


BRIEF REPORT

Short-term effects of crisis response planning on optimism in a U.S. Army sample

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Aim: This study examined the short-term effects of a brief crisis intervention on optimism of acutely suicidal soldiers.

Methods: U.S. Soldiers ($N = 97$) presenting for an emergency mental health appointment in a military emergency department or behavioural health clinic were randomly assigned to treatment as usual standard crisis response plan, or enhanced crisis response plan (E-CRP). This study is used a subsample of the original clinical trial ($n = 64$) for those who completed self-report measures of optimism (Life Orientation Test-Revised) prior to receiving any intervention and a secondary self-report assessment one-month following the intervention.

Results: Results indicate that individuals with low baseline optimism who received the E-CRP had significant increases in optimism 1 month post-intervention.

Conclusion: This provides evidence that discussing a patient's reasons for living during a CRP increases optimism in those high-risk patients with the lowest baseline optimism.

KEYWORDS

crisis response plan, military, suicide

1 | INTRODUCTION

Suicide is a leading cause of death among active duty service members in the United States (Schoenbaum et al., 2014). Development of early interventions specific to the prevention of suicide is imperative and accumulating evidence supports the effectiveness of brief interventions for suicidal behaviour in this population (eg, Rudd et al., 2015). Crisis response planning (CRP), a personalized problem-solving tool used to promote the use of individual-specific coping strategies during an acute crisis, is one such intervention with demonstrated efficacy (Bryan et al., 2017). CRP has been associated with 1) a 76% reduction in suicide attempts, 2) significantly faster reduction in suicidal ideation, 3) a reduction in psychiatric inpatient days in comparison to treatment as usual (TAU; Bryan, Mintz, Clemans,

Leeson, et al., 2017), and 4) reduced negative mood states (Bryan et al., 2017).

In the initial clinical trial of CRP efficacy as a brief intervention for suicidal behaviour, Bryan, Mintz, Clemans, Leeson, et al. (2017) compared 2 versions of CRPs to TAU. Standard CRP (S-CRP) involved identification of warning signs of distress, coping skills, sources of social support, and professional resources. Enhanced CRP (E-CRP) included an additional module focused on identifying reasons for living (RFL; Bryan, Mintz, Clemans, Leeson, et al., 2017). In the RFL module, the therapist and patient collaboratively identified the patient's reasons for living and explicitly wrote them on the plan. This list often directly contradicted the patient's original view of not having any reasons for living and seeing suicide as the only option, creating flexibility in thinking. Results from the initial trial indicated that both versions of

CRP were associated with significantly faster reduction in suicide ideation than TAU; however, contrary to what was expected, there were no differences found between CRP versions on reduction of suicidal attempts. However, identifying reasons for living has been independently associated with positive outcomes including reductions in suicidal ideation, suicide attempts, and negative cognitive-affective states (Bakhiyi, Calati, Guillaume, & Courtet, 2016; Bryan, Mintz, Clemans, Burch, et al., 2017). Therefore, it is important to better understand how RFL interventions added to a CRP impact high-risk individuals following a CRP intervention.

Particular utility exists in examining potential biopsychological mechanisms of change associated with eliciting RFL, as targeting mechanisms of change are key in therapeutic intervention. Cognitive flexibility, or the ability to shift attention away from negative biases and see alternative outcomes, is one theorized mechanism of change supporting existing interventions with demonstrated efficacy for reducing suicide behaviour (Bryan & Rozek, 2018). Conceptually, capacity to elicit RFL is necessarily a demonstration of capacity for flexible thinking. Eliciting RFL may directly challenge the negative cognitions that drive suicidality. Therefore, the E-CRP that includes RFL likely increases cognitive flexibility following the intervention.

Enhancing cognitive flexibility may also facilitate increase in positive expectancies about the future. Optimistic disposition is demonstrated by consistently held positive expectancies (Carver, Scheier, & Segerstrom, 2010). Optimism is integral to increasing positive emotions, which in turn serve to build and broaden coping strategies in times of distress (Fredrickson, 2013). Increments in optimism have been shown to contribute to reductions in suicide ideation among military (Bryan, Ray-Sannerud, Morrow, & Etienne, 2013) and non-military (Hirsch, Wolford, LaLonde, Brunk, & Morris, 2007; Huffman, DuBois, & Mastromauro, 2016) populations. Therefore, an intervention that increases optimism has the potential to promote a powerful protective factor in suicide intervention. Eliciting RFL may serve as one key way to increase optimism.

