



## Short communication

## Remission of suicidal thoughts: Findings from a longitudinal epidemiological study

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## ABSTRACT

**Background:** Suicide ideation is common in young women. The present study investigated factors associated with the remission of suicidal thoughts in a representative sample of woman aged 18–24 years. **Methods:** A total of 1389 women were interviewed at a baseline assessment and again 17 months later. Social support, satisfaction with life, self-efficacy and positive mental health were considered as predictors of remission of suicidal thoughts – controlling for severity of psychopathology.

**Results:** Remission of suicidal thoughts was experienced by 67.4% of the respondents, whereas 32.6% continued to have suicide ideation at both assessments. In multiple logistic regression analyses, social support and positive mental health emerged as significant predictors of remission. Severity of psychopathology did not predict the course of suicide ideation.

**Limitation:** Suicide ideation was assessed only with the respective item of the Beck Depression Inventory.

**Conclusion:** Protective factors, especially social support and positive mental health, outperform psychopathology in predicting the course of suicide ideation.

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## 1. Introduction

Worldwide about one million people die by suicide each year. It is estimated that for each adult who dies of suicide, there are more than 20 others attempting suicide (WHO, 2014). Furthermore, adults are reported to have a lifetime prevalence of up to 33% experiencing suicide ideation (Nock, et al., 2014). In Western societies, males outnumber females in suicide deaths. Yet, suicide ideation and suicide attempts are far more common in females, especially those of younger age. Irrespective of gender, suicidal thoughts and behaviors exist on a continuum of suicidality and have been found to increase the risk for eventual suicide (Brown et al., 2000).

While substantial efforts have been made to understand which risk factors contribute to suicidality, far less attention has been paid to factors that buffer individuals against the development of suicidality and/or aid them in overcoming suicidal thoughts. It has been shown that factors which indicate a person's access to a supportive social network are associated with decreased suicide risk, such as being married (Heikkinen et al., 1995), or being a

parent (Qin and Mortensen, 2003). Furthermore, Johnson et al. (2011) identified self-efficacy, positive attributional style, self-esteem and social support as factors with buffering qualities concerning suicidality. As of now, little is known about the importance of psychosocial variables for the remission from suicidal ideation within a prospective study design.

The present study, which is based on the Dresden Prediction Study (DPS) seeks to overcome this limitation. The main objective of this study is to investigate the relative influence of self-efficacy, social support, satisfaction with life and mental health on overcoming suicidal thoughts.

## 2. Method

## 2.1. Participants

The sample for the present study was derived from the Dresden Prediction Study, a prospective epidemiological study of women aged 18–24 years (see Trumpf et al., 2010b for a detailed description). At baseline, a representative sample of 1877 women completed an exhaustive assessment. At the follow-up assessment 17 month later, 1396 women took part in the survey. Seven participants did not respond to the question on suicide ideation, therefore 1389 women (Age:  $M=20.73$ ,  $SD=1.80$ ) were

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**Table 1**  
Group differences in risk and protective factors

Baseline variable	Group 1 no ideation (n = 1089) M (SD)	Group 2 persistence (n = 76) M (SD)	Group 3 remission (n = 157) M (SD)	Group 4 incidence (n = 67) M (SD)	F-Statistics	Group comparisons
Suicide Ideation	0.00 (0.00)	1.08 (0.36)	1.06 (0.31)	0.00 (0.00)	$F(3,1389)=4224.54^{***}$	1, 4 < 2, 3
Symptom distress	0.27 (0.24)	0.69 (0.47)	0.55 (0.39)	0.45 (0.34)	$F(3,1385)=92.07^{***}$	1 < 3, 4 < 2
Self-efficacy	29.02 (4.09)	24.70 (5.09)	27.08 (4.82)	26.99 (5.18)	$F(3,1384)=33.54^{***}$	1 > 3, 4 > 2
Positive Mental Health	47.53 (5.30)	36.76 (7.52)	41.97 (6.95)	43.36 (6.31)	$F(3,1387)=123.44^{***}$	1 > 3, 4 > 2
Life satisfaction	3.74 (0.48)	3.21 (0.52)	3.46 (0.52)	3.56 (0.51)	$F(3,1380)=39.68^{***}$	1 > 3, 4 > 2
Social support	4.48 (0.42)	3.81 (0.80)	4.25 (0.57)	4.23 (0.60)	$F(3,1389)=55.72^{***}$	1 > 3, 4 > 2

\*\*\*  $p < .001$

**Table 2**  
Results from separate and multiple logistic regression analyses predicting the remission of suicide ideation over 17 months.

