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Original Research

Gender-Specific Aspects of Suicide-Related Communication in a High Risk Sample of Psychiatric Inpatients

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Abstract

Background: In addition to help-seeking behavior in a professional context, suicide-related communication (SRC) with that discloses suicidal thoughts and plans to relatives and significant others play a major role in suicide prevention. While studies revealed gender differences in help-seeking behavior in case of suicidal thoughts and intent in a professional context, the empirical evidence on SRC and gender is limited. The present study aims to examine gender-specific aspects of prevalence, recipients, pathways, and content of SRC in a high-risk sample of psychiatric inpatients. Results may provide information for the development of gender-specific suicide prevention measures. **Methods**: This study considered data on SRC among individuals who had been admitted to a psychiatric ward due to suicide attempt or to an increased suicide risk and have previously attempted suicide. In this high-risk sample of 219 psychiatric inpatients (56.2% female: n = 123), SRC was assessed using the Suicide Attempt Self Injury Interview (SASII) and was analyzed with a mixed-method design. **Results**: There are no significant differences (Chi^2 (4, n = 219) = 3.189, p = 0.074) in the frequencies of SCR between men and women. 34.4% (n = 33) of men and 46.3% (n = 57) of women reported SRC. Differences were found regarding the recipients. No differences in oral/written and explicit/implicit communication are evident. The most frequently addressed themes in SRC in men are exhaustion, resignation, and listlessness. For women, the suicide method is the most common topic, followed by the topics mentioned among men. **Conclusions**: A high proportion of participants reported having engaged in SRC. In contrast, the themes addressed are very ambiguous and not clearly suicide-related, especially among men. This can lead to difficulties in the interpretation of the statements by the recipients. Women seem to communicate more often with recipients who may provide assistance. These aspects ought to be considered for developing gender specific suicide prevention measures.

Keywords: suicide prevention; suicide-related communication; gender differences; suicide attempt; men

1. Introduction

According to the WHO, more than 700,000 people die by suicide every year [1]. In Germany, the figure amounted to more than 9000 in 2020, with men dying by suicide about three times as often as women [2]. The significantly higher likelihood of men dying by suicide—apart from a few exceptions—is a worldwide phenomenon [3]. In contrast, women attempt suicide more often than men. Canetto and Sakinovsky [4] had coined the term "gender paradox" in this context. The phenomena described highlights how significant it is to consider gender-specific aspects of suicidal ideation and behavior. Thus, developing gender-specific approaches to suicide prevention—especially for men as a high-risk group—is essential [5–7].

Overall, research on gender-specific aspects of suicidal ideation and behavior—and above all on men as an important target group for suicide prevention—needs to be expanded. Existing studies focus on various aspects, such as risk factors for suicidal behavior in men [8]. Although the prediction of suicidal behavior based on risk factors was only slightly better than chance despite decades of research [9–11] studies on risk factors in specific subgroups are central to developing appropriate preventive measures. Richardson *et al*. [8] identified a variety of risk factors for suicidal behavior in men and point to their interaction and change in relevance throughout lifetime. Risk factors with the strongest evidence in men were alcohol and/or drug use/substance use disorder [12,13], being unmarried, single, divorced, or widowed [14,15], and a current diagnosis of depression [16]. To better understand suicidal behavior and ideation in men, some studies also examine the role and influence of gender norms, traditional gender role perceptions and problem-solving strategies [17–19]. In addition, it is often discussed that men show less help-seeking behavior in case of mental disorders than women. For example, it appears that men with suicidal ideation seek less support from the health care system. They are also less likely to address their suicidal ideation with health care providers [20–24].

In addition to help-seeking behavior in a professional context, however, the disclosure of suicidal thoughts and

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plans to relatives and significant others also plays a major role. Communicating suicidal intent to others may initiate help from those addressed. This important aspect for suicide prevention [25], is referred to as suicide-related communication (SRC). Frey [26] define SRC as "the act of conveying one's own suicidal ideation, intent, or behaviors to another person; could be modified to specify whether it was verbal/nonverbal, explicit/direct, implicit/indirect, active/passive, immediate/delayed, intended/unintended, or current/past ideation or behaviors with time vs. no time to intervene." (s. 813). In the present study gender differences in SRC, preceding a suicide attempt will be investigated. In contrast to the studies mentioned above the current study collected data from survivors of suicide attempts and did not use data from psychological autopsies of people who died by suicide.

