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Research paper

Validation of a 9-item Perceived Suicide Awareness Scale (PSAS-9) for adolescents

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ABSTRACT

Background: Robust empirical data on suicide awareness are needed, to better plan and evaluate suicide prevention interventions. However, there is a lack of validated measures of suicide awareness. This is especially true for perceived suicide awareness, which focuses on perceived knowledge about suicide, willingness, and confidence to talk about suicide and get help. Using the theoretical framework of Social Cognitive Theory, this study aimed to validate a measure of perceived suicide awareness.

Methods: We re-used data from a suicide prevention trial conducted in Swiss secondary schools (n = 366). Baseline and one-month follow-up data were used to validate the scale. The main measure was an initial 14-item Perceived Suicide Awareness Scale (PSAS). Perceived knowledge of help-seeking resources, suicide-related knowledge, and support networks were used to assess convergent validity.

Results: A nine-item version, the PSAS-9, showed satisfactory psychometric properties, including high internal consistency ($\alpha = 0.78$), acceptable test-retest ($r = 0.68$), and a one-factor structure explaining 95 % of the variance. The convergent validity was acceptable ($0.19 \leq r \leq 0.40$). The PSAS-9 was not correlated with suicide-related knowledge ($r = 0.02$).

Limitations: The study missed a similar construct to properly assess convergent validity and had a modest sample size. In addition, it only included secondary school adolescents, so further research in other samples of youths is needed to robustly validate the PSAS-9.

Conclusions: This study was an important step towards validating a perceived suicide awareness scale, which appears as a new dimension of suicidality, distinct from suicide-related knowledge. The PSAS-9 could be used to develop, evaluate, and improve suicide prevention efforts.

1. Introduction

Suicide is a leading cause of death among adolescents. Therefore, suicide prevention is a major public health need worldwide. Suicide prevention programs encompass a wide range of potential interventions, including universal, selective, and indicated strategies (Goldsmith et al., 2002). Briefly, universal interventions target the entire population, whereas selective and indicated interventions focus on at-risk populations (those more likely to experience suicidal thoughts and behaviors) and high-risk individuals (those who have already experienced suicidal thoughts and behaviors), respectively. Universal interventions, the first step of prevention, are the core focus of this study. Universal interventions are programs designed to reach the greatest number of youth (Schwartz et al., 2022). Universal suicide prevention interventions often focus on suicide awareness, intending to improve knowledge (risk factors and warning signs) and attitudes (myths and preconceived ideas) about suicide, as well as reactions and help-seeking behaviors in case of suicidal behavior (Cusimano and Sameem, 2011).

Social cognitive theory (SCT) is a conceptual framework often used in universal suicide prevention programs, especially those targeting suicide awareness. One of the core concepts of SCT is self-efficacy. Self-efficacy refers to the level of a person's confidence in his or her ability to

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successfully perform a behavior. According to Bandura (1997), self-efficacy drives behavior change and plays an important role in self-regulation. One of the main strengths of SCT is that it proposes a model of reciprocal determinism, with behavioral, personal, and environmental characteristics interacting and influencing each other (Bandura, 1986). In the context of suicide research, low self-efficacy to resist suicidal ideation is associated with more detrimental outcomes, such as suicide attempts (Czyz et al., 2014). On the contrary, we can expect that high self-efficacy will be associated with help-seeking behaviors and more positive attitudes towards suicide.

Although suicide awareness is an essential outcome of universal suicide prevention, valid and reliable measures of this construct are lacking. Some validated scales measuring knowledge and attitudes are available, such as the Literacy of Suicide Scale (LOSS, Batterham et al., 2013). These scales include items such as "teenagers who talk about suicide do not kill themselves" or "If someone really wants to kill him/herself, there is not much I can do about it". However, previous research often relied on non-validated scales and focused solely on knowledge and attitudes about suicide. Indeed, a recent systematic review of randomized controlled trials of universal suicide prevention programs in youth (Schwartz et al., 2022) only identified one study including suicide awareness as an outcome (Aseltine et al., 2007). It was based on a non-validated 48-item questionnaire assessing knowledge and attitudes about suicide (Shaffer et al., 1991; Spirito et al., 1988). In another recent systematic review of controlled trials (Brann et al., 2021), none of the studies that included suicide awareness as an outcome used a validated questionnaire.

