icH&Hpsy 2018
4th International Conference on Health and Health Psychology

VALIDATION OF THE EGK QUESTIONNAIRE FOR THE PROMOTION OF MENTAL HEALTH IN GATEKEEPER SCHOOLS

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Abstract

This study is part of a more extensive research about suicide in a school context. In Portugal, one of the approaches to prevention is the online training for gatekeeper teachers. This EGK questionnaire aims to assess the skills of teachers as gatekeepers and conditions of the school context. Faced with low levels of literacy in mental health and suicide prevention, it is necessary to develop and implement teacher training strategies that support the reduction of this affliction in the future. The EGK questionnaire comprises 20 items, with five response levels in a Likert Scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was developed after a literature review and exploratory studies. The sample for this study is composed of 1144 teachers (ranging from pre-school to high school teachers), who answered online. A factorial analysis revealed five factors. The assumptions of the KMO (> 0.60) and Bartlett's sphericity test ($p < 0.001$) were established. The factors included staff conditions; teacher preparation and confidence; competence of the school; ability of the teacher to refer student and capacity of the teacher to communicate. The global Cronbach's alpha value was established at $\alpha = 0.67$ for reliability. Results show appropriate psychometric characteristics, indicating good validity and reliability of content and good internal consistency. This allows the use of the EGK questionnaire as a valid tool to measure the skills of teachers in gatekeeper roles. Further study is required to ensure the effectiveness of this pilot study.

Keywords: Gatekeeper teachers, suicide, school, EGK questionnaire validation.

1. Introduction

Suicide is a serious mental and public health problem throughout the world. Most people who suffer from mental health difficulties, or suicidal ideation and suicidal behaviour have as a common denominator being of school age (Katz et al., 2013; King, Arango, & Ewell Foster, 2018; Ross, Kõlves, & De Leo, 2017; Scott, 2010; Singer, Erbacher, & Rosen, 2018). The prevalence of suicidal thoughts, behaviours, and attempts is higher among adolescents and young adults than among individuals over 30 years old (King et al., 2018; Saraiva, Peixoto & Sampaio, 2014). As it has been established that children and adolescents spend a considerable amount of their time in this context, it is necessary for schools and their communities to find ways to respond comprehensively because if students at risk of suicide are detected early, suicidal events become avoidable, which in turn results in better cost-benefit to the community (King et al., 2018; Ross et al., 2017; Shaffer & Gould, 2009; Singer et al., 2018).

Given the low levels of mental health literacy and suicide prevention, it is necessary to develop and implement teacher training strategies that support the reduction of future burden of mental disease and associated socioeconomic costs (King et al., 2018; Ross et al., 2017; Zamora et al, 2015).

Gatekeeper training is one of the most implemented strategies for suicide prevention (Condron et al., 2015; Katz et al., 2013; King et al., 2018; Salvatore, 2007; Singer, Erbacher, & Rosen, 2018). It is designed to train people (keepers) from certain social and professional groups who are in regular contact with individuals with suicidal characteristics, to identify individuals at risk of suicide, to identify the possibilities of support and to motivate and refer those who need appropriate mental health services (Brown, Wyman, Brinales, & Gibbons, 2007; Singer et al., 2018). It was also considered an effective training model for the prevention of suicide, awareness of suicide and suicidal behaviours, promoting protection factors within the community as a whole (Chagon, Houle, Marcoux, & Renaud, 2007; Condron et al., 2015; Katz et al., 2013; Knox, Litts, Talcott, Feig, & Caine, 2003; Singer et al., 2018).

Bandura (1977) considers that when personal effectiveness is high, people feel confident in their abilities leading to a sense of control in terms of the ability to change their behaviour in future situations. Gatekeeper training aims to train individuals to recognize the risk factors for suicide and to refer such people at risk of suicide for specialized monitoring (Condron et al., 2015; Jorm, 1997 & 2011; Katz et al., 2013; King et al., 2018; Singer et al., 2018).

As behavioural intentions result from an understanding that an action produces a result, it is necessary to assess how well teachers are prepared to be involved in suicide prevention (Ross et al., 2017). It is therefore crucial to raise mental health literacy levels in individuals and communities, for several reasons, such as reducing stigma, improving access to mental health services and overcoming barriers, reducing the burden of professionals, increasing knowledge about mental disorders and support systems, and reducing suicide (Jorm, 1997 & 2011; Ross et al., 2017).