Baseline variable	Remission of suicidal thoughts (n = 157) vs. persistent suicidal thoughts (n = 76)			
	Separate <sup>a</sup>		Multiple <sup>b</sup>	
	OR (95% CI)	p	OR (95% CI)	p
Symptom distress	0.47 (0.24–0.89)	.022	1.19 (0.53–2.68)	.660
Self-efficacy	1.10 (1.04–1.17)	.001	1.00 (0.92–1.08)	.971
Positive mental health	1.10 (1.05–1.14)	.000	1.07 (1.00–1.48)	.048
Life satisfaction	2.49 (1.44–4.31)	.001	0.82 (0.37–1.78)	.619
Social Support	2.57 (1.69–3.93)	.000	1.92 (1.08–3.40)	.025

Note: OR, odds ratio from logistic regression; CI, confidence interval.

<sup>a</sup> Separate logistic regressions, each with a single predictor variable.

<sup>b</sup> Multiple logistic regression model with all predictor variables.

incorporated into the current analyses.

## 2.2. Measures

### 2.2.1. Suicidal Ideation

Suicidal ideation was measured by using the respective item from the Beck Depression Inventory (Item 9; Beck et al., 1988). The suicide item of the BDI has repeatedly been used in epidemiological as well as clinical studies (Hintikka et al., 2001; Wenzel et al., 2011). It has been shown to significantly correlate with the Beck Scale for Suicide Ideation (Beck and Steer, 1991).

### 2.2.2. Psychopathology

The Symptom Checklist 90-Revised (SCL-90-R; Derogatis, 1977) was used to measure general psychopathology. The Global Severity Index (GSI) was used in the present study to measure overall psychological distress. The German version of the SCL-90-R has good internal consistency ( $\alpha = .74-.97$ ; Franke et al., 2002).

### 2.2.3. Positive Mental health

A 14-item Positive Mental Health Scale (PMH-Scale; Lutz et al., 1992a) measures positive mental health. Participants score the items on a 4-point Likert scale from 0 “not true” to 3 “true”. The scale has good internal consistency ( $\alpha = .90$ ; Trunpf et al., 2010a).

### 2.2.4. Self-efficacy

The General Self-efficacy Scale (Jerusalem and Schwarzer, 1986) measures with 10 items optimistic beliefs that are based on the concept of self-efficacy, a sense of ability to carry out particular actions. Scores vary from 0 “low” to 30 “high.” The questionnaire has good internal consistency ( $\alpha = .74-.92$ ; Schwarzer, 1994).

### 2.2.5. Life satisfaction

A questionnaire with 12 items (Lutz et al., 1992b) measures life satisfaction in important life areas. Participants use a rating scale from 0 “very unsatisfied” to 4 “very satisfied.” The questionnaire has sufficient internal consistency ( $\alpha = .76$ ; Trunpf et al., 2010a).

### 2.2.6. Social support

The Social Support Scale (SOZU-K-22; Fydrich et al., 1987) includes 22 items about emotional support, instrumental support and social integration. Participants score their agreement on a scale from 0 “does not apply to me” to 4 “does exactly apply to me.” The SOZU-K-22 has good internal consistency ( $\alpha = .79-.92$ ; Fydrich et al., 1987).

## 2.3. Statistical analyses

Remission refers to participants who had suffered from suicidal thoughts at baseline (BDI-Suicide Item > 0), but no longer at the follow-up assessment (BDI-Suicide Item = 0). Persistence refers to participants, who suffered from suicidal thoughts at both measurement points and incidence refers to the number of new cases that reported suicidal thoughts at the follow-up assessment, but not at the baseline assessment.