Currently, studies are mainly available on the prevalence rates of SRC. In a meta-analysis by Pompili [27] 36 studies were included. The overall proportion of SRC before a suicide attempt was 44.5% (95% confidence interval 35.4–53.8), with high heterogeneity and significant publication bias. The included studies show a very large methodological diversity. The majority of studies included are psychological autopsy studies based on data from specific groups of people such as close relatives or information from medical records. This information probably tends to underestimate the proportion of those who communicate about their suicidality. Similar figures are reported by Zhou and Jia [28] in their psychological autopsy study in China that indicates that SRC may be an indicator of the severity of suicidal intent. Those who communicate suicide-related have a higher suicide intent [28]. The studies reveal that about half of the people who committed suicide have previously engaged in SRC. This dispels the common misconception that "If you talk about it, you don't do it.". Rather, SRC is an important starting point of suicide prevention since it enforces identifying people at risk.

Moreover, in the few studies that consider gender differences in SRC, the proportion of those who communicate suicidal ideation and intent is comparable in men and women [27,29]. Overall, SRC has not been studied very well so far. Moreover, the operationalization of SRC in the available studies varies widely [27] and for a long time there was no uniform definition of SRC [26].

Very few studies considered and analyzed the content and themes of SRC, i.e., what is expressed in terms of content. An early psychological autopsy study of SRC by Robins *et al*. [29] describes the content if suicidal intent is communicated to others. The most frequently named themes in SRC were: Statement of intent to commit suicide; to be better dead than alive/tired of life; the desire to die; references to methods of suicide; suicidal ideation; gloomy predictions; statements that the person's family would be better off if he/she were dead. Gender differences were most likely to show up in formulated references to method of suicide (men: 19%/women: 32%) and preferring to be dead than alive or tired of living (men: 26%/women: 16%) [29]. Other studies describe that SRCs included mainly indirect, ambiguous, humorous, euphemistic expressions and references to suicidal intent. It was difficult for recipients to assess the intent, meaning and relevance of the statements [30,31]. Balt *et al*. [32] address gender differences in SRC. Again, these data relate to a psychological autopsy study and interviews with relatives of young men and women who have died by suicide. Those young men communicate at a later stage and less clearly than young women who died by suicide. Compared to girls, SRC by boys was more ambiguous or diluted by "humorous" connotations [32].

Although SRC is an important starting point for suicide prevention, the overall body of research on SRC among men and women is very limited. Very few studies even address gender differences. Among these, almost all available studies are psychological autopsy studies that investigate the frequency of suicide related communication in people who have died by suicide. Only very few studies focus more specifically on the mode and content of communication. For this reason this paper investigates the frequency, recipients, mode (implicit/explicit; verbal/written), and topics of SRC. In contrast to the studies mentioned above the current study collected data from survivors of suicide attempts and did not use data from psychological autopsies of people who died by suicide. Particular focus is placed on gender differences in SRC. The paper relies on a mixed-method design. Unlike the majority of existing studies, it does not refer to data from autopsy studies, but to data/statements from a large high risk sample of people who had been admitted to a psychiatric ward due to a suicide attempt or to increased suicide risk and have attempted suicide earlier in life.

Research questions:

(a) How many men and women engage in suicide-related information prior to a suicide attempt?

(b) With which recipients do men and women communicate their desire to die by suicide prior to a suicide attempt?

(c) By which means (written/verbal) do men and women communicate their intent to die by suicide prior to a suicide attempt?

(d) Do men and women communicate their intent to die by suicide explicitly or implicitly prior to a suicide attempt?

(e) Which topics do men and women refer to in their SRC prior to a suicide attempt?

2. Methods

The presented data was collected as a part of the prospective multicenter study "Predictors of Suicidal Ideation and Suicidal Behavior in a High-Risk Sample (PRESS)" at the University of Leipzig, Ruhr-University Bochum, RWTH Aachen, Germany. Between September

2016 and March 2019, a total of 308 patients (n = 165; 53.6% female) aged 18 to 81 years (M = 36.92, standard deviation (SD) = 14.30) were interviewed at baseline. Baseline data collection (T0) has been completed within a maximum of 14 days after admission to a psychiatric ward due to a suicide attempt (n = 163; 53%) or acute suicidality (n = 145; 47%). Before the interviews, participants were informed about the purpose of the study, the voluntary nature of their participation, and the storage and security when handling the data. They provided written informed consent prior to their participation. Participants met the following inclusion criteria: They had to be at least 18 years old, have sufficient knowledge of the German language, and give their informed consent to participate in the study. Patients were excluded if they had current psychotic symptoms or cognitive impairment. The responsible ethics committees approved the study protocol at the three sites. For more details on the study protocol please refer to Forkmann *et al*. [33]. In the present analysis, only specific parts of the baseline data (including the questionnaire, structured interviews on clinical diagnosis, and suicidality) are analyzed. The instruments used are described in more detail below.