Few measures are available for other dimensions of suicide awareness, such as improving reactions and help-seeking behaviors in case of suicidal behavior. However, through the lens of SCT and the core construct of self-efficacy, these dimensions appear to be particularly important. Recent studies have used on a 14-item questionnaire (Baggio et al., 2022; Kinchin et al., 2020), developed by Bailey et al. (2017). This questionnaire tests perceived knowledge, confidence, and willingness to speak of suicide and get help and provides insights on "perceived suicide awareness". It includes questions such as "I have the knowledge to recognize warning signs for suicide in others" (perceived knowledge), "I would be willing to seek help for suicidal thoughts" (willingness), or "I would feel confident enough to talk about suicide with others" (confidence). Unfortunately, this questionnaire has also not been validated.

As suicide awareness is a critical outcome of universal suicide prevention interventions and to plan interventions at the population-based level, there is an urgent need for a validated questionnaire. Based on baseline data collected in a non-randomized universal suicide prevention trial (Baggio et al., 2022), this study aimed to validate a Perceived Suicide Awareness Scale (PSAS) that could be used in future studies focusing on suicide prevention and, more generally, in studies interested in measuring suicide awareness. As questionnaires were already available for the knowledge and attitudes' part, it focused on perceived knowledge, confidence, and willingness to speak of suicide and get help.

2. Materials & methods

2.1. Design and setting

This study was a secondary analysis of a non-randomized, cluster-controlled trial designed to test the effect of a brief suicide prevention program through workshops organized in secondary schools by the association *Stop Suicide* (Baggio et al., 2019; Baggio et al., 2022). The study took place in the French-speaking part of Switzerland, in several classes of two secondary schools located in Geneva and Neuchâtel, between December 2019 and November 2020. The trial included a baseline and a one-month follow-up. In this study, we used the baseline data of the intervention and control groups. We also used the follow-up data of the control group for the test-retest reliability. The study protocol was submitted to the cantonal ethics committee (no. 2019–00295) and was considered as falling outside of the scope of the Swiss legislation. Participants provided written informed consent.

2.2. Participants

Inclusion criteria were 1) age 14 or older and 2) ability to communicate in French. The only exclusion criterion was having already participated in the *Stop Suicide* workshop in the previous year. Of 418 eligible adolescents, 373 agreed to participate (response rate = 90 %). A total of seven participants were excluded due to missing values on the perceived suicide awareness scale. The final sample consisted of 366 participants. The follow-up of the control group was used to assess the test-retest reliability. Of 100 control participants at baseline, 91 completed the follow-up (retention rate = 91 %).

2.3. Procedures

The association *Stop Suicide* (https://stopsuicide.ch) conducted a workshop on primary suicide prevention. It took place after the baseline assessment in the intervention group and after the one-month assessment in the control group. Data used in this study were collected prior to the intervention. At the baseline assessment, participants received information about the study and provided written consent. They then completed the baseline paper-and-pencil questionnaire (~20 min). The same questionnaire, except socio-demographics, was used at follow-up.

2.4. Measures

2.4.1. Perceived Suicide Awareness Scale (PSAS)

The 14 questions from a previous suicide prevention study were used to assess perceived suicide awareness (Bailey et al., 2017; Kinchin et al., 2020). The items deal with how people perceived their own knowledge and their attitudes towards suicide. It differs from objective knowledge of suicide, for which validated measures already exist. The initial PSAS includes five questions on perceived knowledge about suicide and help-seeking resources, three questions on willingness to talk about suicide and to get help, five questions on confidence to talk about suicide and get help, and one question on intention to get help. Items were rated on a five-point scale ranging from 0 = strongly disagree to 4 = strongly agree.

The scale was translated into French and then translated back into English. Discrepancies were discussed and resolved. The resulting scale was tested with the target population. The English questions are listed in Table 1, and the French version of the scale is available in Appendix 1.

