Article

OMEGA—Journal of Death and Dying
0(0) 1–20

DOI: 10.1177/00302228211024112
journals.sagepub.com/home/ome
SAGE

Social Support and Help-Seeking Among Suicide Bereaved: A Study With Italian Survivors

Lorenza Entilli[1], Diego De Leo[2,3], Fabio Aiolli[4], Mirko Polato[4], Ombretta Gaggi[4], and Sabrina Cipolletta[1]

Abstract

Background: Research over how suicide survivors approach services is limited. **Aims**: This cross-sectional study explores the psychological state and perceived social support of Italian survivors, including those who have not sought for help, and investigates differences for gender or kinship with the departed. **Methods:** Rule-based system (RBS) analyses identified relationships between social support and reported formal/informal help-seeking behavior. One-hundred thirty-two (103F; 27M) suicide survivors (53 having never sought for support) answered an anonymous online survey. Life satisfaction, wellbeing, perceived social support, suicidal ideation and formal/informal help-seeking were investigated. **Results:** RBS analysis identified different help-seeking behaviors: survivors lacking social support may avoid reaching a psychologist and prefer GPs, look for advice in online forums and rely on people out of their narrower network such as co-workers. **Conclusion:** These unique study's results offer insight to identify which specific areas would be fruitful to investigate while assessing social support in bereaved individuals.

[1]Department of General Psychology, University of Padua, Padua, Italy
[2]Australian Institute for Suicide Research and Prevention, Griffith University, Nathan, Australia
[3]Slovene Centre for Suicide Research, University of Primorska, Koper, Slovenia
[4]Department of Mathematics, University of Padua, Padua, Italy

Corresponding Author:
Lorenza Entilli, Department of General Psychology, University of Padua, Via Venezia 8, 35131 Padua, Italy.
Email: lorenza.entilli@phd.unipd.it

Keywords
suicide survivors, traumatic bereavement, rule-based system analysis, help-seeking behavior, social support

Introduction

Individuals mourning the loss by suicide of a significant person face an increased risk of developing physical and psychological issues and need timely support (Pitman et al., 2014). Their research for professional help may sometimes be hindered by prejudice toward mental health services, fear of being stigmatized, or lack of economic resources (B. Feigelman & Feigelman, 2008).

In Italy, every year almost 4.000 deaths by suicide are registered (Istituto Nazionale di Statistica, 2018), leaving family members and friends grieving for a loss they often struggle to understand. The number of suicides in Italy has steadily declined since mid-1990 but witnessed a significant increase between 2007 and 2013, coinciding with the country's economic recession (Mattei & Pistoresi, 2019).

The number of suicides in Italy is quite contained, compared to those in other European countries: in 2016, Italy had a mean of 5.85 suicide deaths out of 100,000 inhabitants, while Slovenia, Belgium and France had respectively 18.09, 17.11 and 13.22 (Eurostat, 2021). Although the number of suicide deaths in Italy may not reach other countries' rates, the stigma surrounding suicide may cause difficulties for the survivors who would like to talk about their loss, find support or seek professional help (Scocco et al., 2019).

Being able to obtain informal support from relatives and friends is pivotal, especially when professional support is lacking (Dyregrov, 2003). Social support could be defined as the emotional, economic, and practical help or information provided to the affected individual by significant others, such as family members, friends, neighbors, and co-workers (House & Kahn, 1985).

Despite some conceptual differences, literature suggests social support may have a mitigating impact, either with a buffer or a recovery effect, on grief (W. Stroebe et al., 2005; Vanderwerker & Prigerson, 2004). However, suicide survivors often lack social support from their own informal network, as the traumatic loss may increase family conflict (Cerel et al., 2008) or inhibition to talk about the event to others and consequent withdrawal (Peters et al., 2016).

Help-seeking behavior in suicide survivors was previously studied in relation to personality traits, coping styles, and perceived closeness to the decedent (Drapeau et al., 2016). However, Drapeau's study focused only on survivors' attitudes towards mental health services; moreover, the recruitment was carried out mainly through suicide support services. Overall, sampling on suicide survivors generally focuses on people who had already obtained support

(McMenamy, 2008) or, at best, were referred to peer support groups (W. Feigelman et al., 2009). The survey from McMenamy et al. (2008) assessed the needs of survivors in terms of formal and informal sources of support, resources used in healing and obstacles to finding support since the loss; however, the sample included only one person not related by blood to the decedent. Scocco et al. (2019) focused specifically on a group of suicide survivors already seeking for help and investigated how grieving and depression can influence the intensity of stigma in this group of survivors.

A clearer picture of how different groups of survivors may use informal and formal support is needed and could guide professionals in identifying individuals at risk of experiencing poor social support. Much is still unknown about how different sub-groups of survivors (i.e., females/males; relatives/non-relatives) seek help in their formal and informal support network: whether they resolve to different types of support; where they actually look for it, and what is helpful to them.

Artificial intelligence research is already used to identify people at risk of self-harm and suicide (Fonseka et al., 2019). Among these computer programs, rule-based systems (RBS) can be used to perform inferences on data that could not be obtained with common analyses. RBS is generally used in fields requiring automated processing of large bodies of knowledge (Ligęza & Nalepa, 2011) but their inference engine system is apt to be employed to trace paths for in-depth exploration or provide information for tailored services.

The aim of the present study was to obtain a panoramic of the psychological state and perceived social support of Italian survivors, including those who have not sought for help, and investigate possible differences for gender or kinship. Moreover, through the study the scope was to explore the relationship between perceived social support and reported help-seeking behavior; in doing so, the feasibility of rule-based systems (RBS) to conduct extended analyses on restricted amounts of data was tested.