2.1 Instruments

The German version of the Self-Injurious Thoughts and Behaviors Interview (SITBI-G) [34,35] is a structured interview to assess self-injurious thoughts and behaviors. It captures the presence, frequency, and characteristics of a broad range of self-injurious thoughts and behaviors. The SITBI-G demonstrated good interrater reliability, retest reliability, and construct validity in a German validation study (Fischer *et al*. [34]). One item of the SITBI-G was used in the present study: "Have you ever attempted suicide with the intention to die?". Only participants who answered this question with yes were included in the present analyses.

The Suicide Attempt Self-Injury Interview (SASII) is a structured clinical interview developed and validated by Linehan *et al*. [36]. The SASII examines suicidal and non-suicidal self-injurious behavior. In the present study, the item that asks the respondent about SRC was used. Here, the question about SRC referred to the most serious lifetime suicide attempt. The interviewer announced the questions about the most serious suicide attempt as: "In the following, I will ask you questions about your most serious suicide attempt. On (date) you attempted suicide by (method). Please relate the following questions to this event only!". The question about communicating suicidal intent was the following: "At the time or near the time of this episode, did you tell anyone, directly or indirectly, that you were thinking of suicide or that you wished you were dead?" (Interviewer: write down the answer in verbatim!).

2.2 Participants

In the present study, out of the 308 participants of the PRESS-Study, only those with lifetime suicide attempts were included (n = 219; 56.2% female: n = 123; 43.8% male: n = 96; age: M = 37.2, SD = 14.4, range: 18–81). Further information on sociodemographic data, suicide attempts, suicidal ideation and gender differences of the sample are reported in Table 1A,1B.

2.3 Data Analysis

The paper relies on a mixed-method design. Due to the data structure, the focus here is on exploratory data analysis that focusses on a phenomenological description of SCR in men and women. All descriptive and statistical analyses were performed using SPSS (version 27, IBM Corp., Chicago, IL, USA).

To address research question "a", a Pearson chi-square test was performed. To answer research questions "b"–"e" and identify themes, Clarke & Braun's inductive thematic analysis was conducted [37]. To answer research question "b", categories of possible recipients were derived. To answer research questions "c"–"d", a distinction was made between implicit/explicit, written/oral communication of suicide intent according to Frey's definition of personal SRC [26]; further differentiation (e.g., the timing of communication) was not possible due to available data. To answer research question "e", the transcripts of the open answers that has been recorded by the interviewers during the baseline interview were read and coded in detail by 2 authors (CS, SK). In the next step, related or similar codings were grouped into potential themes and the themes were named. Disagreements were discussed between the coders. The themes were again named jointly by the two authors (CS, SK). Subsequently, a third author (HG) checked the coherence of the codings within each theme and the distinctness of the themes, possible deviations were discussed among the three authors (CS, SK, HG).

The analyzed open-answer response of the participants partly contained information about their gender (i.e. " (…) my divorced husband was there with another woman."). So that the gender could be associated with some response transcripts. The participants' open-answer responses were coded separately for men and women and the gender of the inpatient for each open-answer response was not blinded.

Not all of the responses contained all of the information on the aspects analyzed (recipients, means of communication (verbal/written), type of communication (implicit/explicit), topics of communication). The answers that did not contain information about the analyzed aspects were excluded. The number of included and excluded responses in each case is described in the results section.

Table 1A. Sociodemographic and suicide-related characteristics of the study sample.

	Total n	Gender				Chi^2	df	p
		Men		Women				
		n	%	n	%			
Marital status	213[a]	91	42.7	122	57.3			
Living alone (single, divorced/separated, widowed)		67	73.6	61	50			
In a relationship (stable partnership, married)		24	26.4	61	50	12.132	1	0.000
Occupational status	216[a]	94	43.5	122	5.5			
Unemployed, homemaker, retired		44	46.8	52	42.6			
Employee, freelancer, student, pupil		50	53.2	70	57.4	2.379	1	0.123
Impactful life event in the past 2 years	214[a]	94	56.1	120	43.9			
None		41	43.6	74	61.7			
Unwanted separation		21	22.3	32	26.7			
Job loss		12	12.8	11	9.2			
Both		20	21.3	3	2.5	21.520	3	0.000

[a], divergent n due missing data; [b], median given because of outliers in the data.

Table 1B. Sociodemographic and suicide-related characteristics of the study sample.

