

SITUATIONAL JUDGMENT TEST OF BASIC EMPLOYABILITY COMPETENCES DEVELOPMENT: VALIDATION OF A PSYCHOEDUCATIVE INSTRUMENT FOR SOCIOEDUCATIVE INTERVENTION

TEST SITUACIONAL DESARROLLO DE LAS COMPETENCIAS BÁSICAS DE EMPLEABILIDAD: VALIDACIÓN DE UN INSTRUMENTO PSICOEDUCATIVO PARA LA INTERVENCIÓN SOCIOEDUCATIVA

TESTE SITUACIONAL PARA O DESENVOLVIMENTO DE COMPETÊNCIAS BÁSICAS DE EMPREGABILIDADE: VALIDAÇÃO DE UM INSTRUMENTO PSICOEDUCACIONAL DE INTERVENÇÃO SOCIOEDUCACIONAL

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ABSTRACT: Basic employability competences, also known as key competences, are essential in accessing, retaining and advancing in employment, and are especially relevant in promoting the employment of disadvantaged young people.

This study describes the development of a copyleft psychoeducational instrument based on the model posited by Arnau *et al.* (2014) that Social Pedagogy professionals can use to evaluate the basic employability competences in adolescents and young people aged 12 to 18: The Situational Test of Basic Employability Competences Development (DCBE).

A total of 29 problem situations were designed and included within five stories related to the daily life of any adolescent. A total of 102 adolescents and young people were interviewed and asked how they would react to these problem situations. The responses were subjected to a content analysis in order to select the most frequent responses indicative of different levels of competence development. Ten experts then assigned the problem situations to one of the eight competences proposed by Arnau *et al.* (2014), before assigning scores of 0 to 5 to the different responses based on the level of development indicated by the responses, with high levels of agreement.

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	<p>Following a pilot study on a group of 47 young people to verify the variability of the responses, the test was administered to 1,011 young people at six training centres. A factor analysis of the responses yielded a unifactorial structure of 23 items, with high values for model fit and reliability.</p> <p>The results obtained support the content, ecological and construct validity of the DCBE test, which was well accepted by both students and teachers for its attractiveness and usefulness. The test makes it possible to begin preparing students for employment in the early stages prior to post-compulsory training. Its copyleft nature means it can be widely used by Social Pedagogy professionals.</p>
<p>PALABRAS CLAVE: empleabilidad; habilidades básicas de empleabilidad; habilidades clave de empleabilidad, test situacional; pedagogía social</p>	<p>RESUMEN: Las competencias básicas de empleabilidad, también denominadas competencias clave, son fundamentales para acceder, mantener y promocionar en el empleo, y son especialmente relevantes en la promoción de la inserción laboral de los jóvenes desfavorecidos.</p> <p>En este estudio se describe el desarrollo de un instrumento psicoeducativo copyleft basado en el modelo de Arnau <i>et al.</i> (2014) que permite a los profesionales de la pedagogía social evaluar las competencias básicas de empleabilidad en adolescentes y jóvenes de 12 a 18 años: El Test Situacional de Desarrollo de Competencias de Empleabilidad.</p> <p>Se diseñaron 29 situaciones-problema que se sucedían a lo largo de 5 historias de la vida cotidiana de cualquier adolescente. Se entrevistó a 102 adolescentes y jóvenes preguntándoles cómo reaccionarían ante dichas situaciones-problema. El análisis de contenido de dichas respuestas permitió seleccionar las respuestas más frecuentes indicativas de diferentes niveles de desarrollo competencial. 10 expertos asignaron las situaciones-problema a una de las 8 competencias propuestas por Arnau <i>et al.</i> (2014) y posteriormente asignaron puntuaciones de entre 0 a 5 a las diferentes respuestas en función del nivel de desarrollo que indicaban las respuestas, con altos niveles de acuerdo.</p> <p>Después de una aplicación piloto a un grupo de 47 jóvenes, que permitió comprobar la variabilidad de las respuestas, se administró el test a 1,011 jóvenes procedentes de 6 centros formativos. Del análisis factorial de las respuestas emergió una estructura unifactorial de 23 ítems, con valores elevados de ajuste del modelo y de fiabilidad.</p> <p>Los resultados obtenidos avalan la validez de contenido, ecológica y de constructo del test DCBE recibiendo una buena aceptación tanto entre los alumnos como entre los profesores por su atractivo y utilidad. El test posibilita iniciar la preparación para la empleabilidad en etapas tempranas previas a la formación postobligatoria. Su carácter copyleft posibilita una amplia utilización por parte de los profesionales de la Pedagogía Social.</p>
<p>PALAVRAS-CHAVE: empregabilidade; habilidades básicas de empregabilidade; principais habilidades de empregabilidade; teste situacional; pedagogia social</p>	<p>RESUMO: As competências básicas de empregabilidade, também chamadas de competências-chave, são essenciais para o acesso, manutenção e promoção do emprego, sendo especialmente relevantes para a promoção da inserção laboral de jovens desfavorecidos. Este estudo descreve o desenvolvimento de um instrumento psicoeducacional copyleft baseado no modelo de Arnau <i>et al.</i> (2014) que permite aos profissionais da pedagogia social avaliar as competências básicas de empregabilidade em adolescentes e jovens de 12 a 18 anos: Teste Situacional para o Desenvolvimento de Competências de Empregabilidade (DCBE).</p> <p>Foram projetadas 29 situações-problema que ocorreram ao longo de 5 histórias da vida diária de qualquer adolescente. 102 adolescentes e jovens foram entrevistados e questionados sobre como reagiriam a essas situações problemáticas. A análise de conteúdo dessas respostas permitiu selecionar as respostas mais frequentes indicativas de diferentes níveis de desenvolvimento de competências. 10 especialistas atribuíram as situações-problema a uma das 8 competências propostas por Arnau <i>et al.</i> (2014) e posteriormente atribuíram notas de 0 a 5 às diferentes respostas com base no nível de desenvolvimento indicado pelas respostas, com altos níveis de concordância.</p> <p>Após uma aplicação piloto a um grupo de 47 jovens, que permitiu verificar a variabilidade das respostas, o teste foi aplicado a 1,011 jovens de 6 centros de formação. Da análise fatorial das respostas, emergiu uma estrutura unifactorial de 23 itens, com altos valores de ajuste do modelo e confiabilidade.</p> <p>Os resultados obtidos suportam a validade de conteúdo, ecológica e de construto do teste DCBE, obtendo boa aceitação tanto por parte dos alunos como dos professores pela sua atratividade e utilidade. O teste permite iniciar a preparação para a empregabilidade nas fases iniciais, antes da formação pós-obrigatória. Seu carácter copyleft permite sua ampla utilização por profissionais da Pedagogia Social.</p>