In light of the aforementioned research showing an association between RFL and optimism, we examined the impact of the CRP interventions on optimism. The objective of the current study was to utilize data from a randomized clinical trial of E-CRP and S-CRP compared with treatment as usual to examine the distinct contribution of eliciting RFL on change in optimism from pre- to post-intervention (1-month). We hypothesized that E-CRP (which included the reasons for living module) would be associated with greater increases in optimism than both S-CRP and treatment as usual.

2 | METHOD

A full description of the sample, study procedures, and CONSORT diagram are described in Bryan, Mintz, Clemans, Leeson, et al. (2017).

TABLE 1 Descriptive statistics for optimism measure

Scale	TAU		S-CRP		E-CRP		Total sample	
	M	SD	M	SD	M	SD	M	SD
Baseline	2.68	2.30	2.19	1.57	2.48	1.54	2.45	1.83
Post-intervention	3.36	2.90	3.29	2.51	4.38	2.91	3.77	2.78

Note: No group differences were found between baseline levels of optimism.

2.1 | Sample

The current study was composed of a subsample of the Army Soldiers from the original study. Data from a total of 64 soldiers (81% male) for whom self-report data at both time points (baseline and one-month post-intervention) were used with almost equal numbers in each of the interventions, TAU ($n = 22$), S-CRP ($n = 21$), and E-CRP ($n = 21$) and dropout did not differ among groups. The current sample reflected similar demographics to the original sample with a mean age of 25.94 ± 5.47 (range 20-43). Race/ethnicity distribution was as follows: 52 (81%) whites, 9 (14%) black/African American, 2 (3%) Asian, 1 (2%) Pacific Islanders, 5 (8%) Native Americans, 2 (3%) other. No differences were found between the current sample and the original study sample on demographic variables.

2.2 | Procedure

Active duty soldiers at Fort Carson, Colorado who presented for an emergency behavioural health evaluation were referred to the current study for initial assessment for eligibility. After completing informed consent, soldiers completed baseline measures and were randomly assigned to one of 3 treatment conditions: TAU, S-CRP, and E-CRP. The TAU condition included a standard suicide risk assessment, supportive listening, professional crisis resources, referral to a mental health professional, and a verbal contract for safety. The S-CRP included the same components as TAU (excluding the verbal contract for safety) with the addition of a collaboratively-created crisis plan. This plan was written on an index card and included identification of the soldier's personal warning signs, self-management skills, and sources of social support. The E-CRP had the same components of the S-CRP, with the addition of a verbal discussion and written list of the soldier's reasons for living.

2.3 | Measure

2.3.1 | Optimism

Optimism was measured using the Life Orientation Test-Revised (LOT-R; Scheier, Carver, & Bridges, 1994). The Optimism factor includes the sum of 3 items assessing optimism on a scale of 0 (Strongly Disagree) to 4 (Strongly Agree), with higher total scores indicating more optimism. Consistent with previous research (Hinz et al., 2017), internal consistency was acceptable ($\alpha > .70$) in the current study. Descriptive statistics can be found in Table 1.

3 | RESULTS

One-month post-intervention optimism (z-scored) was regressed on the following predictors: baseline optimism, treatment condition, and

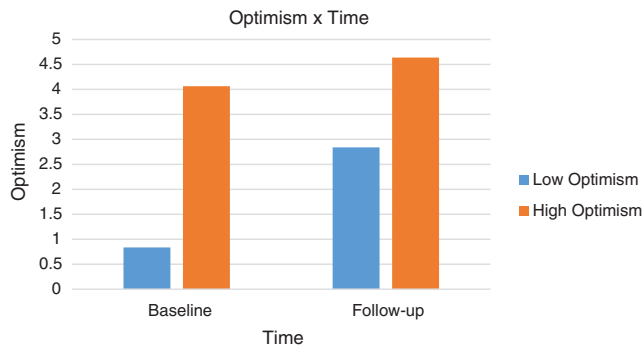


FIGURE 1 Optimism from baseline to 1 month follow-up for participants in the E-CRP condition. Graph of interaction follows the convention of graphing high values at 1 SD above the mean of optimism and low values at 1 SD below the mean (Aiken & West, 1991)

their respective interactions. There was no statistical difference in baseline optimism across groups. There were 2 significant effects including a main effect of baseline optimism predicting post-intervention optimism ($\beta = .51, P = .003$) and a significant interaction for E-CRP and baseline optimism ($\beta = -.31, P = .03$); there was no significant interaction for S-CRP and baseline optimism. Simple effects show that the E-CRP increased optimism for those low in optimism at baseline ($\beta = .51, P = .02$) and had no effect for those with higher optimism scores (See Figure 1). No other significant differences were found.