	Total n	Gender								Mann-Whitney -U-Test p
		Men				Women				
		n	%	Median	M (SD)	n	%	Median	M (SD)	
Suicide attempts (lifetime)	218	96	44	2[b]		122	56	1.5[b]		
Age at first suicide attempt	218	96	44		29.3 (14.3)	122	56		26.8 (15.4)	0.056
Episodes of suicidal ideation (lifetime)	218	96	44	6[b]		122	56	10[b]		
Age at first suicidal ideation	217	95	43.8		24.4 (13.3)	122	56.2		21 (14)	0.003

[a], divergent n due missing data; [b], median given because of outliers in the data.

4. Results

(a) How many men and women engage in SRC prior to a suicide attempt?

The 219 participants (56.2% female: n = 123; 43.8% male: n = 96; age: M = 37.2, SD = 14.4, range: 18–81) with at least one lifetime suicide attempt were classified according to whether they were engaged in SRC prior to the most serious lifetime suicide attempt. Only one third of men (34.4%, n = 33) and almost half of the women (46.3%, n = 57) reported of having been engaged in any suicide related communication before their most serious attempt. Although the proportion of men who reported having engaged in SRC was lower, the Pearson chi-square test performed revealed no significant difference (Chi^2 (4, n = 219) = 3.189, p = 0.074) between both genders concerning the proportion of SRC prior to the most serious lifetime suicide attempt.

The Pearson chi-square test also revealed no significant differences between the genders when looking at the SCR for the group of participants under 35 years of age (Chi^2 (4, n = 105) = 0.823, p = 0.364) and those over 35 years of age (Chi^2 (4, n = 110) = 2.717, p = 0.099).

In the case of men, however, a lower proportion of SCR was noted among older participants (over 35 years) (n = 15, 31.3%; female: n = 29, 46.8%) than among younger participants (under 35 years) (n = 17, 37%; female: n = 27, 45.8%). This is not the case for women.

(b) With which recipients do men and women communicate their desire to die by suicide prior to a suicide attempt?

Participants' responses to the question "At the time or near the time of this episode (the most serious suicide attempt (lifetime)), did you tell anyone, directly or indirectly, that you were thinking of suicide or that you wished you were dead?" were categorized using the following categories of recipients: Parents, siblings, other family members, children, spouse/significant other, friends, colleagues, members of the health care system/police officers, others (i.e., co-patients).

Of all those who communicated suicide-related information (female: n = 57, male: n = 33), 49 statements from women (86%) and 26 statements from men (78.8%) contained information about the recipients. Since some recipients mentioned more than one recipient, multiple responses were possible. The percentages listed in Table 2 below refer to the proportion of women and men who named each recipient.

Women address more often members of the health care system (24.5% female: n = 12; 15.4% male: n = 4) and

Table 2. Recipients of SRC prior to a suicide attempt.

	Gender				Fisher's exact test *p*
	Men		Women		
	n	%	n	%	
Total SRC	33	100	57	100	
Recipients named	26	78.8	49	86	
No recipients named	7	21.2	11	14	
Recipients (multiple response were possible)					
Parents	1	3.9	9	18.4	0.074
Siblings	2	7.7	3	6.1	0.570
Other family members	3	11.5	2	4	0.223
Children	1	3.9	3	6.1	0.568
Spouse/significant other	6	23	25	51	0.011
Friends	8	30.8	12	24.5	0.374
Colleagues	1	3.9	0	0	0.347
Members of the health care system/police officers	4	15.4	12	24.5	0.272
Others (i.e., co-patients)	4	15.4	2	4	0.104

Table 3. Manner of SRC prior to a suicide attempt.

	Gender				Chi^2	df	*p*
	Men		Women				
	n	%	n	%			
Total SRC	33		57				
Mean of communication							
Statements categorized	23	100	31	100			
Verbal statement	16	69.6	20	64.5			
Written statement	7	30.4	10	32.3	0.806	2	0.668
Verbal and written statement			1	3.2			
No categorization possible	10		26				
Type of communication							
Statements categorized	21	100	47	100			
Explicity statement	10	47.6	18	38.3			
Implicity statement	10	47.6	26	55.3	0.462	1	0.497
Nonverbal statement	1	4.8	3	6.4			
No categorization possible	12		10				

their spouse/significant other (51% female: n = 25; 23.1% male: n = 6). Women are also more likely to communicate with more than one recipient (28.6% female: n = 14; 11.5% male: n = 3; $p = 0.080$).

(c) By which means (written/verbal) do men and women communicate their intent to die by suicide prior to a suicide attempt?