1. Introduction

1.1. Employability as a Strategy for Addressing Youth Unemployment

High unemployment rates are one of the main difficulties currently facing Western countries. Work has become a rare commodity, and access opportunities are not the same for everyone (Olea, 2001). To this we must also add low wages, which plunge many households into poverty. Despite global economies having recovered, inequality continues to grow in the Eurozone following the economic crisis (Dreger *et al.*, 2015).

Unemployment in the Eurozone reached 7.3 % of the general population in December 2019, Spain being one of the countries with the highest rates (14.7 %), only surpassed by Greece (17.3 %). However, youth unemployment rates are double those of the general population. In the same month, 15.4 % of young people under 25 years of age were unemployed, a figure that rose to 30.5 % among young Spaniards. These data have even worsened in 2020 as a result of the Covid-19 crisis, reaching 18.1 % and 40.45 % (Eurostat, 2020).

The unemployment rate is not distributed homogeneously among the youth population, since it especially affects minors, less educated young people, those from poorer socioeconomic contexts and young people of other nationalities (Moreno, 2015).

It is for the above reasons that *employability* is a central element in employment policies in the European Union (Crisp & Powell, 2016; McQuaid, & Lindsay, 2005). Employability is a concept that revolves around qualities and competences required of a person to adapt to the demands of the labour supply and advance in the job market (Bridgstock, 2009; Lo Presti, & Pluviano, 2016). Employability competences or skills add meaning to an individual's long-term ability to develop a professional career and progress in the job market (Curtis & McKenzie, 2001). In respect of this, Breen (2005) stated that education systems focusing on competences required for employment are associated with low rates of youth unemployment.

1.2. Employability and Employability Competences

The concept of employability has been developed to describe the objectives of the economic strategies adopted by large institutions at the national, regional and local levels (McQuaid & Lindsay, 2005). This has led to numerous initiatives aimed at providing a professional qualification for young people who want to enter the world of work and

unemployed people, and associating professional qualifications with success in accessing the world of work (McQuaid, 2006; International Labour Organization, 2014). This vision entails proposing models for specific competences associated with professions or jobs.