2.4.2. Perceived knowledge of help-seeking resources

We self-developed a scale to assess the perceived knowledge of local help-seeking resources. Six items were developed and scored on a five-point scale (ranging from 0 = strongly disagree to 4 = strongly agree). Items included, for example, "I know one phone number I can call to ask for help". Items focused on potential local resources provided in the intervention (e.g., phone numbers and addresses, professionals at school and outside the school). A sum score was calculated, ranging from 0 to 24 (Cronbach $\alpha = 0.72$).

2.4.3. Suicide-related knowledge

The French version of the Literacy of Suicide Scale (LOSS) was used to assess suicide knowledge and attitudes (Batterham et al., 2013). We used seven items from the original twelve-item scale, as other items were not covered by the intervention. A total score of correct responses from 0 to 7 was computed.

2.4.4. Support networks

Family and peer support networks moderate the relationship between psychological distress and suicide risk in adolescents (Thomas and Brausch, 2022) and may therefore be useful to assess convergent validity. We asked participants if they felt comfortable talking about

Table 1
Descriptive statistics of the baseline assessment ($n = 366$).

Variables	Mean (sd) /Percentage (n)
Age[1]	15.3 (1.2)
Gender[2]	
Boys	44.0 (161)
Girls	56.0 (205)
Parental level of education[2]	
Primary or secondary	54.1 (198)
Tertiary	43.4 (159)
NA	2.5 (9)
Perceived Suicide Awareness Scale[1]	
1. I have the knowledge to recognize warning signs/ invitations for suicide in myself.	2.8 (1.0)
2. I have the knowledge to recognize warning signs/ invitations for suicide in others.	2.0 (1.0)
3. I have the knowledge to talk about suicide with others.	2.4 (1.1)
4. I have the knowledge to ask someone directly if they are thinking about suicide.	1.8 (1.1)
5. I have the knowledge to seek help for suicidal feeling.	2.8 (1.0)
6. I would feel willing to talk about suicide with others.	2.6 (1.2)
7. I would feel willing to ask someone directly if they are thinking about suicide.	2.1 (1.1)
8. I would be willing to seek help for suicidal thoughts.	2.7 (1.1)
9. I would feel confident when it comes to recognizing warning signs for suicide in myself.	2.4 (1.1)
10. I would feel confident when it comes to recognizing warning signs for suicide in others.	2.2 (1.1)
11. I would feel confident enough to talk about suicide with others.	2.6 (1.1)
12. I would feel confident enough to ask someone directly if they are thinking about suicide.	1.2 (1.1)
13. I would be confident enough to seek help for suicidal feelings.	2.6 (1.2)
14. How likely you would seek help for a problem like suicidal feelings?	2.8 (1.1)
Knowledge of local help-seeking resources sum score (0–24)[1,3]	15.3 (4.9)
LOSS (0–7)[1]	5.4 (1.1)
Support networks[1]	
Number of relatives	3.1 (2.1)
Number of professionals	0.7 (0.8)

sd: standard deviation.; LOSS: Literacy Of Suicide Scale.
[1] Means and standard deviations are given.
[2] Percentages and n are given.
[3] 5 missing values.

their problems with 1) relatives (e.g., family members, friends), 2) classmates, and 3) professionals (e.g., general practitioner, specialist from a prevention league). Participants provided the first name and the detailed relationship to the person (e.g., mother, father, sibling, friend, neighbor, school nurse, teacher, psychologist). We calculated the number of support providers separately for relatives (categories 1) and 2) above) and for professionals (category 3) above).

2.4.5. Socio-demographics

Sociodemographic factors included gender, age, and parental education level (primary or secondary versus tertiary).

2.5. Statistical analyses

As this study was a secondary analysis (Baggio et al., 2019; Baggio et al., 2022), no power calculation was performed. Therefore, validity and reliability tests were not informed by a power analysis. We first ran descriptive statistics for the PSAS and all other variables using means (standard deviations) and percentages (n). We then divided the dataset into training and test sets, with a 70 % vs. 30 % split.