Of all those who communicated suicide-related information (female: n = 57, male: n = 33) 31 women (54.4%) and 23 men (69.7%) made statements about how they had engaged in SRC, i.e., whether they communicated in writing or verbally. Written communication could have occurred via email, text message or letter (Table 3).

Among women, ten of them reported having communicated in writing (32.3%). In comparison, twenty women reported sharing such information verbally (64.5%). One woman (3.2%) reported communicating in writing and verbally. Among men, seven (30.4%) reported having communicated in writing, whereas sixteen men (69.6%) reported having done so verbally. The Pearson chi-square test performed revealed no significant difference (Chi^2 (4, n = 54) = 0.806, $p = 0.668$) between both genders and written/verbal communication.

26 statements by women (45.6%) and 10 statements by men (30.3%) did not include information on whether they had communicated in writing or verbally. These statements could not be categorized (i.e., "indirect: caregiver & friends"; "if I have to give animals away, I don't want any more either"; "I don't feel like it anymore").

(d) Do men and women communicate their intent to

die by suicide explicitly or implicitly prior to a suicide attempt?

Implicit communication refers to statements in response to the question: "Before the self-injurious behavior/suicide attempt, did you tell anyone directly or indirectly that you were thinking about suicide or wished to be dead?". In this context, the suicidal intent, suicidal thoughts, and death wishes are not explicitly mentioned or were not understandable in a suicide-related manner, but connections could have been drawn indirectly. The terminology explicit communication refers to if the suicidal intent, thoughts, and death wishes were explicitly mentioned in the statement.

Of all the statements about suicide-related communication (female: n = 57, male: n = 33), 44 statements from female participants (77.2%) and 20 statements from male participants (60.6%) contained information about explicit or implicit communication (Table 3). If the statements contained implicit and explicit parts, they were categorized as explicit. The Pearson chi-square test performed revealed no significant difference (Chi^2 (4, n = 64) = 0.462, p = 0.497) between both genders and implicit/explicit communication. In total, 3 statements by women (6.4%) and 1 statement by a man (4.8%) were categorized as nonverbal communication. They described behaviors to express suicidal intent (i.e., "It had already become obvious, that I was in a bad mood and therefore ate and drank less"; "Paramedic, mother, partner some hours before -> sat at open window").

Examples of implicit statements are "What's App voice message to partner and mother saying she was sorry and couldn't take it anymore" (female) and "Yes, I told my mother and many others "I would like to be gone"" (male). Examples of explicit statements are "Told boyfriend via What's App that she is now cutting her wrists" (female) and "I called the police shortly before and announced the suicide" (male).

For men twelve statements (36.4%) and for women, ten statements (17.5%) were not possible to categorize. These statements did not contain any information on whether the communication was implicit or explicit (i.e., "told girlfriend"; "Yes, my girlfriend on the phone. Not taken seriously.").

(e) Which topics do men and women refer to in SRC prior to a suicide attempt?

This research question examined which topics the respondents addressed in their statement. Of all the statements about suicide-related communication (female: n = 57, male: n = 33) 40 responses of women (70.2%) and 20 of men (60.6%) could be used for the content evaluation. Table 4 provides details and examples of the topics referred to.

No topics could be identified in 17 (29.8%) of the women's responses and 13 of the men's responses (39.4%). The responses that could not be categorized did not include information about what the respondent had said. For example, they only contained information about the recipient of the statement or the time of the statement (i.e., "told girlfriend"; "Yes, my girlfriend on the phone. Not taken seriously.", "Not that evening but in general.", "Yes, my mother (2 weeks before) & a friend (2 days before) & psychologist just before.").

The percentage given is the proportion of women and men who mentioned a specific topic. Since in some cases several topics were addressed in one answer, multiple assignments of an answer were possible.

The most frequent topics: 20% (n = 8) of the women addressed the suicide method in their statements. Listlessness/lack of zest for life, exhaustion/resignation and suicidal thoughts were mentioned by 17.5% (n = 7) of the women. Among men, exhaustion/resignation was most frequently addressed in 35% (n = 7) of statements, listlessness/lack of zest for life in 25% (n = 5), death wish in 20% (n = 4), and suicidal thoughts in 15% (n = 3). Relationship dynamics played a role in 17.5% (n = 7) of the female and 5% (n = 1) of the male statements.