With the schools having projects to promote health education, we have investigated what has been done in Portugal in terms of teacher training in the subject of suicide prevention. Thus, in 2011, in the central zone of Portugal, an exploratory study was carried out, which concluded that only 3% of the teachers/educators were trained in the field of suicide prevention and 79% acknowledged that they needed guidance and support to identify and to prevent suicidal risk behaviours (Almeida, Pedrosa-de-Jesus, & Pereira, 2013).

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This is the background of the research conducted with the EGK questionnaire for Gatekeeper Schools. This instrument was constructed to analyse the knowledge of teachers and their training needs to recognize the behaviour of students who are at risk.

This paper mainly focuses on the study of the dimensionality of the EGK instrument for Gatekeeper Schools, and its main purpose is to present and discuss the results of factorial analysis.

In this paper, we describe the main procedures and methodological options for the validation of the EGK instrument for Gatekeeper Schools, as well as the main considerations and limitations of the analysis.

2. Problem Statement

Suicidal behaviours, particularly among children and young people, are a public health problem that has become a concern for school communities. The existence, for the first time, of a National Plan for Suicide Prevention 2013-2017, is an indicator of awareness of the problem. One of its goals is to increase mental health information and education in the school environment. That is why it is necessary to train teachers and educators.

This study is an integral part of a more extensive research on suicide in a school context. In Portugal, one of the approaches to prevention is the online training for gatekeeper teachers.

3. Research Questions

What are the gatekeeper training needs that teachers, from pre-school through high school, manifest?

4. Purpose of the Study

The purpose of this study is to evaluate the psychometric qualities of the EGK questionnaire for Gatekeeper Schools, which aims to identify the knowledge needed to intervene in Gatekeeper training, intervention for teachers from the preschool through high school. The instrument was developed as part of a broader public health research that addresses the issue of suicidal behaviour, particularly among children and young people.

5. Research Methods

5.1. Participants

The final sample consisted of 1144 teachers (see Table 1) and was collected online through the Qualtrics Survey platform, through social networks and school boards. All teachers accepted with informed consent and completed the questionnaires that were included in the study.

The sample teachers are mostly female, 935 (81.7%); only 18.3% (209) were male, and aged between 24 and 69 years (M = 45.57, DP = 7.31). Most of the teachers in the sample are married (62%), most having an undergraduate degree (63.7%) and teaching in secondary education (n = 589, 51.5%).

We obtained data that allowed us to refer to the number of years of service that ranged from 1 month to 42 years, with an average of 21.83 years (DP = 7.87). The most frequent position in the sample was teacher/special technician/trainer with 871 respondents being in this position (76.1%). Of the remaining categories, which had a much smaller expression, we can highlight: coordinator or class director (n = 88, 7.7%), coordinator of department/discipline/group delegate or subdelegate (n = 83, 7.3%) and School board (n = 51, 4.5%). The most represented districts were Lisbon (16.7%) and Porto (15.8%). Next came Leiria (8.7%), Aveiro (8.1%), Setúbal (7.3%) and Braga (6.7%), all with more than 70 responses. We also had the participation of Madeira and the Azores (see Table 2).

Table 01. Sample characteristics

Sample characteristics		n	%
Gender	Male	209	81.7%
	Female	935	183%
Marital Status	Married	709	62%
	Single	181	15.8%
	Divorced	170	14.9%
	Union of fact	14	1.2%
	Widower	68	5.9%
	Other	2	0.2%
Academic Qualifications	Phd	11	1.0%
	Master/Graduate	370	32.3%
	Graduation	729	63.7%
	Bachelor´s Degree	29	2.5%
	Other	5	2.4%
Current situation	Secondary/3rd Cycle	589	51.5%
	2nd Cycle	165	14.4%
	1st Cycle	181	15.8%
	Preschool	76	6.6%
	Special Education	64	5.6%
	Other	69	6.0%
	Age M (DP)	45.57 (7.31)	
	Work Years M (DP)	21.83 (7.87)	

5.2. EGK Questionnaire for Gatekeeper Schools

The EGK questionnaire for Gatekeeper Schools was created because there was no appropriate questionnaire specifically designed to undertake investigation in this area. It consists of 20 items, using a Likert scale with five levels of response, ranging from 1 (strongly disagree) to 5 (strongly agree).

