Dries, N., van Esbroeck, R., van Vianen, A., De Cooman, R., Peperman, R. (2012). Career adapt-abilities scale – Belgium form: Psychometric characteristics and construct validity. *Journal of Vocational Behavior*, 80 (3), 674-679.

A team of psychologists from 18 countries collaborated on the development and validation of a measure for *career adaptability*, which refers to an individual's resources for coping with current and anticipated tasks, transitions, and traumas in their occupational roles (Savickas, 1997). Considering the fact that labor markets around the world are increasingly turbulent as a result of global demographic, economic and psychological contract trends, it is clear that assessing and developing career adaptability is an important challenge for career scholars and counselors alike (Briscoe & Hall, 1999; Hall, 1996). In the first step of the project, an international form of the *Career Adapt-Abilities Scale (CAAS)* was constructed. The CAAS-International Form 2.0 demonstrated excellent reliability and measurement equivalence across countries (Savickas & Porfeli, this issue). Its validity for use in each individual country, however, needs to be demonstrated by further analysis. The present article describes the development and pilot testing of the CAAS-Belgium in the Dutch-speaking part of Belgium. It reports on the scale's psychometric properties, including item statistics and internal consistency estimates. In addition, we compare the factor structure of the CAAS-Belgium to the multi-dimensional, hierarchical measurement model of the CAAS-International Form 2.0. Finally, we explore differences in career adaptability scores between Belgium and the other 12 countries that participated in the cross-cultural validation of the CAAS (i.e. Brazil, China, France, Iceland, Italy, Korea, the Netherlands, Portugal, South Africa, Switzerland, Taiwan, and the USA), as well as age, gender, and educational level differences.

The Career Adaptability Construct

Career adaptability resources are psychosocial constructs, in the sense that they are not traits possessed by an individual but rather are shaped by interactions between that individual and the context in which he or she functions. Typically, they are deployed when an individual faces developmental vocational tasks, occupational transitions, and work traumas (Savickas, 2005). The CAAS identifies four ‘adapt-abilities’ (each corresponding to a six-item subscale): (1) becoming concerned about the vocational future (*concern*); (2) taking control of trying to prepare for one's vocational future (*control*); (3) displaying curiosity by exploring possible selves and future scenarios (*curiosity*); and (4) strengthening the confidence to pursue one's aspirations (*confidence*) (Savickas & Porfeli, this issue).

Belgian Context

Belgium reconciles different regional and cultural identities in a single federal structure. It has three communities – Dutch (which is the first language to 59% of the Belgian population), French (40%), and German speaking (1%) – and three regions: Flanders in the North where the official language is Dutch; Wallonia in the South where French is the official tongue (complemented by a very small German-speaking population) and Brussels, the capital, where French and Dutch share official language status. While some authors believe that Belgium is a Germanic country (similar in culture to Germany and Austria) (e.g. Schwartz, 1992), others have found that its culture is more similar to France and other Latin-European countries (e.g. Ronen & Shenkar, 1985). These differences in perspective probably originate from the different languages spoken in Belgium. In the current article, we focus specifically on the development and pilot testing of the Dutch version of the CAAS-Belgium Form.

A number of factors in the Belgian context suggest that the career adaptability of Belgians might, on average, be lower than in the other countries that participated in the

CAAS project. First of all, large-scale cross-cultural projects on work values have consistently shown that Belgians score particularly high on uncertainty avoidance (only preceded by Japan; e.g. Spector, Cooper & Sparks, 2001), implying that they are risk-averse and resistant to change. Second, studies into the career attitudes of Belgians, as a rule, conclude that the vast majority of Belgians are not in a ‘boundaryless’ or ‘protean’ career (Verbruggen, Sels & Forrier, 2007; Segers, Inceoglu, Vloeberghs, Bartram, & Henderickx, 2010), that self-perceived employability is sub-optimal (Sels, Stynen, De Winne & Gilbert, 2009), and that Belgians tend to prefer traditional psychological contracts with a focus on loyalty and job security (Janssens, Sels & Van den Brande, 2003). Third, Belgium is among the lowest-scoring European countries when it comes to career mobility as measured by number of career transitions and job and organizational tenure (Sels, Forrier, Bollens & Vandenbrande, 2005). Taken together, these findings imply that Belgians tend to enact their careers within a context that does not encourage adaptability.