Materials & Methods

The present study is a cross-sectional study conducted on suicide bereaved people in Italy.

Participants

Between April 2019 and January 2020, a total of 228 people answered an online questionnaire; of these, 132 met the criteria to be included in the study. Inclusion criteria were: being more than 18 years old, residing in Italy, and having experienced a loss by suicide. As the questionnaire was composed of numerous sets of questions, participants that partially compiled the questionnaire (over 50%) were included in the dataset. Participants were recruited through local

advertisements, social media (i.e., Facebook), and snowball sampling. Individuals from the same family could participate. The survey was accessible online; participants could compile it anonymously or leave their contact to be reached for future assessments. Approval from the Ethics Committee of Psychology Research of the University of Padova was obtained. At the first page of the questionnaire, participants were provided with information about the study and the consensus form; they were also informed of the possibility of obtaining free of charge support in case they had reached the survey webpage while looking for help or should the questions trigger acute distress: contact details were provided at the beginning and at the end of the questionnaire.

Measures

Sociodemographic information about the participant and the decedent were collected as well as participant's and decedent's age at the time of the death and their relationship/kinship. Participants were also asked to rate their perceived closeness to the decedent on a scale from 1 (Not close) to 3 (Very close). Closed questions investigated: a) whether and how much time the participant had waited before looking for help (including barriers to reaching support); b) where they had looked for information or advice; c) the perception of helpfulness from their informal support network; and, d) the type of social support received from each person in their network. Participants could indicate in which amount (on a scale from 0 "not at all" to 5 "very much") different resources in their informal network (close relative, partner, friend and co-worker/classmate) had or had not provided a specific support. Measures of different types of social support were created on the basis of the four domains of the Medical Outcomes Study Social Support Survey (MOS-SS): emotional/informational support, tangible support, positive social interaction, and affection (Sherbourne & Stewart, 1991).

As for the formal support, participants were asked: e) which professionals and services they were able or not able to access (psychologist/psychotherapist; general practitioner, psychiatrist, professional support group, mutual aid group); f) whether they had used online support (such as online forums, crisis live-chat services or email support); and, g) which was for them particularly helpful and/or requested (on a 7 points Likert scale from 'Not at all' to 'Very much').

Life satisfaction, general wellbeing and perceived social support were investigated through standardized questionnaires:

- The Life Satisfaction Scale (SWLS) (Diener et al., 1985; Di Fabio and Gori, 2020), a 5-item self-report questionnaire, composed of a 7 point Likert scale ranging from "completely disagree" to "completely agree" (Cronbach's alpha ranging between 0.79 and 0.89). In order to avoid creating a questionnaire

with an excessive number of questions, for the present study, only the item "I am satisfied of my life" was used. This singular item was deemed sufficient to assess the general level of life satisfaction.
- The WHO-5 Wellbeing Index (WHO-5) (World Health Organization, 1998), a 5-item self-report questionnaire rated on a 6-point Likert scale. (Cronbach's alpha of 0.88)
- Multidimensional Scale of Perceived Social Support (MSPSS) (Di Fabio & Busoni, 2008; Zimet et al., 1988), a 12 items self-report questionnaire measuring perceived social support from three subscales: family, friends, significant others (Cronbach's alpha of 0.81 to 0.98 in non-clinical samples)

Lastly, two ad-hoc questions on suicidal thoughts were posed to investigate whether the participant had suicidal thoughts and, if yes, how often since the loss.

Data Analysis

Descriptive and correlation analyses were carried out to obtain a general picture of the groups of respondents. Linear and logic regressions were used to test the mediating effects of age, gender, kinship, time passed since the loss, wellbeing, life satisfaction, suicidal thoughts, and perceived social support of participants.

A rule-based system (RBS) analysis was used to identify possible implications among all the variables included. An RBS is a computer software wherein human practical knowledge is accumulated and employed as a series of "if-then" associations (Pam, 2013). The algorithm used to perform these analyses is called Preference and Rule Learning (Polato & Aiolli, 2019), a classification algorithm that automatically builds and selects the most important features in the decision. In our experiments, the classification tasks aimed at finding a correlation between the input features and the target variable. The considered features are logical rules built on top of the independent variables. In PRL, the most relevant rules can be selected in two ways: "by margin", that are the rules which guarantee good confidence in the classification, and "by weight" that are the rules that have a higher impact on the decision. As a first step, the algorithm tested all the independent variables included in the study with the four dependent variables: wellbeing, life satisfaction, suicidal ideation, and perceived social support. The most promising set of implications (i.e., those showing to discriminate within the variables with a probability higher than 0.5) was selected and rules were extracted. For this second step, two analyses were conducted: one by 'weight' and another by 'margin'; both showed a good overlapping.

For the present study, the first 50 rules extrapolated "by margin" between the use of formal/informal support and perceived social support were selected and analyzed: specifically, the group of questions regarding the perceived social support and a macro-group of questions regarding the style of informal and

formal support-seeking. The questions covered: 1) whether the person after the loss had looked for support; 2) which kind of informal social support (emotional, informational, practical, physical) was received by every person or group of people; 3) which people in the informal support network participants relied on; and, 4) if and for how much time participants used professional support and services.

Results

The demographic and psychosocial characteristics of the respondents, as well as the answers on their help-seeking behavior are reported in Tables 1 and 2.