We examined differences between groups (no ideation, persistence, remission, incidence), regarding clinical and protective factors using one-way ANOVAs (with Tukey HSD comparisons). In the subsample of participants who suffered from suicidal thoughts at baseline, logistic regressions were used to study associations between predictor variables at baseline and the 17-month remission versus persistence of suicidal ideation. First, a series of separate logistics regressions was conducted. Then, multiple logistic regression analysis was used to examine the variables' relative contribution to the prediction of the remission of suicidal thoughts.

## 3. Results

### 3.1. Remission of suicidal thoughts

Of the 1389 participants, 233 (16.1%) had some degree of suicidal ideation at baseline and 143 (10.3%) reported some degree of suicidal ideation at the follow-up assessment. 1089 participants (78.4%) did not suffer from suicidal thoughts at baseline or at follow-up. Sixty-seven participants (5.5%) who denied suicidal thoughts at baseline, reported an onset of ideation at the follow-up assessment. Of the 233 patients (16.1%) who had suffered from suicidal thoughts at baseline, 76 (32.6%) also reported suicidal thoughts at the follow-up assessment, whereas 157 (67.4%) no longer suffered from suicidal thoughts at the follow-up assessment.

### 3.2. Group differences in protective factors

Participants, who did not suffer from suicidal ideation at baseline or at the follow-up-assessment, showed less psychopathology than the other groups and reported more positive mental health, self-efficacy, life satisfaction and social support. The opposite was true for the participants suffering from persistent suicidal ideation. Participants, whose suicidal thoughts remitted, did not differ regarding any of the study variables from participants with a new onset of suicidal thoughts (Table 1).

### 3.3. Predictors of remission

Associations between baseline predictors and remission of suicidal thoughts at follow-up are shown in Table 2. Separate logistic regressions examining the effects of the individual protective indices revealed that women who showed remission from suicide ideation had higher baseline levels of positive mental health, social support, self-efficacy and life satisfaction compared to women with persistent suicide ideation. Furthermore, higher level of psychopathology was also associated with remission from suicide ideation.

In a multiple regression model with all predictor variables, only positive mental health and social support remained as significant predictors of remission from suicide ideation.

## 4. Discussion

We investigated factors associated with the remission of suicidal thoughts in a representative sample of young woman. The 17-month remission rate found in this prospective study was 67.4%. The remaining 32.4% failed to achieve any improvement of suicide ideation (cf. Borges et al., 2008).

In a first univariate assessment, general symptom distress as well as all protective factors studied, predicted the remission of suicide ideation during the 17-month observation period. In a multiple logistic regression analysis, only social support and positive mental health emerged as significant predictors after adjusting for all other predictors in the model. The importance of social support as a protective factor for suicidality has repeatedly been shown in studies using diverse methodological approaches (Johnson et al., 2011). It has also been emphasized in recent theoretical models on suicide behavior and plays a central role in psychosocial interventions (Joiner et al., 2009). Regarding positive mental health, it is important to acknowledge that elements of positive mental health and suicide ideation can be present at the same time – thus, an internal struggle between protective and suicidal thoughts is rather common for suicide ideators (Brown et al., 2005). The PMH-scale assesses different facets of well being, such as positive emotions and positive functioning in everyday life. Well being, assessed with the PMH-scale, seems to be of special relevance not only to the remission of suicide ideation, but has also been found to be an important predictor of remission from anxiety disorders (Trumpf et al., 2009; Vriends et al., 2007). In terms of clinical implications, these findings suggest that protective factors should be a key consideration when assessing clients' risk of suicide, as these factors may attenuate the influence of risk factors.

One major limitation should be taken into account when interpreting the findings of the current study: Suicide ideation was

only assessed with the respective item of the BDI instead of a more comprehensive assessment method. Yet, the BDI suicide item has frequently been used in earlier studies and it is rather common to assess suicide ideation with limited items in epidemiological studies (cf. Borges et al., 2008). Despite this limitation, the present study suggests that more than half of young women show remission of suicide ideation and that social support and positive mental health outperform psychopathology in predicting the course of suicide ideation.

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