In the current study, we administered the CAAS scale to high school, college, and university students. In Belgium the term high school, or alternatively, secondary education, is used for what is internationally known as grades 7 through 12. Secondary education in Belgium is split up into four types: general secondary education, technical secondary education, secondary arts education, and vocational secondary education. Colleges, in Belgium, are higher education institutions offering primarily professional Bachelor programs, as well as a limited number of academic Bachelor programs. Universities are higher education institutions offering a broad range of academic programs both at the Bachelor and the Master level. Extensive vocational guidance exists for Belgian students at the high school level, organized by specialized teachers and supported by external ‘Pupil Support Centers’. Guidance support is mainly geared towards high school entrance and the transition into

higher education. Research typically finds, however, that Belgian students consider career guidance activities uninteresting and redundant (Lacante, Van Esbroeck & De Vos, 2008).

Methods

Participants

The Belgian data ($N = 700$) was collected among three groups of students, i.e. high school students, college students, and university students. The group of high school students ($n = 255$) consisted of 87 males and 168 females (34% versus 66%) enrolled in grade 11 and 12. Their mean age was 17.62 ($sd = .79$). Only 30 of them were enrolled in ‘technical’ secondary education (12%); the majority ($n = 225$; 88%) was enrolled in ‘general’ secondary education. The group of college students ($n = 147$) consisted of 63 males and 84 females (43% versus 57 %) pursuing a Business Studies degree; their mean age was 20.46 ($sd = 1.33$). The group of university students ($n = 298$) comprised of 35% male ($n = 104$) and 65% female ($n = 194$) participants. They were all Psychology students. Their mean age was 20.64 ($sd = 2.33$). The majority of this group ($n = 271$; 91%) was pursuing a Bachelor degree at the time of survey administration, and 27 (9%) a Master degree. Almost none of the participating students reported having a (part or full-time) job; only 35 students reported working outside of school hours (of which 20 were university students, 7 were college students, and 8 were high school students).

Career Adapt-Abilities Scale-Belgium Form

Identical to the CAAS-International Form, the CAAS-Belgium contains 24 items that combine to form a total score which indicates career adaptability (see Table 1). Participants responded to each item employing a scale from 1 (*not strong*) to 5 (*strongest*). The 24 items are divided equally into four subscales that measure the adaptability resources of concern, control, curiosity, and confidence. The item descriptive statistics and loadings from the confirmatory factor model appear in Table 1. The reliabilities of the subscales for the Belgian

sample appear in Table 2 on the diagonal. On average, the alphas are slightly lower relative to the total international sample, yet still fall within the satisfactory to excellent range. As was the case in the total sample, the reliability for the total CAAS score was higher than for the subscale scores (Savickas & Porfeli, this issue).

Procedures

The CAAS-International Form 2.0 was translated into Dutch using translation-back translation methods. The Belgian CAAS team collaborated on the translation with the team from the Netherlands so as to develop a Dutch version of the CAAS that would be usable in both countries. (Although Dutch is spoken both in the Northern part of Belgium and the Netherlands, there are some differences in the use of language, comparable to the differences between US and UK English). Three Belgian researchers and two Dutch researchers independently translated each item into Dutch; through face-to-face discussion sessions, the best translations were accepted (see Appendix).

Data were collected in class during school hours using a paper-and-pencil format, under the supervision of a teacher and a researcher from the Belgian CAAS team. Generally speaking, it took the students between eight and twenty minutes to complete the CAAS scale. In a first wave, we collected data from 412 students; we later collected an additional 288 questionnaires with the goal of balancing out our sample in terms of educational level (in the first wave, our sample was composed of 255 high school students, 27 college students, and 130 university students).

