completion (e.g., hopelessness; Beck et al., 1990; emotional pain; Shneidman, 1985). The fact that our hypotheses survived this risky test represents a strength of the studies. Second, in forming the comparison dimensions, we drew on the work of Linehan and colleagues (Linehan, Armstrong, Suarez, Allmon, & Heard, 1991), who have emphasized the roles of emotion regulation (cf. controlling feelings) and interpersonal control (cf. controlling others) in suicidality.

It is interesting that, in both studies, the only correlation that did *not* significantly differ from the burdensomeness-completer/attempter correlation (Study 1) and the burdensomeness-lethality correlation (Study

2) was, like burdensomeness, an interpersonal variable (controlling others). Anecdotally, raters commented that some instances of burdensomeness also appeared high on the dimension of control/affect others, in the sense that removal of burden was perceived by the note writer as affecting his/her loved ones positively. There was a significant correlation between these two variables in Study 2, but not in Study 1.

Although past work has tended to emphasize the interpersonal nature of suicidal *gestures*, our findings highlight that completed suicide, too, may have interpersonal motives. In fact, judging from our results, one could argue that completed suicide may be more interpersonally than intrapsychically (e.g., emotionally) motivated. However, we recognize that burdensomeness contains both interpersonal and intrapsychic components. Feeling as though one is a burden toward love ones, a belief rooted in *interpersonal* experience, is also an *intrapersonal* belief to the extent that it occurs within the individual and causes the individual distress. Because it derives from interpersonally based cognitions, however, the interpersonal nature of burdensomeness would seem to hold primacy over the intrapsychic component.

Consistent with this perspective, our results suggest that a need to contribute may be an important interpersonal motive, the thwarting of which may lead to mental health problems. Interestingly, Baumeister and Leary (1995) argued that the need to belong represents a fundamental human motive. The comparison of the needs to contribute and belong raises potentially useful questions for future research—must one contribute in order to belong? If not, what are the mental health implications for those who belong but do not contribute? or contribute but do not belong?

As noted earlier, gender did not moderate the correlation between burdensomeness and completer versus attempter status in Study 1. The burdensomeness variable thus was equally associated with completed suicide and lethality among men and women (and lethality among men and women in Study 2). Based on this result alone, one could argue that burdensomeness cannot explain the well-known gender differences in completed and attempted suicides. However, just as we advised that other results be interpreted cautiously, we suggest that this result be also—it involves a statistical interaction and thus is particularly vulnerable to the effects of low *N* and low statistical power. Future work on this topic should be open to the possibility of gender differences in the relation of burdensomeness to completed suicide, especially if it is argued that one gender in particular is subject to this evolutionary-psychological influence. At this point, however, it would be premature to predict that one gender in particular may be more subject to feeling burdensome toward others, so we leave this question to be addressed in future work.

In keeping with emphasis of the study's limitations, we do not offer clinical recommendations; rather, we encourage future research on clinically relevant questions. For example, future research should determine whether assessment of burdensomeness should be a part of standard suicide risk assessment, and whether burdensomeness should be a particular treatment target in those with suicidal symptoms (cf. Rudd et al., 2000).

In conclusion, we derived from an evolutionary-psychological model the prediction that a sense of burdensomeness toward kin would particularly characterize those who complete suicide and would be associated with lethal means of completed suicide. Although our studies of suicide notes possessed limitations, findings were consistent with expectations. Continued research on this question is needed to support the claim that completed suicide may be subject to evolutionary-psychological influences; such research eventually may point the way toward the improved assessment, treatment, and prevention of suicidal behavior.

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