However, as Nickson *et al.* (2012) pointed out, having a professional qualification is not the only explanatory factor for accessing the world of work. There are cross-disciplinary competences that are also necessary to access employment, regardless of the level of professional qualification. In light of this, proposals have been developed that use different terminologies to refer to the same concept associated with employability skills or competences: sometimes referred to as "soft skills", these include the terms generic, core, basic or key employability skills (Curtis & McKenzie, 2001). These competences allow skilled and unskilled workers to engage in various jobs (Nisha & Rajasekaran, 2018). In this article, we adopt the term basic employability competences (Arnau *et al.*, 2014), which comprise the basic competences necessary to access and retain a job, regardless of the level of professional qualification.

Faced with the need for education systems to promote the development of key skills for employability, a new concept has emerged: that of transferable employability skills. These are skills that are developed through the education system and transferable to the work environment (Fallows & Steven, 2000, cited by Muhamad, 2012). As Muhamad (2012) pointed out, employers will not only recruit graduates because of the knowledge and technical skills that they find in their academic record, but also due to transferable skills and personal attributes that go beyond technical skills and allow them to cope with the job requirements successfully.

Various authors have developed models of key or generic competences that would be necessary for various jobs (for a review, see Lo Presti & Pluviano, 2016). Others have devised models on basic competences for individuals to develop their professional career (Bridgstock, 2009; Lo Presti, 2009); holistic models have also been developed that aim to cover a wide spectrum of competences and/or skills that can lead to success in the world of work (McQuaid & Lindsay, 2005; Olmos-Rueda & Mas-Torelló, 2017).

However, no models have yet proposed basic employability competences necessary for any job, regardless of economic sector or professional qualification (Arnau *et al.* 2014). What's more, most of the aforementioned models are considered from the perspective of post-compulsory training and usually include some academic knowledge,

although basic. However, many youths, especially those from disadvantaged environments (e.g. from families with low sociocultural levels or limited economic resources, or from residential centres, etc.) who are assisted by social services programmes, end up occupying unskilled positions that, although not requiring high technical skills, do require basic employability skills. Many of these young people are unable to retain these jobs due to a lack of competences, such as a sense of responsibility to arrive at work on time, problem-solving, not knowing how to work in a team, etc. (Olmos-Rueda & Mas-Torelló, 2017; Alonso *et al.*, 2018).

Given this scenario, Arnau *et al.* (2014), after analysing the employability framework and considering the assessment of different specialists, proposed a model that includes eight basic employability competences necessary for acquiring and retaining a job, regardless of the type of work and professional sector. These competences are: responsibility and co-responsibility, teamwork, communication, perseverance, flexibility, self-organization, constructing a professional training plan and decision-making and problem-solving. These competences are acquired during what is referred to as the second childhood and adolescence, mainly through family and school education, and could be trained along their lifespan. They are transferable to all jobs and constantly evolve throughout a person's life.

1.3. Situational Tests and Measurement of Employability Competences

The measurement of employability skills to facilitate personnel selection process is one of the main focuses of interest in work psychology. Different techniques have been proposed to measure various skills in order to select the ideal workers for specific jobs, such as intelligence and personality tests, interviews and ad hoc questionnaires (Lolito, 2015). This disparity of instruments is also observed in the attempts to measure employability competences. Thus, self-evaluation questionnaires have been used (Rothwell, *et al.* 2008; Griffiths *et al.* 2018), checklists (Blalock *et al.* 2006), rubrics (Riebe & Jackson, 2014), employer evaluation questionnaires (Abas & Imam, 2016), etc. However, most of these tests focus on the pre-labour and college stages and include a mastery of academic skills that may not be necessary for basic jobs.

Over the last decade, situational tests have broken into the field of personnel selection achieving great acceptance as they are suitable for measuring the interpersonal skills and specific

workplace skills of large groups of individuals in the early stages of the selection process with a better predictive validity (Lievens *et al.*, 2008). Such tests present different specific problem situations related to the job and ask about the probability of that action being carried out or its effectiveness. Some of the strengths of situational tests are that they tend to obtain better evidence of criterion validity than traditional tests (Lievens *et al.*, 2008), are more attractive than conventional tests, and present less bias towards minorities. However, being context specific, they are more laborious to produce, since they must be developed for specific jobs or cultures (Sorrel *et al.*, 2016).

Developing a situational test (Lievens *et al.*, 2008) involves an initial phase for selecting both critical incidents or work situations representative of the competences to be evaluated and the scenarios where they will be developed. In a second phase, a group of experienced employees and another with little experience generate possible responses to each situation, thus obtaining expert and inexperienced responses. The test developers edit these responses, and in the final phase a group of experts identify and assign scores to each of them.