Insert Table 1 about here

Results

The CAAS-Belgium item means and standard deviations suggest that the typical response was in the range of *moderate* to *strong*, compared to the other countries participating in the CAAS project (see Savickas and Porfeli, this issue; Figure 1). Skewness

and kurtosis values for the CAAS-Belgium items ranged from (-.66 to -.10) and (.03 to .74) respectively, suggesting that the items conform to the assumptions of confirmatory factor analysis for this sample. Scale means and standard deviations for the CAAS-Belgium appear in Tables 1 and 2. Skewness and kurtosis values for the CAAS-Belgium constructs ranged from (-.26 to -.30) and (-.33 to .03) respectively, suggesting that the items conform to the assumptions of correlation-based statistics for this sample. Correlations among the career adaptability subscales were significant ($p < .01$) and ranged from .33 to .53 (Table 2). Furthermore, the four subscales correlated from .72 to .80 to the adaptability total score.

Insert Table 2 about here

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) showed that the CAAS-Belgium data fit the theoretical model very well. The fit indices demonstrated satisfactory fit with established joint fit criteria, i.e. RMSEA = 0.054 and SRMR = 0.052 (Hu & Bentler, 1999). They were quite similar to the fit indices for the CAAS-International model which were RMSEA = 0.053 and SRMR = 0.039 (see Savickas and Porfeli, this issue; Table 2, row M1b). The standardized loadings (see Table 1) suggest that all items are strong indicators of the second-order constructs, and that these are, in turn, strong indicators of the third-order career adaptability construct.

Insert Table 3 about here

We performed a multi-group CFA to examine whether the psychometric properties of the CAAS-Belgium were equivalent across educational levels (i.e. high school, college, and university). We estimated four increasingly restrictive models (see Table 3). No restrictions were imposed in the baseline model (Model 1). In a second step, the factor loadings of the second-order constructs (the four subscales) were constrained to be equal (Model 2). In a third step, the factor loadings of the second-order and the third-order (adaptability) constructs

were constrained to be equal (Model 3). In a fourth step, the factor loadings of the second-order and third-order constructs, and the variance of the third-order construct were constrained to be equal (Model 4). Finally, the factor loadings of the second-order and third-order constructs, the variance of the third-order construct, and the residuals of the second-order constructs were constrained to be equal (Model 5). As Table 3 demonstrates, all models proved equivalent to the baseline model, and yielded a good fit to the data. These findings are evidence as to the equivalence of the CAAS across groups with different educational levels.

Comparison of Belgian Factor Model to International Factor Model

Comparing the CAAS-Belgium hierarchical factor model to the model for the CAAS International indicated that the loadings of first-order items on the second-order factors of adaptability were very similar. The most notable differences were for concern #3 (Preparing for the future), control #3 (Taking responsibility for my actions) and #6 (Doing what's right for me), curiosity #1 (Exploring my surroundings) and #6 (Becoming curious about new opportunities), and confidence #4 (Working up to my ability), all of which exhibited weaker (but satisfactory) loadings in the Belgian data. Of the second-order constructs, concern and control exhibited the greatest difference in loading between the Belgian sample (concern: .67; control: .74) and the total international sample (concern: .78; control: .86), with the Belgian sample exhibiting weaker loadings. The loading for Belgian curiosity was .80 compared to .88 for the International form. The Belgian confidence loading was .89 compared to .90 for the International Form.

The Belgian mean scores were slightly lower than the total international mean scores: Belgian concern (3.62), International concern (3.82); Belgian control (3.77), International control (3.92); Belgian curiosity (3.61), International curiosity (3.73); Belgium confidence (3.73), International confidence (3.87); and Belgian total career adaptability (3.68), International total career adaptability (3.81). Compared to the 12 other CAAS countries (see

Savickas and Porfeli, this issue; Figure 1), Belgium scored lower than most other countries on all subscales as well as the total CAAS score (with the exception of France, Italy, and Korea).