5.3. Procedures

Its elaboration comprised several phases: knowledge of the literature, specification of the data to be collected and a pre-test with the analysis by a panel of 14 experts (2 mental health professionals, 2 researchers, 2 teachers at each level of education - preschool, first cycle, second cycle, third cycle +

secondary). We used the method of spoken reflection, thinking aloud, which in Clark and Peterson's (1986) perspective is one of the methods of questioning (spoken reflection) used to observe and evaluate thoughts reported aloud. After this phase there was content validation by a panel of three judges, with at least 90% agreement among these members (Krippendorff, 1980).

Data collection was carried out through the Internet. In this study we followed the ethical guidelines for Internet Mediated Research (British Psychological Society, 2003) and guidelines of the American Psychological Association (APA, 2013). Informed consent was included and participants were informed about the purpose and objectives of the study and could withdraw from the study at any time. The names of the respondents were not recorded in the questionnaires, thus ensuring confidentiality and anonymity.

5.4. Data Analysis

All analyses were done using IBM SPSS Statistics® (version 22). Preliminary data analysis was performed before we proceeded to the study of dimensionality, namely the non-responses (missing values) for all the questionnaires answered. Then, we used the EM (Expectation Maximization) method to replace the remaining missing values in non-category variables (Tabachnick & Fidell, 2001), maintaining, in the end, 1144 valid questionnaires. This total of 1144 questionnaires is acceptable because the minimum conditions required to use the factor analysis are guaranteed.

Validity analyses were performed using Principal Component Analysis (PCA). The assumptions of Kaiser-Meyer-Olkin (KMO) and Bartlett were fulfilled. KMO allows knowing the proportion of data variance that can be considered common to all variables and that can be attributed to a common factor. In this sense, a value greater than 0.60 was considered to be adequate (Maroco, 2003; Reis, 2001). The Bartlett test allows us to test the hypothesis that the correlation matrix is an identity matrix. This hypothesis was rejected with $p < .001$. The validity criteria were: total explained variance greater than 50% and factorial loads greater than 0.35, with the use of a varimax rotation (Pestana & Gageiro, 2003).

6. Findings

The EGK questionnaire for Gatekeeper Schools was subjected to factorial analysis on main components and, after analysing different alternatives, we opted for a solution related to five factors.

The five retained factors explain 51.9% of the total variance, with a contribution of 18.9% in factor 1, 11.7% in factor 2, 10.6% in factor 3, 6.3% in factor 4 and 5.2% in factor 5. The first factor is saturated above .45 by six items, the second by three, the third by six, the fourth by three, and the fifth by two items.

The internal consistency of the five factors was estimated by Cronbach's alpha (α) coefficient (Table 02) and in the set the five factors retained the scale had a coefficient of internal consistency of .67 and KMO = .79 (**see** Table 02).

The EGK questionnaire for Gatekeeper Schools verified the KMO assumptions (> 0.60) and the Bartlett sphericity test ($p < 0.001$). In relation to factorial loads, values (α) were higher than 0.40, with the

exception of Factor 5 in the EGK. Regarding reliability, Cronbach's alpha values (α) were greater than 0.60, EGK (α = 0.67).

Table 02.   Factors and factorial loads of the EGK questionnaire for Gatekeeper Schools