2. Justification and objectives

We have not found any situational test in the literature measuring basic employability competences aimed at the first stages of adolescence. Adolescents usually already have basic employability skills when they reach working age, with or without professional qualifications, and the degree to which these are developed will be key in their accessing, retaining and advancing in a job (Arnau *et al.*, 2014). The competences of responsibility, teamwork, communication, perseverance, flexibility, decision-making and problem-solving, self-organization, and constructing an professional training plan as proposed in the model posited by Arnau *et al.* (2014) are initially developed within the family and school context with the help of educators and parents, and are consolidated as transferable skills to employment. Cimatti (2016) also stated that these competences are acquired throughout development, and noted that they are not the sole responsibility of universities and companies, but should be taught in primary education. A situational test that assesses the level of development of these competences would constitute a valuable educational diagnostic instrument with which to design individualized plans and help young people to develop these key employability competences to promote their future labour market integration and professional progress.

The objective of this article is to validate the Situational Test of Basic Employability Competences (DCBE) (Sala *et al.* 2020), a copyleft instrument for assessing the development of basic employability competences aimed at adolescents and young people between 12 and 18 years of age. This instrument is of particular interest in the field of Social Pedagogy for promoting training processes aimed at the socio-labour insertion of the most vulnerable groups of young people, although it is valid for any adolescent of these ages.

3. Methodology

The Situational Test of Basic Employability Competences (DCBE) (Sala *et al.* 2020), based on the IARS Employability Competence Framework (Arnau, *et al.* 2014), has been created considering the eight basic employability competences necessary to acquire and retain any particular job. The procedure described by Lievens *et al.* (2008) for the creation of situational tests was followed and the internal structure and reliability of the test were analyzed as is described in Figure 1.

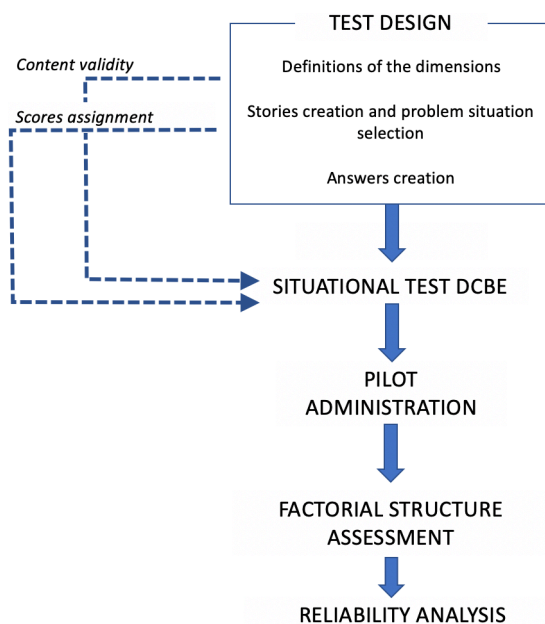


Figure 1. Process for validating the test.

The first step in developing the test was to design a set of problem-situations and interviewing 102 adolescents to define their response options. Subsequently, a group of specialists carried out the first validation of the test and assigned the scores to the response options. The first pilot administration took a sample of 47 adolescents and young people aged between 12 and 18. The

variability of their responses and other aspects associated with the response process such as level of understanding, response time, level of fatigue, etc. were assessed. Finally, the instrument was applied to 1011 young people of the same ages in order to analyze the factorial structure and the reliability of their scores. These young people came from the schools of the city of Mollet with which a collaboration agreement was made, which included the entire spectrum of young people, whether they came from normalized or vulnerable backgrounds. Although the study sought to develop a useful copyleft instrument for Social Pedagogy professionals who work with disadvantaged young people, the validation had to be carried out with the entire spectrum of the population in order to have representative scales.

4. Design, development and validation of the dcbe test

4.1. Preliminary phase: Identifying Previous Work and Defining Dimensions (variables) and Indicators

The IARS Employability Competence Framework devised by Arnau *et al.* (2014) was used to develop the test. It posits eight competences necessary for acquiring and retaining a job, regardless of the type of work: Self-organization, Constructing a professional plan, Decision-making and problem-solving, Teamwork, Communication, Perseverance, Flexibility, Responsibility and co-responsibility. These competences were validated by experts in the field (Arnau *et al.*, 2014), and by a wide and diverse sample of workers from different economic sectors (Jariot *et al.* 2021).

4.2. Phase 1: Creating Stories and Selecting Problem-Situations

As mentioned above, the level of achievement of a competence may vary depending on the context, and for this reason different socialization settings were considered for adolescents and young people aged 12 to 18, such as school, family, friends and leisure. Taking these contexts into account, five stories were designed (see Table 1) in which various problem situations occur. Although not all young people may have experienced these problem situations, they will have experienced similar ones and it is to be assumed that imagining these problem situations does not entail any difficulties for them.