2.5.1. Analyses of the training set

We checked for item redundancy using the Goldbricker function. The Goldbricker function compares each pair of items and identifies measurement overlap by comparing correlation patterns with other variables in the dataset (topological overlap) (Payton, 2017). Redundant items (i.e., topological overlap >75 %) were removed. We tried to balance the number of items in each sub-dimension of PSAS (perceived knowledge, willingness, and confidence). We also reported the Pearson correlation matrix. We then tested the internal consistency using Cronbach's alpha with a bootstrapped confidence interval. Finally, we performed an exploratory factor analysis (EFA) to identify the best factor structure of the PSAS.

2.5.2. Analyses of the test set

We performed a confirmatory factor analysis (CFA) using the factor structure retained from the EFA and the items selected from the training set. The Root Mean Squared Error of Approximation (RMSEA) and the Standardized Root Mean Squared Error (SRMR) were used to evaluate the model fit. Then, we tested the convergent validity using correlations between the PSAS and other related constructs (perceived knowledge of help-seeking resources, LOSS, and support networks). We expected these measures to be moderately related to the PSAS, as they investigated related, yet distinct, constructs. We used Pearson (perceived knowledge of help-seeking resources) and Spearman (LOSS and support networks) correlations. Finally, we calculated a Pearson correlation between the PSAS at baseline and follow-up in the control group for the test-retest reliability. In addition, we reported comparisons by sex and parental education level, which are determinants of suicidality, in the supplementary material.

Participants were nested in classes. However, the intraclass correlation for the PSAS was low (0.03). Therefore, the clustering was omitted in the analyses. Because the PSAS items were normally distributed, they were considered continuous variables in all analyses. Statistical analyses were performed with R version 4.3.1 (packages lavaan version 0.6–15 and networktools 1.5.0).

3. Results

Descriptive statistics are shown in Table 1. The mean age of participants was 15.3 ± 1.2 years, 56.0 % were girls, and 54.1 % had a primary or secondary parental level of education. Means of the PSAS items ranged from 1.2 ("I would feel confident enough to ask someone directly if they were thinking about suicide") to 2.8 ("I have the knowledge to recognize warning signs of suicide in myself", "I have the knowledge to seek help for suicidal feeling", and "Indicate how likely would you seek help for a problem like suicidal feelings"). The means score of perceived knowledge of local help-seeking resources and LOSS were 15.3 and 5.4, respectively. Participants had, on average, 3.1 relatives and 0.7 professionals with whom they could speak of their problems.

3.1. Analyses of the training set

The training set included $n = 260$ (71 % of the total sample). We first checked for item redundancy using the Goldbricker function. <25 % of the correlations were significantly different (i.e., topological overlap >75 %) for the pairs highlighted in bold in the correlation matrix shown in Table 2. We removed the redundant items while balancing the different sub-dimensions of the PSAS (perceived knowledge, willingness, confidence, and help-seeking behavior). Therefore, we removed items 4 and 5 (knowledge), 12 and 13 (confidence), and 14 (help-seeking behavior). There was no item redundancy in the resulting 9-item PSAS (PSAS-9). The internal consistency of the PSAS-9 was $\alpha = 0.78$ (95 % confidence interval: 0.72; 0.82).

The scree plot of the EFA is shown in Fig. 1. It indicated that a one-factor solution was the best model. The first factor explained 95.5 % of the total variance. Factor loadings for the PSAS-9 are shown in Table 3.

Table 2
Correlation matrix of the 14 items of the PSAS, training set ($n = 260$).