5. Discussion

The purpose of the present study was to examine gender-specific aspects of SRC prior to a suicide attempt in a large high-risk sample of 219 psychiatric inpatients (with at least one lifetime suicide attempt) relying on a mixed-method approach. In contrast to the studies mentioned in the introduction the current study collected data from survivors of suicide attempts and did not use data from psychological autopsies of people who died by suicide. The main findings are: (1) A significant proportion of individuals (34.4% of men and 46.3% of women) in our study reported SRC prior to their suicide attempt. As a result, this may be a potential avenue of suicide prevention. (2) We did not observe significant gender differences in the prevalence of SRC (consistent with the meta-analysis conducted by Pompili *et al*. [27]. (3) Instead, men and women differ in terms of involved recipients and the content of SRC.

Women communicate more frequently with their spouse/life companion. In line with the studies that show that women at high-risk are much more likely to use the help system [38] and reported communicating with healthcare professionals more often than men. It is also evident that women more often reported communicating with several recipients. All of these aspects seem to increase the likelihood of women at high-risk will be identified and that the suicidal person will have access to appropriate help.

The analysis of the content of SRC revealed that men and women focus on different topics. In 35% of the statements by men (17.5% by women), issues dealing with exhaustion, resignation and "giving up" were mentioned. "I can't do it anymore" is the most frequently expressed statement. Möller-Leimkühler [39] describes a "male" problem-solving behavior in psychologically stressful situations, which is characterized by a defensive approach towards accessing help. This is expressed in beliefs such as "I can do

Table 4. Content of SRC prior to a suicide attempt.

	Gender						Fisher's exact test *p*
	Men			Women			
	n	%		n	%		
Total SCR	33	100		57	100		
Topic named	20	60.6		40	70.2		
No topic named	13	39.4		17	29.8		
Topic of communication	naming the topic n	%	example	naming the topic n	%	example	
Exhaustion, resignation: in SRC, depleted strength, "can't do it anymore", sometimes associated with succumbing to this state, is addressed.	7	35	(1) "I've talked about it over and over again that I can't take it anymore (…)"; (2) rehab colleague -> (I) told him a few days before, (…) couldn't take it anymore and was sick of it, and shortly before that too (according to colleague, he could not remember it); (3) Indirectly: "I can't take it anymore".	7	17.5	(1) told friends, "I can't take it anymore"; (2) texted with a friend, "You'll find a better woman," "I'm tired"; (3) Whatsapp voice message to partner and mother that she was sorry and couldn't take it anymore.	0.119
Listlessness, lack of zest for life: in suicide related communication lack of zest for life, emptiness, and meaninglessness is adressed.	5	25	(1) Doctors on ward ("thoughts of senselessness") (…); (2) I said, that I can't take it anymore and I don't want to go through all of this. (…)	7	17.5	(1) brother: life is no longer fun; (2) I told my sister: "I don't want to go on living, I have no more life value." (...); (3) I told my husband that I felt empty. (...)	0.359
Death wish, wish to disappear: SRC addresses the desire to be dead, to disappear (from the unbearable situation), or to no longer be there.	4	20	(1) I told my girlfriend at that time that I did not want to live like that anymore and that I couldn't live like that anymore. That I could no longer bear the burden of guilt. The girlfriend blamed him a lot, made him feel that he was to blame for everything bad.	4	10	(1) to my husband, 2 friends & my therapist in March, shortly before I mentioned to my husband that I wished to be dead (4 weeks ago); stated one day before in an argument "I can't take it anymore & wished not to be around."	0.246
Suicidal thoughts: suicidal thoughts are mentioned in SRC.	3	15	(1) I spoke to my mate in November about having suicidal thoughts. (…); (…) told a friend on the phone, that concrete plan is coming up.	7	17.5	(1) female friend knew these thoughts existed, argument: "Would be better if I were gone."; (2) nurse asked directly about suicidal thoughts and affirmed.	0.559

Table 4. Continued.