Table 1. Stories and contexts developed

Context	Story	Number of problem situations
School	I have a lot of homework	5
Family	Your pet	6
Friendships	A party	7
Leisure time	The market stall	6
School	You are the class delegate	5

The research team, which comprised experts in the field of employability, designed between five and seven problem situations for each story, to which an adolescent or young person might react in different ways depending on their skill level. In total, 29 situations were considered that required the eight competences proposed in the Employability Competence Framework (Arnau et al., 2014).

When defining and describing the characters in the different stories, the gender perspective was considered, randomly alternating female and male characters to avoid responses being affected by social stereotypes.

Another element that was considered is the fact that not all adolescents and young people have a traditional family, some may be with host families and others may reside in care homes and not live with their parental figures, or other family models. For this reason, when reviewing the content of the test, all references to parental and sibling figures were eliminated. In the event that it was necessary to refer to a functional parental figure, the generic term “adults” was chosen.

4.3. Phase 2: Creating the Responses

In order to have a list of responses representative of young people’s behaviours for each problem

situation, a semi-structured interview was conducted with 102 adolescents and young people (57 female and 34 male), presenting each of the different stories and problem situations to them and asking how they would behave in each one. The number of adolescents and young people interviewed by age group was as follows: 12-13 year-olds (n = 29), 14-15 year-olds (n = 29), 16-17 year-olds (n = 29) and 17-19 year-olds (n = 15).

The participants were informed of the purpose of the interview and that the information would be treated confidentially, and their verbal consent was requested. All responses were recorded and subsequently transcribed. A content analysis was carried out of the obtained data, categorizing the responses according to the different employability competences.

The research team selected five response options indicative of different skill levels for each situation from among the most frequent reactions.

4.4. Phase 3: Expert Assessment of the Suitability of Story Content

In order to assign the different problem situations to the competences to be represented, a panel of ten experts was selected from the fields of job training (5) and human resource selection (5). The group of experts was asked what competences might be assessed with each problem situation in the test. To this end, a questionnaire was developed that included the five stories with the problem situations and response options. The experts had to assess whether the problem situation made it possible to measure the competence (1) or not to measure it (0).

For each situation problem assessed, the mean score was calculated for each of the competences (see Table 2). Differences in absolute values were also calculated for each expert with respect to the mean scores for the panel. The scores awarded by two of the experts (6 and 7) exceeded the total discrepancy for all situations by more than nine points, which was considered excessive, so their scores were not considered in the subsequent analysis (see Table 2).

Table 2. Discrepancy, in absolute terms, of the scores awarded by each expert with respect to the mean

Story	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Expert 9	Expert 10
H1 homework	2.1	0.4	1.6	1.1	0.8	1.8	2.4	0.8	0.9	1.3
H2 pet	1.7	1.7	1.3	1.2	1.0	3.7	0.8	0.5	1.0	1.3
H3 party	1.1	1.0	1.3	1.9	2.0	2.4	2.7	0.6	0.9	0.9
H4 market stall	2.4	0.8	1.4	2.8	1.3	2.8	3.4	0.8	0.8	1.9
H5 delegate	1.4	1.7	1.5	0.9	1.5	2.9	2.9	2.1	1.3	1.3
Sum	8.7	5.5	7.1	7.7	6.5	13.5	12.2	4.6	4.8	6.6

Once the extreme scores awarded by these two experts had been eliminated, the levels of agreement between the experts for each situation, calculated using the kappa index, ranged from .85 to .91. According to Fleiss (1981), values above .75 may be considered indicators of a high level of agreement. Only one of the six situations in the first story (Homework) did not obtain this

degree of agreement, so it was eliminated from the test. The situations were assigned to the competences in which the experts had coincided with values of agreement higher than .75. Table 3 shows the assignment of each problem situation to the different competences resulting from the experts' assessment.

Table 3. Problem situations that allow the level of each competence to be measured and scores assigned by experts

	Story: I have a lot of homework	Story: My pet	Story: The party	Story: The market stall	Story: You are the class delegate
Self-organization	D1 (3 0 3 5 1)	M4 (2 5 3 1 0)	F3 (2 2 5 4 0)		
Constructing a professional training plan	D5 (4 5 1 3 0)	M6 (1 3 5 5 3)	F6 (0 2 3 3 5)		Del5 (3 3 5 1 0)
Decision-making and problem- solving	D3 (4 3 1 3 2)	M1 (5 3 5 3 2)		T1 (3 4 5 0 0)	
Teamwork		M5 (1 1 5 5 0)	F2 (0 1 5 5 5)	T2 (5 3 2 3 0)	Del2 (2 2 4 5 0)
Communication	D4 (5 0 3 2 2)		F1 (1 0 4 4 4)	T6 (0 5 0 2 3)	Del4 (0 5 4 0 1)
Flexibility			F4 (5 3 3 2 0)	T3 (0 3 5 4 4) T5 (1 5 4 5 0)	Del3 (4 3 2 4 5)
Perseverance	D2 (4 0 2 0 5)	M2 (0 4 2 4 5) M3 (4 5 3 1 0)	F5 (1 3 5 2 0)	T4 (5 1 2 3 0)	
Responsibility and co-responsibility		M5 (4 1 5 5 0)	F7 (4 5 2 2 1)		Del1 (1 2 0 4 5)