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1.	1												
2.	0.177	1											
3.	0.175	0.354	1										
4.	0.141	0.386	0.326	1									
5.	0.239	0.182	0.193	0.244	1								
6.	0.157	0.193	0.409	0.327	0.342	1							
7.	0.165	0.403	0.282	**0.651**	0.216	0.339	1						
8.	0.218	0.177	0.176	0.178	**0.536**	0.368	0.187	1					
9.	0.259	0.202	0.199	0.217	0.242	0.251	0.142	0.299	1				
10.	0.055	0.343	0.239	0.322	0.200	0.307	0.364	0.241	0.414	1			
11.	0.167	0.263	0.472	0.316	0.176	0.604	0.342	0.251	0.371	0.409	1		
12.	0.156	0.349	0.340	**0.618**	0.175	0.389	**0.765**	0.211	0.146	0.370	0.427	1	
13.	0.179	0.124	0.174	0.128	0.536	0.399	0.150	**0.729**	0.330	0.239	0.300	0.162	1
14.	0.192	0.118	0.150	0.154	0.543	0.402	0.129	**0.742**	0.351	0.229	0.285	0.131	**0.825**

PSAS: Perceived Suicide Awareness Scale.
Items' labels are reported in Table 1. Items 1–5 are related to knowledge, 6–8 to willingness, 9–13 to confidence, and 14 to help-seeking behavior.
Correlations of redundant pairs of items are highlighted in bold.

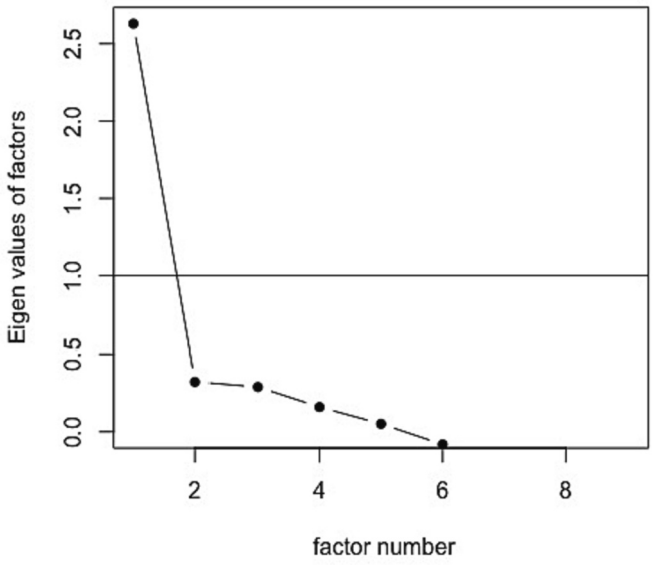

Fig. 1. Scree plot of the exploratory factor analysis of the PSAS-9, training set (n = 260)
PSAS-9: Nine-item Perceived Suicide Awareness Scale.

Table 3
Factor loadings of the PSAS-9 for the one-factor solution of the EFA, training set (n = 260).

Items of the SAS-9	Loadings
1. I have the knowledge to recognize warning signs/invitations for suicide in myself.	0.27
2. I have the knowledge to recognize warning signs/invitations for suicide in others.	0.44
3. I have the knowledge to talk about suicide with others.	0.27
6. I would feel willing to talk about suicide with others.	0.69
7. I would feel willing to ask someone directly if they are thinking about suicide.	0.50
8. I would be willing to seek help for suicidal thoughts.	0.42
9. I would feel confident when it comes to recognizing warning signs for suicide in myself.	0.47
10. I would feel confident when it comes to recognizing warning signs for suicide in others.	0.55
11. I would feel confident enough to talk about suicide with others.	0.77

PSAS-9: Nine-item Perceived Suicide Awareness Scale; EFA: exploratory factor analysis.

3.2. Analyses of the test set

The test set included $n = 106$ (29 % of the total sample). The internal consistency of the PSAS-9 was $\alpha = 0.78$ (95 % confidence interval: 0.70; 0.84). The one-factor CFA displayed acceptable psychometric properties for the SRMR (SRMR = 0.069). The RMSEA was higher than expected (RMSEA = 0.11). The standardized factor loadings are shown in Table 4. The PSAS-9 ranges from 0 to 36. The mean score of the PSAS-9 was 22.5 ± 5.6.