Item	F1	F2	F3	F4	F5
16. *Professional training...should be made available to teachers and staff...*	.757				
12. *The school should have a mental health consultant*	.699				
15. *The school should create relationships of trust (school, family, community)*	.696				
17. *Schools with protocols to help students at risk of suicide after suicide*	.678				
13. *The first step may be with a specialist...*	.525				
10. *The first official step is to appoint a crisis team ....*	.446				
18. *What is your degree of confidence in your ability ...?*		.897			
19. *How prepared are you to identify a student at risk for suicide?*		.888			
20. *How prepared are you to refer a student at risk of suicide?*		.872			
11. *Zero tolerance policies in schools are the competence of school community.*			.603		
4. *A competent school community focuses on developing internal resources for students*			.570		
7. *Providing parents with information about mental health resources and checklists may constitute a violation of rights*			.554		
6. *Teachers are already overwhelmed ... A crisis team takes full responsibility for at-risk students.*			.515		
14. *Educators need details about the student's personal and emotional history before making a referral to the school's mental health resources.*			.501		
2. *Suicidal ideation is not a problem for the teacher as it does not affect the student's ability to concentrate and learn in the classroom.*			.499		
1. *The educator/teacher needs to be able to assess, diagnose and treat adolescents at risk of suicide.*				.740	
3. *If a school has a suicide prevention policy it is considered competent school.*				.583	
5. *Crisis teams in schools should include community members, and school officials.*				.537	
8. *It is important to turn to a confidant from your peers.*					.807
9. *The most effective school communications are those that are appealing*					.564
Explained variation (%)	18.9%	11.7%	10.6%	6.3%	5.2%
Total explained variation (%)	51.9%				
Cronbach Alpha (by dimension)	.74	.86	.57	.51	.35
Cronbach Alpha (general)	.67				

7. Discussion

The presented results allow us to consider that the EGK scale for Gatekeeper Schools shows adequate psychometric qualities (internal consistency and validity) regarding increasing levels of mental health literacy in individuals and in school communities.

Results obtained also showed that the EGK scale for Gatekeeper schools and the five retained factors are readable based on the adopted theoretical model. We have classified them based on the items of each factor (the ones with the highest factor saturations in each). Thus, Factor 1 was assigned the designation 'conditions of the school staff', Factor 2 - 'level of teacher preparation and confidence', Factor 3 - 'competence of the school community', Factor 4 - 'ability of the teacher to refer the student' and Factor 5 'teacher's ability to communicate'.

The first identified factor clearly points to conditions that teachers and school staff must possess to meet the different cognitive, emotional and social needs of students, to create relationships of trust and caring that promote open communication among the various actors (teachers, students, families and community). The school should have available a mental health consultant (e.g. a counsellor or psychiatrist) whom teachers can turn to and address students' concerns.

As for the second factor, it refers to the degree of preparation and confidence that teachers have in their ability to identify and refer a student at risk of suicide to the appropriate resource.

The third factor highlights the aspects that should constitute the competences of the school community in this matter. In this sense, a competent school community should include in its mission zero-tolerance policies and focus on the development of internal resources for its students rather than on the use of mental health services outside of school. Thus, since teachers are already overwhelmed with many teaching responsibilities, a crisis team must be established that takes full responsibility for students at risk.

As for the fourth factor, this refers to the ability of the teacher, more specifically, the skills that the teacher needs to be able to assess, diagnose and treat adolescents at risk of suicide.

The fifth factor refers to the teacher's communication skills, that is, the teacher's ability to communicate with his or her students, since even if students are encouraged to talk to the teachers they trust, their instincts will first select a confidant from among their peers.

The results of our analysis support the construct validity and fidelity of the EGK instrument for Gatekeeper Schools, and demonstrate that it is a tool with valid and reliable measures that allows the evaluation of the needs of Gatekeeper training in the school environment.

8. Conclusion

To address the existing stigmas of mental health and suicide, as well as to know the teachers' ability to act as gatekeepers, the EGK questionnaire for Gatekeeper Schools was developed. This study aimed to develop and validate an instrument to evaluate the teacher training needs as gatekeepers in the school context.

Taking into account the limitations inherent in this type of study, it will be necessary to carry out randomized studies to improve the data and this tool. In addition, to further validate the EGK for Gatekeeper Schools, we need to compare it with other criteria based on referrals reported by Portuguese

services in support of mental health and suicide prevention, also in gatekeeper contexts. Future studies should include representative samples at the regional level, including a random sample and verify the psychometric performance of the EGK questionnaire for Gatekeeper Schools. A more thorough dissection of the data is necessary in order to determine if there is a cultural bias in the level of experience of each district in Portugal.

As can be seen, the study on the psychometric qualities of the EGK scale for Gatekeeper Schools has shown positive results. However, we are aware that we must continue this psychometric evaluation with complementary analyses, such as confirmatory analyses, in order to make this instrument of application in schools more robust and functional. The course of the research on the EGK questionnaire for Gatekeeper Schools is just beginning because the validation of any instrument is a permanently open process, to which it is always possible to add new information.

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