Seventy participants of 123 (56.9%) had sought professional help after the loss and 53 (40.2%) did not. Of these, 36 were male individuals (one answer was missing). Details over how much time participants had waited before looking for support and receiving it are reported in Table 1.

Many participants who looked for support (43.9%) stated they did not find obstacles in reaching for help. Lastly, only 20 participants out of 123 (15.2%) received a direct outreach from mental health services. Those who declared not having received any form of outreach (103 out of 123) answered that they would have liked to receive it in 60 cases (45.5%), and those who had received it were for the majority (90%) satisfied with the support received.

The most used support service was a psychologist or psychotherapist (72.3%) and a General Practitioner (59.4%). Psychiatrists were indicated in 42.6% of cases, and there was no significant difference between the use of formal support groups (37.6%) or mutual aid groups (39.6%). As for what was found useful by participants, 61.4% indicated "not feeling judged", 47.5% the possibility to "rely on a specialized professional" and 41.6% the possibility to "receive advice and information". In the professional support received, the "feeling of not being understood" (28.7% of cases), the "costs of the services" (21.8%) and the "lack of specific knowledge by professionals" (18.8%) were the most unsatisfactory aspects.

Twenty-seven participants out of 102 (26%) had previously received psychological support; the numerosity of the sample did not allow in-depth analyses of this data with other variables, such as whether they managed to receive help quicker or their general level of wellbeing. Only 18.1% of participants had used online services, and the most employed online tool were online forum groups, both administered by a professional (10.6%) and by other survivors (10.6%); telephone services and live-chat services were used respectively by 8.7% and 7.7% of the respondents, while the least used was a support via email (96.2% declared they have not used it). The most valued resources were the support from a psychologist/psychotherapist (selected by 55.3% of participants; 18.9% answered it was "Very useful"); the least was support through chat/email (selected by 25.8%; no participant answered it was "Very useful). Lastly, 53% stated

Table 1. Participants' Sociodemographic Data and Answers on Help-Seeking.

Factor respondents	N°(%)
Gender	
Female	103 (79.2%)
Male	27 (20.8%)
Marital status	
Single	59 (44.7%)
With partner	73 (55.3%)
Employment	
Unemployed	49 (37.1%)
Employed	83 (72.9%)
Religiosity	
Non-believers	64 (48.5%)
Believers	68 (51.5%)
Kinship	
Relatives (close relatives and partners)	74 (57.8%)
Non-relatives (4 missing)	54 (42.2%)
Closeness perception with decedent	
Not very close	8 (6.3%)
Averagely close	39 (30.5%)
Very close	81 (63.3%)
Decedent's gender	
Female	34 (26.2%)
Male	96 (76.8%)
Suicidal thoughts	
No	61 (55.5%)
Yes	49 (44.5%)
Suicidal thoughts in time Y/N	
1 week	6 (4.5%)
1 month	13 (9.8%)
1 month <>6 months	23 (17.4%)
>6 months	6 (4.5%)
1 year	6 (4.5%)
>1 year	15 (11.4%)
Had previous psychological support	
Yes	27 (26.5%)
No	75 (73.5%)
Sought for help	
Yes	70 (56.9%)
No	53 (43.1%)
Found obstacles in help-seeking	12 (17.1%)
	58 (82.9%)

(continued)

Table 1. Continued.

Factor respondents	N°(%)
Started looking for support	
1 week	25 (35.7%)
1 month	24 (34.3%)
>1 month	14 (20%)
1 month <>6 months	3 (4.3%)
1 year	2 (2.9%)
>1 year	2 (2.9%)
Received support	
1 week <	50 (37.9%)
1 month	11 (8.3%)
>1 month	2 (1.5%)
>6 months	2 (1.5%)
Never received it	5 (3.8%)
Looked for advice	
In blog articles	54 (47.4%)
In books	35 (30.7%)
In online forums	33 (28.9%)
In Informal groups	19 (16.7%)
Found helpful in professionals	
Not feeling judged	62 (61.4%)
Specifically trained	48 (47.5%)
Possibility to receive advice from peers	33 (32.7%)
Found unhelpful in professionals	
Feeling of not being understood	29 (28.7%)
Costs of services	22 (21.8%)
Lack of specific training	19 (18.8%)

they still needed support: 40.6% selected a psychologist or a group administered by a psychologist (24.8%); a psychiatrist or a GP were indicated only on a few occasions (5.9% and 3%, respectively).

As for the answers to open questions, some participants stated that they would have preferred a free-of-charge psychologist, or rather a professional specialized in traumatic bereavement. Others indicated that they had difficulties accessing the online support, which they had found but were not properly guided to log it in. Some, expressed the need to help their partner or relatives, and one person who lost the niece explained she was not feeling "worthy" of help.

As for informal support, the most perceived form of help was from parents, indicated 101 times out of 132, (76.5%; in 26 cases "very helpful"), and from friends or other relatives, indicated 106 times out of 132 (80.3%, in 26 cases as

Table 2. Time From Loss And Questionnaires' Scores.

Participant's age	Mean = 42.3 y.o. SD = 14.9
Decedent's age	Mean = 38.9 SD = 17.6
Average time from loss	Mean= 66.2 months S.D. = 70.9
SWLS (life satisfaction)	Mean 3.17 SD = 1.94
WHO-5 (wellbeing)	Mean 12.55 SD=4.35
MMPSS (social support)	Mean 3.80 SD = 1.10

"very helpful"). Partners were indicated in 76 times (57.6%, in18 times indicated as "very helpful"). The least helpful type of informal support was offered by co-workers or classmates (16 times indicated it as not helpful at all). Also informal groups were included in this item: 14 times these were indicated as not helpful at all, and only 52 times, overall, were selected as a source of support.