For convergent validity, the PSAS-9 had moderate positive correlations with perceived knowledge of help-seeking resources ($r = 0.40$, $p < .001$) and the number of people in the relatives' support network ($r = 0.32$, $p < .001$). It had small positive correlations with the number of people in the professional support network ($r = 0.19$, $p = .067$). The PSAS-9 was not significantly correlated with the LOSS ($r = 0.02$, $p = .764$). The test-retest correlation of the PSAS-9 in the control group ($n = 91$) was $r = 0.68$. ($p < .001$).

4. Discussion

The purpose of this study was to validate a perceived suicide awareness scale, as there is currently a lack of validated scales to assess suicide awareness reliably. Perceived suicide awareness is defined as the perceived knowledge and attitudes (confidence, willingness to talk) towards suicide and help-seeking behaviors. It relies on the SCT's core construct of self-efficacy developed by Bandura (1997). It is defined as a different construct from objective knowledge and attitudes about

Table 4
Factor loadings of the PSAS-9 for the one-factor solution of the CFA, test set (n = 106).

Items of the SAS-9	Loadings
1. I have the knowledge to recognize warning signs/invitations for suicide in myself.	1.00
2. I have the knowledge to recognize warning signs/invitations for suicide in others.	0.83
3. I have the knowledge to talk about suicide with others.	0.75
6. I would feel willing to talk about suicide with others.	0.73
7. I would feel willing to ask someone directly if they are thinking about suicide.	0.94
8. I would be willing to seek help for suicidal thoughts.	1.03
9. I would feel confident when it comes to recognizing warning signs for suicide in myself.	1.01
10. I would feel confident when it comes to recognizing warning signs for suicide in others.	0.82
11. I would feel confident enough to talk about suicide with others.	0.45

PSAS-9: Nine-item perceived suicide awareness scale; CFA: confirmatory factor analysis.

suicide, for which validated measures already exist. Building on a scale used in previous studies (Baggio et al., 2022; Bailey et al., 2017; Kinchin et al., 2020), we propose a 9-item Perceived Suicide Awareness Scale (PSAS-9).

The PSAS-9 and knowledge and attitudes about suicide, assessed with the LOSS, were not associated. The correlation between these constructs was 0.02. This critical finding suggests that, as expected, knowledge and attitudes about suicide and perceived knowledge, confidence, and willingness to talk and get help are different dimensions of suicide awareness. The LOSS is often used to assess suicide literacy and as a study outcome to evaluate suicide prevention programs that focus on suicide awareness. This confirms that the PSAS-9 assesses another dimension related to self-efficacy. Our study has identified new domains of suicidality by assessing suicide awareness. Of note, the level of knowledge and attitudes about suicide was high in the sample (mean = 5.4 on a 7-point scale). Knowledge about suicide may therefore not be a sensible measure to test the benefit of interventions.

The PSAS-9 showed satisfactory psychometric properties, including high internal consistency, high reliability, acceptable test-retest, and a one-factor structure that can be easily used to derive a sum score ranging from 0 (low perceived suicide awareness) to 36 (high perceived suicide awareness), explaining 95 % of the variance. The RMSEA was nevertheless higher than expected, suggesting that further research on the scale's psychometric properties may be needed.

As no scale measuring the same construct exists, other constructs were used to evaluate the convergent validity. These constructs did not measure the same concept (i.e., perceived suicide awareness), but were related constructs. Therefore, small to moderate correlations were expected (correlations $\geq$0.5 would be expected when measuring the same construct). The convergent validity of the PSAS-9 was acceptable, with small to moderate correlations. The PSAS-9 had moderate positive correlations with the self-developed perceived knowledge of local help-seeking resources and the number of people in the relatives' support network. The PSAS-9 had small positive correlations with the number of people in the professional support network. However, the number of professionals to whom participants could speak of their problems was small (on average, 0.7 per participant).