Note. D1-5: items 1-5 in the story "I have a lot of homework"; M1-6: My pet; F1-7: The party; T1-5: The market stall; Del 1-5: You are the class delegate. The values associated with each of the five response options are indicated in brackets.

4.5. Phase 4: Rating responses

The procedure proposed by McCann (2008) was followed to assign scores to the different response options. Six experts (three women and three men, three from the academic field and three from the field of career guidance) were asked to assign a score of between 0 and 5 to each of the response options: 0, when the response did not suggest the need for any competence, and 5 when the response indicated the need for a high level of competence. The degree of agreement between experts was calculated from the distances of each assessment with respect to the mean score assigned to each answer option. The agreement between experts was high, with a kappa index of .9. None of their average scores were more than one point away from the group mean, so none of the assessments were discarded.

To analyse the possible effect of age, five students in the final years of the Pedagogy degree with training in career guidance were also asked to rate the response options. Concordance between the students' assessments was analysed and yielded a kappa index of .8. On average, none of their mean scores were more than one point away from the group mean, so none of their assessments were discarded either.

The established experts and those in training awarded similar scores, averaging half a point. The means used for the final assessment were those resulting from all of the experts (established and in training) (see Table 3).

4.6. Phase 5. First Pilot Study to Validate the Test

A pilot study was carried out on 47 young people (48.9 % male and 51.1 % female) aged between 12 and 18 ($M = 14.7$, $SD = 2.1$), contacted through relatives and acquaintances of those involved in the research group. The aim here was to test understanding of all elements on the test, the time required to answer it, respondents' level of fatigue and the variability of responses given to different situations. Following administration of the test, the participants were asked about the experience.

No problems were found with understanding the test questions. The response time ranged from 25 to 45 minutes. All participants rated the test as very entertaining and interesting. In 23 of the 29 test items, all response options were selected. Only in six of the items was one of the responses not selected by any participant. The options provided were therefore considered to collect a wide variability of responses.

4.7. Phase 6. Second Pilot Study to Validate the Test

In this second study, the internal structure of the situations presented in the test was analysed by means of exploratory factor analysis, and the reliability of scores was evaluated.

Sorrel *et al.* (2016) have warned of the difficulties of visualizing a factorial structure in situational tests due to the non-independence of the scales and the multidimensionality of the items. Considering all of these reservations, an exploratory analysis of the factorial structure was carried out to examine whether a factorial solution would emerge from this procedure that was consistent with the eight-dimensional theoretical model.

The test was administered to a sample of 1,011 young people (48.5 % male and 51.5 % female), aged between 12 and 18 ($M = 14.2$, $SD = 1.6$) at six training centres (five secondary schools and one vocational training centre) in the city of Mollet, Barcelona province. The Mollet del Vallés Municipal Institute of Education, linked to the Municipal Council, contacted all the educational centres in the municipality that provided secondary education (eight in total) and invited them to a meeting to present the project and the test. Five of the eight centres agreed to participate voluntarily. The centres that decided not to take part showed interest in the test, but gave reasons external to the study for their non-participation. In addition to the five participating educational centres, the municipal training and employment centre also participated. It provides career guidance, training and professional employment opportunities.

A training session was held with the participating teachers so that they would all apply the same administration protocol. The teachers administered the test to their students, who responded anonymously. The students used a code known only to them and their teachers. As a gesture of reciprocity, the individual results were returned to the young people and their families. Together with the results, an activity guide for developing basic employability competences for families and schools was made available to families and centres. After administration of the test, a focus group was carried out with the teachers at each centre to analyse the students' reaction to the test, administration times and whether there had been any difficulties with comprehension.