Correlations showed a positive relationship of perceived social support with wellbeing ($r = .22$, $p = .015$) and life satisfaction ($r = .32$, $p = .001$). As for suicidal ideation, it correlated negatively with life satisfaction ($r = -.36$, $p = .000$), well-being ($r = -.18$, $p = .049$) employment ($r = -.18$, $p = .034$) and kinship ($r = -.26$, $p = .009$), whereas positively with gender ($r = -.17$, $p = .043$), that is, close relatives and women had a higher number of suicidal thoughts. Life satisfaction correlated negatively with the age of the participant ($r = -.19$, $p = .033$) and positively with their religiosity ($r = .18$, $p = .034$) and kinship ($r = .31$, $p = .001$) with the departed. Significant correlations are reported in Table 3.

Linear Regressions

The results of regression models are reported in Table 4. As for life satisfaction, 42% of its variability was explained by the model with religiosity, decedent's age and kinship as predictors. The kinship with the deceased revealed to be the more predictive variable: those who have lost a relative or a partner have poorer life satisfaction than non-relatives. Life satisfaction was higher for those who reported to be religious and also higher when the age of the decedent at the death was higher. Moreover, participants whose age was higher at the time of the loss had higher wellbeing.

Females reported less social support than males. Those who had a partner reported higher social support. Logistic regressions were used to analyze binary

Table 3. Correlations (Pearson Correlation; 1-Tailed).

	Life satisfaction	Wellbeing	Social support	Suicidal ideation
Life satisfaction	–	.54**	.32**	−.35**
Wellbeing	–	–	.22*	−.18*
Social support	–	–	–	−.06
Suicidal ideation	–	–	–	–
Age	−.19*	−.08	−.07	−.15
Gender	−.11	−.02	−.13	.17*
Marital status			.18*	
Employement	−.06	−.05	−.06	−.17*
Religiosity	.18*	.13	.10	−.02
Kinship	.31**	.12	−.13	−.22**

* ≤0.05. **≤0.01.

Table 4. Significant Results Linear Regression.

Dep. variable	R^2	Coefficient	Ind. variable	Standard error	β	t	ρ
Life satisfaction							
	.418	.000	Religiosity	.396	.383	3.782	.000**
			Decedent's age at the death	.201	.298	3.058	.003**
			Kinship	.500	.500	4.214	.000**
Wellbeing							
	.274	.040	Participant's age at loss	.944	.464	2.612	.011*
Social support	.539	.006	Age	.211	−.433	−2.899	.005**
			Gender	.266	−.214	−2.187	.031*
			Marital status	.222	.248	2.481	.015*
			Employment status	.236	−.232	−2.292	.024*

* ≤0.05. **≤0.01.

data about suicidal ideation with several dependent variables, but no significant results emerged. Lastly, social support was predictive of life satisfaction ($\beta = .338$).

Rule-Based System Analysis

The results of the RBS analysis are schematically reported in Table 5. Regarding whether the person after the loss had looked for support [1], participants who

Table 5. Implication Rules.

1) Where they have looked for support	Looking for help in informal groups (e.g. church)	High social support
	Looking for help in online forums	Low social support
2) Degree of e perceived support	Friends are indicated as helpful	High social support
	Friends are indicated as not helpful Close relatives are indicated as not helpful Partner are indicated as helpful Colleagues are indicated as helpful	Low social support
3) Types of informal support	Not needing others for 'distractions' or to "confide with someone"	High social support
	–	Low social support
4) People to rely on	Close relatives for: practical support; physical comfort; sharing memories Partner for: advice Friends for: physical comfort Colleagues for: talking about the departed Informal groups: someone to confide to	High social support
	Friends for: talking about the departed Informal groups: advice; practical support	Low social support
5) Use of professional services	Not going to a psychiatrist	High social support
	Not going to support groups (i.e. mutual aid groups) or going systematically for one year	
	Not going or going shortly to a psychologist Going to the GP often	Low social support

experienced low social support searched in forums for advice and information, whereas high social support was experienced if participants had searched into informal groups not connected to bereavement support. As for which degree of support participants perceived from different people in their social network [2], low social support was experienced by those who indicated that a close relative has helped "nothing at all" or "partially"; but also by those that indicate that the partner was a "good" or "very good" support source. Moreover, low social

support was experienced if friends or other distant relatives were indicated as "not helpful at all", "partially helpful" or "neutral".

Participants were also asked to indicate which kind of informal support was received by every person or group of people [3]. High social support was experienced if participants did not feel the need to "Be able to confide and talk about the loss with no fear" neither "Looking for some distractions during the day". As for the people to rely on [4], a high level of social support was experienced if participants resolved to close relatives for "practical support", to "obtain physical comforting", or to "have someone to remember the departed with". When participants relied on informal groups to have advice or practical support, social support was low; on the contrary, social support was high if they look for informal groups to have someone to confide in.

The last set of questions investigated if and for how much time survivors used professional support and services [5]. Low social support was experienced if participants had not resolved to a psychologist or only used one or two encounters. High social support was experienced if participants had not looked for support groups; but also high social support was experienced if participants had looked for support groups within one/two encounters and encounters for 1 year.

Discussion

The present study offers an overview of the bereavement experience of a sample of Italian survivors, specifically: a) the general characteristics and psychosocial state of a sample of Italian individuals bereaved by suicide; b) the way suicide survivors have dealt with formal and informal help-seeking; c) the relationship between survivors' perceived social support, life satisfaction and wellbeing; and, d) the way perceived social support may influence the professional support seeking.