	Gender						Fisher's exact test *p*
	Men			Women			
	n	%		n	%		
Goodbye: SRC is described as a goodbye.	2	10	(1) Messages to a friend per WhatsApp immediately before ("my last message, wanted to say goodbye) Person says it was very clear; (2) Said goodbye via SMS after no one had time.	3	7.5	(1) I gave a friend hair ties that were valuable to me & told her I didn't need them anymore. She also took this as a kind of goodbye. (2) farewell letter to children sent to father -> only give if I am sometimes no longer there.	0.407
Method: in SRC, the method is mentioned.	1	5	(1) to brother: "If that doesn't stop now, I'll eat pills."	8	20	(1) call to boyfriend "I have my cocktail ready." (2) indirectly Friday before to female friend: "I can't go on like this." "Can also sit down in front of a pillar."	0.123
Relief for others: in SRC, the theme revolves around the assumption that oneself is a burden for others or that it would be a relief for the other person when oneself is no longer there.	1	5	(1) I told my girlfriend (…) That I could no longer bear the burden of guilt. The girlfriend blamed him a lot, made him feel that he was to blame for everything bad. Girlfriend said: "And if I don't come back, then that's the way it is".	6	15	(1) I told my mother in the argument that I don't feel like doing the whole thing & that I'm a burden for both of them & that that burden has to go away now; (2) I told my mother, aunt & husband that it would be better if I were not around anymore.	0.247
Death as a solution: in SRC, one's death is described as the solution (to a problematic condition).	1	5	(1) (…) On Friday I wrote to him: "I don't see any other way out. Thank you for letting me call you my friend, goodbye."	2	5	(1) Yes, to best friend, but not affirm that I will do it. However, I pointed it out as a possible solution for me. (2) I told my girlfriend who lived with me (and with whom I was unhappily in love) about 3–4 weeks ago the easiest solution for me would be hitting a tree driving. (...)	0.745
Death as a consequence: in SRC, one's death is described as the consequence of certain conditions.	1	5	(1) to brother: "If that doesn't stop now, I'll eat pills."	4	10	(1) indirectly: caregiver & friends "if I have to give up animals, I don't want to live anymore"; (2) I'd rather die than start over. There's no way I'm starting all over again; (3) I told my partner "if you leave, I'll kill myself."	0.187

Table 4. Continued.

	Gender						Fisher's exact test p
	Men			Women			
	n	%		n	%		
Metaphor, humor: SRC relies on humor, jokes, or metaphors.	1	5	(1) Indirectly suggested it to several people ("o-rder my GP for an emergency slaughter") as a j-oke but meant it seriously; (2) Three days before posted on facebook: "I'm unplugging now".	2	5	(1) (...) used a metaphor, but hint perhaps too indirect; (2) jokes towards mother, father, friend. Other themes named: Relationship dynamics	0.407
Relationship dynamics: relationship dy-namics are addressed in SRC.	1	5	(1) I told my girlfriend at that time that I did not want to live like that anymore and that I couldn't live like that anymore. That I could no longer be-ar the burden of guilt. The girlfriend blamed him a lot, made him feel that he was to blame for eve-rything bad.	7	17.5	(1) (...) "I am divorced. One day, it was the beginning of school, my divorced husband was there with another woman. That was hard for me. I wasn't able to deal with that. I never really got over the fact that he dumped me for this younger woman"; (2) I told the friend who lived with me (and with whom I was unhappily in love) about 3–4 weeks ago that the easiest solution for me was to hit a tree driving; (3) letter written: that she didn't want to get divorced, wrote: "Till death do us part & that he should finish building the house & take care of the children".	0.176

it alone" or "No one can help me". In this sense, the phrase "I can't do it anymore" can be interpreted as a statement with far-reaching consequences. It can mean the loss of the only possible help, self-help. This also gives rise to different avenues around suicide prevention for men, e.g., barriers to the use of assistance need to be considered and removed.

The second most frequently mentioned topic by men (25% of the statements in men vs. 17.5% for women) is listlessness. These statements are difficult to interpret in a suicide-related manner. They are given in an unspecified way regarding suicide, or their content is not directly related to suicidal intent. The large number of unspecified suicide-related statements, may be related to self-stigma or expected public stigma. Self-stigma and expected public stigma because of one's suicidality is prevalent among men [40]. This may lower the propensity to address the issue directly and thus seek help directly. Further research is needed to investigate this issue and to derive appropriate consequences for suicide prevention.

A difference in the content of SRC between men and women is also evident regarding the suicide method mentioned. A suicide method comes up in 20% of statements made by women, but only in 5% of men. Previously, this difference had already been described by Robins *et al*. [29] in their study. The (planned) suicide method is clearly suicide-related in terms of content. It can mean a specification of the suicide intent and plays a central role in the clinical setting in assessing the suicide risk of persons [41]. The more frequent mention of the suicide method by women may thus have an effect similar to that described above. Their high-risk status is more likely to be noticed and thus they seem to be more likely to receive help.

The high proportion of those who state that they have communicated in a suicide-related manner and the remarkable ambiguity or impaired clarity of many statements stand in some contrast to each other—especially among men. As discussed, this may be related to fear of stigmatization, lack of access to the help system, or unwillingness to access help, i.e., Mackenzie *et al*. [40]. It may also be necessary for men to learn to whom and how to communicate directly in order to receive appropriate help. Further research is needed to investigate this in more detail and to reduce barriers, facilitate access and develop tailored preventive measures. It also seems necessary to closely observe the "smallest signs" of help-seeking behavior. It is important to talk about suicide and ask if further help is needed.