The centres reported that there had been practically no comprehension problems with the test, response times ranged from 30-45 minutes and students had shown interest in the results and found the test entertaining. In many cases, the students saw themselves accurately reflected

in the test scores, and their opinion of themselves coincided with the results obtained. Generally speaking, the centres also acknowledged the interest and usefulness of the test. In three of the six cases, the test was used to facilitate guidance for the students on which competences needed reinforcing and a reflection on their personal characteristics, abilities, etc. Two centres noted that competences worked on in a cross-disciplinary manner in the centre's educational project (in one case teamwork, and in the other communication) corresponded with the test scores, which were generally higher in said competences.

The FACTOR 10.3 program was used (Lorenzo-Seva and Ferrando, 2007, 2011) to perform an exploratory factor analysis that would provide evidence of the internal structure of the test scores. The initial descriptive analysis of the items indicated that three of them (M2, M5, P5) presented asymmetric distributions (absolute values greater than 1.96), and six (M2, M3, M5, P1, P3 and P5)

presented peaked distributions with kurtosis values of above 1.96.

The KMO values = .816 and Barlett's sphericity test ($\chi^2 = 4345.6$; $df = 406$, $p < .0005$) indicated that the data were suitable for performing a factor analysis.

The parallel analysis suggested a 2-factor structure, and given the probable relationship between factors, this option was explored with oblique rotations (Model 1). The model explained 27.4 % of the variance and presented good fit indices (see Table 4). However, the distribution of the factorial weights did not provide a satisfactory interpretation, since in one of the factors only two of the four items in the competence "constructing a professional training plan" weighed and in the other factor the vast majority of the other items had a relevant weight. After analysing the content of these items, we decided to dispense with the four items in "constructing a professional training plan" because they differed greatly from the rest of the items.

Table 4. Factor models for the DCBE

Model	n	χ^2	df	CFI	TLI	GFI	RMSEA
Model 1	1002	839.265***	349	.97	.97	.96	.026
Model 2	1002	498.808***	251	.98	.98	.97	.020
Model 3	1002	327.377***	230	.97	.96	.98	.024

NOTE. * $p < .05$; ** $p < .01$; *** $p < .001$.

Once these items had been eliminated, a factor analysis was again carried out under suitable application conditions (KMO = .838; Barlett's $c^2 = 3178$; $df = 300$, $p < .0005$). The parallel analysis again suggested a 2-factor solution (Model 2), which explained 31.7 % of the variance. The two factors had a high correlation (.70). However, this solution was not interpretable either.

We therefore decided to analyse a one-factor solution, eliminating two items that had very low weights in Model 2 (Model 3). In this solution, satisfactory indices were obtained (KMO = .851, and Barlett's $c^2 = 2951$; $df = 253$, $p < .0005$). The resulting solution comprised 23 items, of which 20 had factor loadings above .30 and three had values between .25 and .29. This solution explained 25.2 % of the variance and adequate fit values (Table 4); its internal consistency was also good ($\alpha = .75$). Table 5 shows the items, means, variance and factor loadings.

Table 5. Items on the DCBE

	Mean	Variance	Factor weight (Factor)
D1	3.88	2.37	.50
D2	3.46	3.54	.51
D3	3.12	0.51	.30
D4	3.22	2.37	.41
M1	4.24	1.21	.46
M2	3.93	1.93	.28
M3	4.06	1.48	.39
M4	3.19	2.61	.46
M5	4.49	1.40	.39
F1	3.00	2.32	.34

	Mean	Variance	Factor weight (Factor)
F2	3.94	3.77	.42
F3	3.95	2.24	.37
F4	4.06	1.29	.25
F5	3.57	2.66	.42
F7	3.36	2.05	.35
T1	3.54	1.00	.39
T2	3.68	1.63	.36
T3	4.06	2.22	.46
T6	3.18	3.41	.33
Del1	3.74	2.69	.46
Del2	3.48	2.42	.34
Del3	3.96	0.82	.29
Del4	3.81	3.02	.40

5. Discussion and conclusions

Although a great consensus is found regarding the key role played by basic or key employability competences in the processes of job placement, maintenance and promotion, expectations regarding where they should be developed vary. Rosenberg *et al.* (2012) noted that students expect to develop them in the workplace, while employers complain that universities do not provide adequate training in this regard. A large number of studies on key or basic employability competences have focused on higher education. However, basic and cross-disciplinary employability competences that are transferable to a wide spectrum of jobs are first developed much earlier. They are learned in childhood and adolescence with the educational accompaniment of the family and educators and teachers, and are later transferred to the workplace. These competencies are very relevant for those young people who, due to their low educational level, may have special difficulties in labour insertion, and who might find themselves within the context of greater labour mobility, changing their jobs more frequently and even in different economic sectors. In the training and job orientation of young people from disadvantaged backgrounds, models of basic employability competencies that allow access to and to maintain employment are

fundamental, such as the one proposed by Arnaú *et al.* (2014). However, this instrument can be used with the entire spectrum of young people, regardless of whether their environment is normalized or disadvantaged, whether they reside in a family or in a residential center. The competences proposed in this model have a broad consensus - having been validated by both experts and workers - and are transferable to multiple settings: work, school, social matters and family. For this reason, we consider their evaluation at an early age to be essential