A majority of females answered the questionnaire. This was expected, as males may tend to seek less for support (Addis & Mahalik, 2003) and this may have affected the quality of responses to the survey as well; also the majority of decedents was expected to be male, as suicide occurs more often in males (Värnik et al., 2008). Life satisfaction of participants was below average and, differently from what suggested by literature (Bonanno & Kaltman, 2001; Cerel et al., 2013), was negatively correlated with age and positively with being a close relative or partner of the departed. Higher life satisfaction was found in religious people (Tedeschi & Calhoun, 2006) and when the decedent's age was more advanced (Bratt et al., 2017). Overall, despite the variability in the time passed since the loss, the sample of survivors showed to have been impacted in their life satisfaction by the suicide loss. Diener and Seligman (2002) found life satisfaction to be a significant negative predictor of suicidal ideation.

Almost half of the respondents reported having had suicidal thoughts, a good number of which more than once (Pitman et al., 2014); suicidal ideation was strongly related to life satisfaction and wellbeing. Some results such as relationships with gender and employment status are consistent with literature (Nock et al., 2008); however, differently from what outlined by M. Stroebe et al. (2005), in our sample social support did not show a direct correlation with suicidal ideation. Also, only close relatives and partners showed high rates of suicidal ideation (Pitman et al., 2016). No significant results emerged by the time passed since the loss: according to W. Stroebe et al. (2005), buffering and recovery effects promoted by social support (respectively obtained recently after the loss and in the longer term during the bereavement process) are mediated by different processes and may be likely to have a different time course. Lastly, the search for help decreases after 6 months/1 year; this could indicate a renunciation to look for support, an alarming issue considering literature suggests grief related issues may last up to 2 years (Entilli et al., 2021; Kõlves et al., 2020).

The results offer insights over the obstacles suicide survivors may face when seeking support: fear of stigma and lack of economic resources were the most reported obstacles by the bereaved who did not look for help. Consistently, survivors who did obtain support indicated the need for trained professionals and the necessity to not feel judged. Face-to-face support groups are often used by suicide survivors to obtain advice and comfort from peers (Cerel et al., 2009); however, our participants showed to prefer online groups; this might have to do either with the above-mentioned fear of stigma, lack of services or economic concerns. Some online tools such as crisis services and live-chats revealed feasible for Italian suicide survivors looking for accessibility and confidentiality (Cipolletta et al., 2021).

Parents and friends revealed the most valued source of help, whereas partners in a smaller amount. However, other relatives and co-workers appeared to have a role in support, as they may have been the only resource survivors could rely on, when support from closer relatives is missing. Informal groups not related to bereavement support (such as sport or church groups) were not indicated often or reported to be useful: this might be due to the general fear of being stigmatized (Sheehan et al., 2018).

Perceived social support was associated with the life satisfaction and wellbeing in suicide survivors. Some authors suggest that these three constructs may be part of the same supra-construct, and therefore belong to the same higher order construct (Diener et al., 1999). As for suicide bereavement, Ulmer et al. (1991) confirmed that higher life satisfaction and social support, among others, were strongly associated with purpose, and could play a role as moderators in recovery from bereavement. Although these results could be of relevance for any type of loss (both traumatic and non-traumatic) (Bratt et al., 2017), this is particularly important for suicide survivors who, as already mentioned, may struggle significantly more with disclosing about the death of their loved ones

(Sheehan et al., 2018): actively supporting survivors in obtaining informal and professional support could have direct effects on their reported well-being and life satisfaction, two conceptually distinct constructs, but which are, however, strongly interrelated with the mental and physical health of bereaved persons (Leopold & Lechner, 2015).

General levels of perceived social support were low and females reported to feel less supported than males: this result was unexpected, as females are usually more socially supported than males (Kendler et al., 2005), although they also tend to express grief emotions more often (Rubinstein, 2004). In our sample, older people result as less supported: this could have to do with the fact that female survivors represent the majority of the sample and also the likeliness for older respondents to have lost an important part of their social support network, such as a partner.

The RBS was employed to find implications between the answers to the social support questionnaire and which specific person may have provided useful help. Survivors experiencing low social support showed to resolve to online forums to look for help: the online context offers important peer-support (Barak et al., 2008) that could be difficult to obtain if survivors are afraid of experiencing stigma or struggle to talk about the death (Peters et al., 2016); moreover, informal gathering occasions, such as book clubs or church groups, could be approached only by survivors who do not fear stigmatization and are already perceiving high social support; another interpretation of the results is that social support increases in the moment these respondents attend the informal groups.

RBS analysis highlighted how Italian survivors experiencing high social support might be seeking different sources of support from different people, hence being able to extend their requests to close relatives, partners, friends and even co-workers. The literature suggests (Walker, 2003) that being able to obtain social support from differentiated sources facilitates both parties in providing/obtaining what is requested: in this study, suicide survivors with high social support can obtain practical support from close relatives, physical comfort from friends and several types of memorialization occasions and informational support from partners, informal groups and even co-workers. Once again, informal groups could be the place bereaved individuals may resolve for advice and even practical support when primary support is lacking; we don't have data on whether this group of survivors is feeling better despite relying on informal groups for such amount of support.

Participants in this study were recruited mainly through social media instead of associations and the sample includes survivors who did not seek help or rely on informal support only. Survivors who did seek help reported to have searched overall in the month following the loss, to have been able to receive it within one month and to be generally satisfied with the support. It is possible that the anonymous survey was able to reach for a sub-group of female survivors who may be struggling with social support.