This study has important implications. By highlighting that perceived suicide awareness is a distinct construct from what is usually assessed using measures of suicide-related knowledge such as the LOSS, our study suggests that the PSAS-9 could be used to develop, evaluate, and improve suicide prevention efforts targeted at adolescents. Future prevention efforts and research should focus on improving responses and help-seeking behaviors in the event of suicidal behavior (i.e., perceived knowledge, confidence, and willingness to talk about suicide and to seek help). There is also a need to apply relevant theories, such as SCT and its core construct of self-efficacy, to health promotion and prevention. In the context of SCT, improving self-efficacy could be a way of improving behavioral capability, i.e. a person's ability to perform a behavior using essential knowledge and skills (Bandura, 1986). We believe that the PSAS-9 would be a reliable primary outcome in the field of universal suicide prevention. Indeed, achieving a high perceived awareness of suicide should be a goal in the entire population, as the first step in suicide prevention. The PSAS-9 may also be useful in selective and indicated interventions, as high-risk and vulnerable individuals may lack self-efficacy (Czyz et al., 2014). Further studies should also test whether targeting self-efficacy through perceived suicide awareness helps suicide prevention efforts.

This study had some limitations. First, the study was not originally designed to test the psychometric properties of the PSAS-9, so it did not include alternative measures of suicide awareness that could be used to assess the construct validity and no power calculation was performed. Related constructs were used as proxies to evaluate the convergent validity, but the study missed a similar construct to properly assess convergent validity. A second limitation was the relatively modest sample size, resulting in a reduced power for tests of correlations. It led to marginally significant correlations for the convergent validity. A third limitation was that only secondary school adolescents were included in the analyses, so further research with other samples of youth in various research contexts is needed to robustly validate the PSAS-9 and confirm its factor structure. Finally, the LOSS was assessed using a subsample of original items, as the topics introduced by other items were not covered by the intervention. Future studies are needed to replicate the absence of correlation between perceived knowledge, confidence, and willingness to talk about suicide and get help and objective knowledge and attitudes about suicide. We suggest that both measures should be included as outcomes to test the benefits of suicide prevention interventions, as they do not overlap.

5. Conclusion

This study was an important step towards validating a perceived suicide awareness scale, distinct from suicide-related knowledge, to be used in future studies focused on suicide prevention in various populations, and, more generally, studies interested in measuring suicide awareness.

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Ethics approval statement

The study protocol was submitted to the cantonal ethic committee (Geneva, no. 2019–00295). It was considered as falling outside the scope of the Swiss legislation (Federal Act on Research involving Human Beings).

Patient consent statement

Participants signed a written informed consent.

Permission to reproduce material from other sources

Not applicable.

Clinical trial registration

Not applicable.

CRediT authorship contribution statement

Stéphanie Baggio: Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft. **Neslie Nsingi:** Conceptualization, Data curation, Methodology, Project administration, Writing – review & editing. **Katia Iglesias:** Conceptualization, Methodology, Writing – review & editing. **Marlène Sapin:** Conceptualization, Methodology, Writing – review & editing.

Declaration of competing interest

The authors report no conflict of interest.

Data availability

Anonymized data are available on reasonable request to the corresponding author.

Acknowledgments

None.

Appendix 1. French version of the PSAS-9

Es-tu d'accord avec les affirmations suivantes?	Pas du tout d'accord	Pas d'accord	Ni d'accord, ni en désaccord	Plutôt d'accord	Tout à fait d'accord
1. Je pense que j'ai les connaissances nécessaires pour reconnaître chez moi les signaux d'alerte du suicide.					
2. Je pense que j'ai les connaissances nécessaires pour reconnaître les signaux d'alerte du suicide chez les autres.					
3. Je pense que j'ai les connaissances nécessaires pour parler du suicide avec les autres.					
4. Je me sentirais prêt(e) à parler de suicide avec les autres.					
5. Je me sentirais prêt(e) à demander directement à quelqu'un s'il/elle pense au suicide.					
6. Je me sentirais prêt(e) à chercher de l'aide en cas d'idées suicidaires.					
7. Je me sentirais confiant(e) à l'idée de reconnaître chez moi les signaux d'alerte du suicide.					
8. Je me sentirais confiant(e) à l'idée de reconnaître les signaux d'alerte du suicide chez les autres.					
9. Je me sentirais assez confiant(e) à l'idée de parler du suicide avec les autres.					

PSAS-9: Perceived Suicide Awareness Scale.

Appendix 2. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jad.2024.02.062.

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