The results should be seen in the light of the differences in the marital status between men and women. Men were significantly more likely to be single. As mentioned in the introduction, marital status "single" [8] is a significant risk factor for suicidal behavior. Moreover men additionally describe fewer diverse recipients of their SRC and may thus have limited access to social support. The lack of social support represents another established risk factor for attempting suicide [42,43]. These two (social) risk factors should receive more attention to prevent suicide of men.

Unlike most existing studies that rely on psychological autopsy data, i.e., retrospective reports from relatives and information from medical records, the present study investigates self-reports of SRC prior to a suicide attempt from a large high-risk sample of psychiatric inpatients. Despite some important strengths of the study presented here, some critical points must also be considered when interpreting the results.

The survey took a systematic approach to data collection. Every inpatient who fitted the inclusion criteria was approached as a potential participant (response rate: 58%). Subjects have just engaged in a suicide attempt or have previously attempted suicide. However, they were interviewed in a context in which their suicidality was prominent (hospitalization for acute suicidality or renewed suicide attempt). It can therefore be assumed that they were also able to remember more distant situations in detail. A possible "selection bias" must be considered when interpreting the data. The individuals who agreed to participate in the study may have been more inclined to report about their experiences then those who declined participation. In addition, it is to be taken into account that they survived a suicide attempt, i.e., they may have communicated differently about suicide than individuals who died by suicide and were subject to the psychological autopsy studies mentioned above. Furthermore, gender could be linked to the participants' open-answer response. This could be a possible source of bias in the identification of themes.

Overall, fewer statements by men were analyzed. The absolute number of men who stated that they had communicated about suicide was lower than that of women. In addition, many statements did not contain any information about the recipient or the content. Particularly in the case of the thematic content analysis, some topics are only represented by very few statements. It must be taken into account that only spontaneous answer to the question about suicide-related communication had been recorded. Since the study has not been designed to analyze SRC in detail the interviewers did not ask for more details with respect to recipients, content, etc.). For example, if no recipients were named in the response, the interviewer did not ask for it. As a result, when considering the statements, it should be noted that the answers in some categories are difficult to evaluate and compare. Nevertheless, they offer a large pool of self-reports of SRC that have hardly been considered before.

6. Conclusions

A high proportion of participants report having engaged in SRC prior to a suicide attempt. In contrast, the themes addressed (e.g., exhaustion, resignation, and listlessness) are very ambiguous and not clearly suicide-related, especially among the men. This can lead to difficul-

ties in the interpretation of the statements by the recipients. Women seem to communicate more often with recipients who may provide assistance.

Men have a higher risk of dying by suicide. Gender-specific prevention measures ought to be developed. These should also take into account the gender-specific aspects of men's suicide-related communication.

Regarding suicide prevention for men as a special risk group, it is also important to conduct further research examining the correlations between traditional male role models, (feared) stigmatization due to suicidal thoughts and behavior, lower use of help, and higher suicide rates. The findings to date suggest that it is important to challenge these role models. For example, this includes making it socially acceptable for men to ask for and seek help. Men should no longer fear stigmatization. These efforts need more attention—also politically—and awareness campaigns that specifically address destigmatisation of suicidal thoughts and behavior in men.

Another political implication is that the help system should specifically address the needs of men by taking the communication behavior of men into account. In addition to gender-specific prevention measures, low-threshold, gender-specific counseling, and treatment services are needed.

Data Availability Statement

The datasets generated and/or analyzed during the current study are not publicly available due to because this is not regulated in the participants' declaration of consent but are available from the corresponding author on reasonable request.

Author Contributions

CS—conceptualization, methodology, data analysis, writing original draft, writing–review & editing; SK—data analysis, writing–review & editing; TT—funding acquisition, project administration, resources, writing–review & editing; TF—funding acquisition, project administration, resources, writing–review & editing; AS—data curation, investigation, writing–review & editing; DR—data curation, investigation, writing–review & editing; LP—data curation, investigation, writing–review & editing; KS—Resources, writing–review & editing; HG—data analysis, funding acquisition, project administration, resources, software, writing–review & editing. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript.

Ethics Approval and Consent to Participate

The responsible ethics committees approved the study protocol at the three sites (EK 310/13, Medical Faculty of the RWTH Aachen University; 4909-14, Medical Faculty of the Ruhr-University Bochum; 042-14-27012014, Medical Faculty of the University of Leipzig).

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Conflict of Interest

The authors declare no conflict of interest.

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