The limits of the study reside in the difficulty of sample generalization: it focuses on Italian survivors and the sample size was, in some cases, insufficient for in-depth analyses. Future studies should be investigate survivors of different nationalities and employ a reduced number of questions to maximize the use of the RBS analysis. Another limitation is in the data collection: full completion of the questionnaire can be obtained when the respondent is physically present (for example when accessing services): surveying participants anonymously and online might imply the risk of several missing answers: however, this strategy allowed to reach to people who had not looked for help, as per the aim of the study.

The results of this study are unique in providing knowledge over the ways perceived support could influence formal and informal help-seeking in suicide survivors: survivors with strong social support from their families may not feel the need to contact a psychiatrist (who is often sought when there are more severe symptoms) nor support groups. Survivors with strong support from their families may already be receiving all the support they would be looking for in support groups; however, the results also show that a systematic use of the support groups could offer the same support in time, probably in accordance to Stroebe model of buffering/recovery effect (W. Stroebe et al., 2005), as groups are indeed a place that fosters the inhibition of maladaptive responses and the facilitation of adjustive counter responses.

The conjoint analysis of descriptive results and RBS also shows – consistently with literature (Sveen & Walby, 2008) – that suicide survivors may be inhibited to look for professional help because of the fear of being stigmatized or not understood. Survivors with scarce support from family may not get in contact with a psychologist or abandon soon after: this could have to do with the unsatisfaction for lack of training or with economic factors, two other issues emerged in the survey. Survivors may then resolve to their GP, with whom they may have more confidence; this observation calls to a specific attention to GP's preparation to support suicide survivors, as they can play a meaningful role in suicide postvention (Fhailí et al., 2016).

RBS analysis reveals feasible and could be further implemented in the study of help-seeking behavior. The unique results of such analyses offer insight to identify which specific areas would be fruitful to investigate while assessing social support in a bereaved individual, as well as being able to assess risk factors and predict help-seeking trajectories. An expanded knowledge over how survivors look, or do not look, for help is important to inform practitioners of what bereaved individuals look for and what they could offer them.

Data Accessibility Statement

The data that support the findings of this study are openly available in Open Science Framework (OSF) at this link: https://osf.io/9u3yn/?view_only=800acd7ae01640ff819d8e2185120aa9.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The study was supported by a grant from MIUR (Dipartimenti di Eccellenza DM 11/05/2017 n.262) to the Department of General Psychology, University of Padua.

ORCID iDs

Lorenza Entilli https://orcid.org/0000-0001-9176-0301
Sabrina Cipolletta https://orcid.org/0000-0001-9886-5683

References

Addis, M. E., & Mahalik, J. R. (2003). Men, masculinity, and the contexts of help-seeking. *American Psychologist*, *58*(1), 5. https://doi.org/10.1037/0003-066X.58.1.5

Barak, A., Boniel-Nissim, M., & Suler, J. (2008). Fostering empowerment in online support groups. *Computers in Human Behavior*, *24*(5), 1867–1883. https://doi.org/10.1016/j.chb.2008.02.004

Bonanno, G. A., & Kaltman, S. (2001). The varieties of grief experience. *Clinical Psychology Review*, *21*(5), 705–734. https://doi.org/10.1016/S0272-7358(00)00062-3

Bratt, A. S., Stenström, U., & Rennemark, M. (2017). Effects on life satisfaction of older adults after child and spouse bereavement. *Aging & Mental Health*, *21*(6), 602–608. https://doi.org/10.1080/13607863.2015.1135874

Cerel, J., Jordan, J. R., & Duberstein, P. R. (2008). The impact of suicide on the family. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, *29*(1), 38. https://doi.org/10.1027/0227-5910.29.1.38

Cerel, J., Maple, M., Aldrich, R., & van de Venne, J. (2013). Exposure to suicide and identification as survivor. *Crisis*. Advance online publication. https://doi.org/10.1027/0227-5910/a000220

Cerel, J., Padgett, J. H., Conwell, Y., & Reed, G. A., Jr. (2009). A call for research: The need to better understand the impact of support groups for suicide survivors. *Suicide and Life-Threatening Behavior*, *39*(3), 269–281. https://doi.org/10.1521/suli.2009.39.3.269

Cipolletta, S., Entilli, L., Bettio, F., & De Leo, D. (2021). *Live-chat support for people bereaved by suicide: A thematic analysis*. Crisis: The Journal of Crisis Intervention and Suicide Prevention.

Di Fabio, A., & Busoni, L. (2008). *Misurare il supporto sociale percepito: proprietà psicometriche della Multidimensional Scale of Perceived Social Support (MSPSS) in un campione di studenti universitari* [Measuring perceived social support: Psychometric properties of the Multidimensional Scale of Perceived Social Support (MSPSS) in a sample of university students]. Risorsa Uomo.