The literature review on the evaluation of key employability competences revealed a gap in the development of psychometric instruments for assessing basic employability competences in adolescents and young people such as the one developed in this article. Instruments that have not been psychometrically verified have therefore been used (Gibb, 2014; Cabrera *et al.*, 2015; Clarke, 2016). The DCBE situational test attempts to bridge this gap. It is aimed at young people aged between 12 and 18 and is an instrument for evaluating these competences through possible representative situations for this group. The authors chose to develop a copyleft instrument in order to facilitate its use by Social Pedagogy professionals, who frequently find themselves working in organizations with strict budgetary limitations. The format of the instrument as a situational test provides great ecological validity by allowing responses to be contextualized in real-life problem situations, and not merely in evaluations or perceptions of oneself (Lievens, *et al.*, 2008). This conceptual proximity to relevant situations is based on the selection of problem situations that any adolescent may face in everyday life, the representativeness and relevance of which have been validated by 102 young people from the target population.

As noted, the theoretical model on which the test is based had been validated, with a high level of agreement, by a group of experts in the field of labour market integration, which is worth highlighting given the great variety of classifications for employability competences (Cinque, 2016) and, furthermore, as indicated by Gulikers *et al.*, (2010) because their definition is complex since they can take different forms depending on the context. Furthermore, prior to developing the test, the need for these competences to access and retain employment and win promotion was validated for a wide spectrum of skilled and unskilled jobs, based on the experience of workers from the four economic sectors (Jariot *et al.* 2021).

After designing the test stories and situations, a team of academic and personnel selection

experts validated the test content, also obtaining high levels of agreement. Regarding the structure of the test, although the different test situations were created considering the eight competences of the theoretical model, a unifactorial structure of 23 items emerged from the exploratory factor analysis, with considerable weights in 20 of them. The fact that the analysis did not allow corroboration of an eight-scale structure could be due to the facts that various competences converged when resolving the different situations raised in the situational test and the test has a lower number of items than that recommended from the psychometric point of view when analysing an eight-scale structure. On the other hand, the nature of the DCBE scores also provides an added difficulty, since the distances between them were not uniform. The five response options were not graded and the experts did not assign gradual values, as happens with instruments in which participants are asked to assess the degree or frequency of a behaviour or experience. This aspect made it difficult to obtain good results in the factor analysis (Frías-Navarro & Pascual Soler, 2012) of this instrument. That said, matching the competences to specific contexts and situations gave the test greater ecological validity (Kvavilashvili & Ellis, 2004), while also providing greater incremental validity (Webster, *et al.*, 2020). It is worth noting that the one-factor solution had good fit and internal consistency values.

It is also worth highlighting the format of the test in stories, which aroused greater interest on the part of the students, ensuring their concentration without the fatigue that many diagnostic tests usually entail. Also, both teachers and students found the test useful, the latter commenting that they felt represented by the scores.

The study also had some limitations that need to be addressed in the future. On the one hand, it was administered by teachers, who received instructions to this end. However, if it had been feasible for the researchers to administer them, the conditions would have been more homogeneous. On the other hand, it is necessary to include some social desirability control item that can compensate for this effect. Developing a test is a long

process that requires many studies. To date, the model on which the test is based has been validated, the content of the test has been validated by experts, while its structural nature and the reliability of the one-dimensional solution have been studied.

In conclusion, the DCBE test is a psychoeducational instrument designed for adolescents and young people that allows social pedagogues and educational professionals to assess the level of development of basic employability competences required to access, retain and progress in any job. To these basic competences will be added the professional competences of the specific profession and job position, but these will be insufficient without the basic employability competences. The test makes it possible to start early preparation for employability prior to post-compulsory training, while also increasing the potential success of vocational training and subsequent job placement. This study has provided evidence of content validity evaluated by experts and construct validity, as well as good acceptance of the test due to its attractiveness and usefulness among both students and teachers. Its copyleft character will allow many Social Pedagogy professionals to use it in different contexts of socio-educational action with young people. The test is available online at <https://ddd.uab.cat/record/235416>.

In future studies, it should be possible to confirm the structure of the test by, for example, applying a confirmatory factor analysis, exploring the temporal stability of the test scores and finding further evidence of criterial validity that contributes to reinforcing the psychometric characteristics of the instrument.

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