4 | DISCUSSION

This research involved a secondary analysis of data from a recent clinical trial conducted by Bryan, Mintz, Clemans, Leeson, et al. (2017), which compared efficacy of TAU, S-CRP and E-CRP for brief intervention of suicidal behaviour in active-duty service members. The current study focused on the unique contribution of eliciting reasons for living (RFL) (ie, E-CRP group) to increase state optimism post-intervention and enhance the efficacy of CRP treatment. Specifically, participants in the E-CRP group who reported low baseline optimism had significant increases in optimism 1 month post-intervention. No significant changes in optimism were evident among participants in the S-CRP or TAU groups, nor among participants with higher optimism scores in the E-CRP group.

The finding that a significant increase in optimism was only identified in those for whom baseline optimism was low is key; this provides additional data to ongoing debate regarding the predominantly stable and trait-like nature of optimism and whether it is possible for interventions to effect meaningful change in level of optimism (Malouff & Schutte, 2017). Our results suggest that, within the context of the current study, at the very least state change is possible when dispositional optimism is low. Additionally, optimism change was limited to soldiers lower in optimism highlights potential heterogeneity in individuals at acute risk for suicide. Identification of individual differences in dispositional optimism has important utility, both as a marker for particularly at-risk individuals and as a specific point of focus in targeted brief interventions for suicidality.

The relationship between RFL and elevated optimism has been noted in previous observations (eg, Ho, Cheung, & Cheung, 2010). Increasing optimism may be related to increased cognitive flexibility (Bryan & Rozek, 2018), and the E-CRP intervention process of eliciting RFL likely challenged negative cognitions related to suicidality, which necessitated a shift from rigid to more flexible thinking. Enhanced capacity for flexible thinking in turn facilitated an increase in positive expectancies about the future, reflective of an optimistic disposition (Carver, Scheier, & Segerstrom, 2010). Reciprocally, at the time of acute distress, increasing optimism among those for whom dispositional optimism is low may also promote cognitive flexibility. This is important because cognitive inflexibility is a strong predictor of suicide attempt (Miranda, Gallagher, Bauchner, Vaysman, & Marroquín, 2012) and stands as a barrier to challenging negative thoughts in a clinical intervention context. By contrast, cognitive flexibility promotes broadening and building of adaptive coping skills such as distress tolerance and emotional regulation, which are key elements of clinical interventions for suicidality (Fredrickson, 2013). Clinically, this is important for those individuals who present with the lower levels of optimism. When treating these individuals, helping them identify reasons for living should, according to our findings, increase their level of optimism. Increased optimism would be expected to facilitate enhanced state of readiness for engagement with therapeutic content and improve expectation about positive therapeutic outcome (Carver, Scheier, & Segerstrom, 2010), thus increasing an individual's chances of reducing symptoms and outcomes in follow-up clinical treatment.

Although this study has several strengths, some limitations should be noted, including the attrition on self-report measures that reduced the overall power from the original clinical trial. Given this small sample size, future research should replicate these results in future clinical trials. With a larger sample size, important questions such as linking these findings to suicide attempts can be properly powered and allow for subgroup analyses for important variables such as first time attempters vs multiple (2+ attempters), as these groups may respond differently to suicide interventions. Additionally, this study examines only active duty military members presenting to behavioural health; future research should probe the benefits of probing reasons for living on optimism in other populations and other clinical settings, as these variables may play an important role in how suicide prevention techniques work. Future work should examine if the CRP can be implemented outside of a healthcare system and potentially prior to a suicide attempt in order to help reduce suicidal behaviours. For example, if a CRP could be integrated into peer supports within military or other populations, this may help prevent suicide attempts. Despite these limitations, this study provides novel information about how a brief intervention for suicide can increase optimism for high-risk patients.

Overall, this study provides evidence that the E-CRP increases optimism for patients who are low in optimism. Clinically, this is important as lower optimism and lack of positive expectancy about treatment are strong predictors of poor treatment outcome (Heinonen, Heiskanen, Lindfors, Härkäpää, & Knekt, 2017). Interventions like E-CRP that increase optimism and promote cognitive flexibility could potentially help enhance outcomes for patients who engage in treatment following the E-CRP.

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