Di Fabio, A., & Gori, A. (2020). Satisfaction with life scale among italian workers: Reliability, factor structure and validity through a big sample study. *Sustainability*, *12*(14), 5860https://doi.org/10.3390/su12145860

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Diener, E. D., & Seligman, M. E. (2002). Very happy people. *Psychological Science*, *13*(1), 81–84. https://doi.org/10.1111/1467-9280.00415

Diener, E. D., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective wellbeing: Three decades of progress. *Psychological Bulletin*, *125*(2), 276. https://doi.org/10.1037/0033-2909.125.2.276

Drapeau, C. W., Cerel, J., & Moore, M. (2016). How personality, coping styles, and perceived closeness influence help-seeking attitudes in suicide-bereaved adults. *Death Studies*, *40*(3), 165–171. https://doi.org/10.1080/07481187.2015.1107660 [*10.1080/07481187.2015.1107660]* [26745343*][Mismatch]*

Dyregrov, K., Nordanger, D., & Dyregrov, A. (2003). Predictors of psychosocial distress after suicide, SIDS and accidents. *Death Studies*, *27*(2), 143–165. https://doi.org/10.1080/07481180302892

Entilli, L., Ross, V., De Leo, D., Cipolletta, S., & Kõlves, K. (2021). Experiences of parental suicide-bereavement: A longitudinal qualitative analysis over two years. *International Journal of Environmental Research and Public Health*, *18*(2), 564https://doi.org/10.3390/ijerph18020564

Eurostat. (2021, February 25). *Tables, graphs and maps interface (TGM) table*. https://ec.europa.eu/eurostat/databrowser/view/tps00202/default/table?lang=en

Feigelman, B., & Feigelman, W. (2008). Surviving after suicide loss: The healing potential of suicide survivor support groups. *Illness, Crisis & Loss*, *16*(4), 285–304. https://doi.org/10.2190/IL.16.4.b

Feigelman, W., Gorman, B. S., & Jordan, J. R. (2009). Stigmatization and suicide bereavement. *Death Studies*, *33*(7), 591–608. https://doi.org/10.1080/07481180902979973

Fhailí, M. N., Flynn, N., & Dowling, S. (2016). Experiences of suicide bereavement: A qualitative study exploring the role of the GP. *British Journal of General Practice*, *66*(643), e92–e98. https://doi.org/10.3399/bjgp16X683413

Fonseka, T. M., Bhat, V., & Kennedy, S. H. (2019). The utility of artificial intelligence in suicide risk prediction and the management of suicidal behaviors. *Australian & New Zealand Journal of Psychiatry*, *53*(10), 954–964. https://doi.org/10.1177/0004867419864428

House, J. S., & Kahn, R. L. (1985). Measures and concepts of social support. In S. Cohen & S. L. Syme (Eds.), *Social support and health* (pp. 83–108). Academic Press. https://doi.org/10.1016/0883-0355(88)90010-9

National Institute of Statistics. (2018). *Suicidi - popolazione di 15 anni e oltre*. http://dati.istat.it/Index.aspx?DataSetCode=DCIS_SUICIDI

Kendler, K. S., Myers, J., & Prescott, C. A. (2005). Sex differences in the relationship between social support and risk for major depression: A longitudinal study of opposite-sex twin pairs. *American Journal of Psychiatry*, *162*(2), 250–256. https://doi.org/10.1176/appi.ajp.162.2.250

Kõlves, K., Zhao, Q., Ross, V., Hawgood, J., Spence, S. H., & De Leo, D. (2020). Suicide and sudden death bereavement in Australia: A longitudinal study of family members over 2 years after death. *Australian & New Zealand Journal of Psychiatry*, *54*(1), 89–98. https://doi.org/10.1177/0004867419882490

Leopold, T., & Lechner, C. M. (2015). Parents' death and adult well-being: Gender, age, and adaptation to filial bereavement. *Journal of Marriage and Family*, *77*(3), 747–760. https://doi.org/10.1111/jomf.12186

Ligęza, A., & Nalepa, G. J. (2011). A study of methodological issues in design and development of rule-based systems: Proposal of a new approach. *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*, *1*(2), 117–137. https://doi.org/10.1002/widm.11

Mattei, G., & Pistoresi, B. (2019). Unemployment and suicide in Italy: Evidence of a long-run association mitigated by public unemployment spending. *The European Journal of Health Economics: HEPAC: Health Economics in Prevention and Care*, *20*(4), 569–577. https://doi.org/10.1007/s10198-018-1018-7

McMenamy, J. M., Jordan, J. R., & Mitchell, A. M. (2008). What do suicide survivors tell us they need? Results of a pilot study. *Suicide and Life-Threatening Behavior*, *38*(4), 375–389. https://doi.org/10.1521/suli.2008.38.4.375

Nock, M. K., Borges, G., Bromet, E. J., Alonso, J., Angermeyer, M., Beautrais, A., Bruffaerts, R., Chiu, W. T., de Girolamo, G., Gluzman, S., de Graaf, R., Gureje, O., Haro, J. M., Huang, Y., Karam, E., Kessler, R. C., Lepine, J. P., Levinson, D., Medina-Mora, M. E., Ono, Y., Posad, J., Williams, D.(2008). Cross-national prevalence and risk factors for suicidal ideation, plans and attempts. *The British Journal of Psychiatry*, *192*(2), 98–105. https://doi.org/10.1192/bjp.bp.107.040113

Pam, M. S. N. (2013, April 28). *Rule-based system*. https://psychologydictionary.org/rule-based-system/

Peters, K., Cunningham, C., Murphy, G., & Jackson, D. (2016). 'People look down on you when you tell them how he died': Qualitative insights into stigma as experienced by suicide survivors. *International Journal of Mental Health Nursing*, *25*(3), 251–257. https://doi.org/10.1111/inm.12210

Pitman, A. L., Osborn, D. P., King, M., & Erlangsen, A. (2014). Effects of suicide bereavement on mental health and suicide risk. *The Lancet Psychiatry*, *1*(1), 86–94. https://doi.org/10.1016/S2215-0366(14)70224-X

Pitman, A. L., Osborn, D. P., Rantell, K., & King, M. B. (2016). Bereavement by suicide as a risk factor for suicide attempt: A cross-sectional national UK-wide study of 3432 young bereaved adults. *BMJ Open*, *6*(1). http://doi.org/10.1136/bmjopen-2015-009948

Polato, M., & Aiolli, F. (2019, July). Interpretable preference learning: A game theoretic framework for large margin on-line feature and rule learning. In Proceedings of the AAAI Conference on Artificial Intelligence Honolulu, Hawaii, USA, January 27 – February 1, 2019. AAAI Press 2019, ISBN 978-1-57735-809-1 (Vol. 33, No. 01, pp. 4723–4730).

Rubinstein, G. (2004). Locus of control and helplessness: Gender differences among bereaved parents. *Death Studies*, *28*(3), 211–223. https://doi.org/10.1080/07481180490276553

Scocco, P., Preti, A., Totaro, S., Corrigan, P. W., Castriotta, C., & SOPROXI Team. (2019). Stigma, grief and depressive symptoms in help-seeking people bereaved through suicide. *Journal of Affective Disorders*, *244*, 223–230. https://doi.org/10.1016/j.jad.2018.10.098

Sheehan, L., Corrigan, P. W., Al-Khouja, M. A., Lewy, S. A., Major, D. R., Mead, J., Redmon, M., Rubey, C. T., Weber, S. (2018). Behind closed doors: The

stigma of suicide loss survivors. *OMEGA—Journal of Death and Dying*, *77*(4), 330–349.
Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social Science & Medicine*, *32*(6), 705–714. https://doi.org/10.1016/0277-9536(91)90150-B
Stroebe, M., Stroebe, W., & Abakoumkin, G. (2005). The broken heart: Suicidal ideation in bereavement. *American Journal of Psychiatry*, *162*(11), 2178–2180. https://doi.org/10.1176/appi.ajp.162.11.2178
Stroebe, W., Zech, E., Stroebe, M. S., & Abakoumkin, G. (2005). Does social support help in bereavement? *Journal of Social and Clinical Psychology*, *24*(7), 1030–1050. https://doi.org/10.1521/jscp.2005.24.7.1030
Sveen, C. A., & Walby, F. A. (2008). Suicide survivors' mental health and grief reactions: A systematic review of controlled studies. *Suicide and Life-Threatening Behavior*, *38*(1), 13–29. https://doi.org/10.1521/suli.2008.38.1.13
Tedeschi, R. G., & Calhoun, L. G. (2006). Time of change? The spiritual challenges of bereavement and loss. *OMEGA—Journal of Death and Dying*, *53*(1), 105–116. https://doi.org/10.2190/7MBU-UFV9-6TJ6-DP83
Ulmer, A., Range, L. M., & Smith, P. C. (1991). Purpose in life: A moderator of recovery from bereavement. *OMEGA—Journal of Death and Dying*, *23*(4), 279–289. https://doi.org/10.2190/33VU-BANW-C54V-W7VF
Vanderwerker, L. C., & Prigerson, H. G. (2004). Social support and technological connectedness as protective factors in bereavement. *Journal of Loss and Trauma*, *9*(1), 45–57. https://doi.org/10.1080/15325020490255304
Värnik, A., Kõlves, K., van der Feltz-Cornelis, C. M., Marusic, A., Oskarsson, H., Palmer Reisch, T., Scheerder, G., Arensman, E., Aromaa, E., Giupponi, G., Gusmao, R., Maxwell, M., Pull, C., Szekely, A., Sola, V. P., & Hegerl, U., (2008). Suicide methods in Europe: A gender-specific analysis of countries participating in the "European Alliance Against Depression." *Journal of Epidemiology & Community Health*, *62*(6), 545–551. http://dx.doi.org/10.1136/jech.2007.065391
Wagner, K. G., & Calhoun, L. G. (1992). Perceptions of social support by suicide survivors and their social networks. *OMEGA—Journal of Death and Dying*, *24*(1), 61–73. https://doi.org/10.2190/3748-G16Y-YEBF-QD10
Walker, B. M. (2003). Making sense of dependency. In F. Fransella (Ed.), *International handbook of personal construct psychology* (pp. 171–180). Wiley.
World Health Organization. (1998). *WHO collaborating center for mental health. Psychiatric research unit. WHO (Five) Well Being Index*.
Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2

Author Biographies

Lorenza Entilli is a registered psychologist and PhD student in Brain, Mind and Computer Science (Department of General Psychology at the University of Padova, Italy). Her research areas involve critical health psychology, traumatic bereavement and suicide bereavement support.

Diego De Leo is emeritus professor of Psychiatry, doctor of Science in Psychogeriatrics and Suicidology, and emeritus director of the Collaborative Center of the World Health Organization (WHO) for Research and Training on Suicide Prevention of the Australian Institute for Research and Suicide Prevention at Griffith University, in Brisbane.

Fabio Aiolli is an associate professor in the Department of Mathematics at the University of Padova. His research areas involve machine learning, neural networks and on-line algorithms.

Mirko Polato is a postdoctoral fellow in the Department of Mathematics at the University of Padova. He obtained a PhD in Brain, Mind and Computer Science and currently works in machine learning and representation problem.

Ombretta Gaggi is an associate professor in the Department of Mathematics at the University of Padova. Her current research interests include multimedia document and application design, mobile context-aware information systems, Web technologies, and social platforms.

Sabrina Cipolletta is an associate professor in the Department of General Psychology at the University of Padova. She also is a psychotherapist and the director of the research laboratory PsyMed. She teaches Social Psychology of Health and is a member of the PhD program in Brain, Mind and Computer Science.