Between-Subjects Differences

Finally, we tested for relationships between the CAAS scores and age, gender, and educational level. All correlations between the CAAS scores and age were non-significant and ranged from -.00 to .05. T-tests revealed gender differences only for concern ($t(698) = -2.31$; $p = .02$) and control ($t(698) = 3.40$; $p = .00$), with women scoring higher on concern and men scoring higher on control. An ANOVA testing for differences between groups based on educational level found no significant differences in CAAS-Belgium scores ($F(4, 696) = .48$; $p = .75$).

Conclusion

Based on the results of the statistical analyses reported in this article, we conclude that the CAAS-Belgium Form performs quite similarly to the CAAS-International Form 2.0 in terms of psychometric characteristics and factor structure. The total scale and four subscales each demonstrate satisfactory to excellent internal consistency estimates and a coherent multidimensional, hierarchical structure that fits the theoretical model of career adaptability resources. These results should bolster confidence in the conclusion that the CAAS-Belgium and CAAS-International Form 2.0 function similarly. As expected based on cultural and institutional factors (e.g. Sels *et al.*, 2005; Spector *et al.*, 2001), the CAAS scores for Belgium were slightly lower than those for most of the other countries participating in the project. CAAS-Belgium scores did not vary with age or educational level. Small differences were found between male and female respondents. Based on these findings, the CAAS-Belgium Form appears ready for use by researchers and practitioners who wish to measure adaptability resources among students. Further research will examine its validity for use with employed adults. However, given the success of the CAAS-International Form 2.0 when used with

employed adults (Porfeli & Savickas, this issue), we believe that Belgian researchers, as well, may begin to use the Dutch version of the CAAS with adults who are anticipating occupational transitions.

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Table 1. *Career Adapt-Abilities Scale: Items, Descriptive Statistics, and Standardized Loadings for Belgium*

Construct	Item (First-Order Indicators)	Mean	SD	Loading
Concern	1. Thinking about what my future will be like	3.51	.96	0.61
	2. Realizing that today's choices shape my future	3.96	.91	0.60
	3. Preparing for the future	3.38	.83	0.65
	4. Becoming aware of the educational and career choices that I must make	3.83	.89	0.70
	5. Planning how to achieve my goals	3.30	.87	0.63
	6. Concerned about my career	3.72	.87	0.64
Control	1. Keeping upbeat	3.66	.98	0.40
	2. Making decisions by myself	3.67	.93	0.65
	3. Taking responsibility for my actions	4.03	.73	0.45
	4. Sticking up for my beliefs	3.82	.93	0.60
	5. Counting on myself	3.83	.81	0.63
	6. Doing what's right for me	3.57	.79	0.45
Curiosity	1. Exploring my surroundings	3.52	.81	0.53
	2. Looking for opportunities to grow as a person	3.43	.76	0.62
	3. Investigating options before making a choice	3.62	.85	0.61
	4. Observing different ways of doing things	3.53	.85	0.64
	5. Probing deeply into questions I have	3.73	.92	0.50
	6. Becoming curious about new opportunities	3.82	.81	0.47
Confidence	1. Performing tasks efficiently	3.55	.83	0.56
	2. Taking care to do things well	3.90	.68	0.63
	3. Learning new skills	3.78	.67	0.66
	4. Working up to my ability	3.76	.76	0.60
	5. Overcoming obstacles	3.64	.73	0.65
	6. Solving problems	3.73	.71	0.65
Construct	Construct (Second-Order Indicators)	Mean	SD	Loading
Adaptability	1. Concern	3.62	.63	0.67
	2. Control	3.77	.54	0.74
	3. Curiosity	3.61	.54	0.80
	4. Confidence	3.73	.51	0.89

Note. All loadings are statistically significant at $\alpha = 0.01$.

Table 2. *Correlation Matrix of the CAAS-Belgium Form (N = 700)*

	Mean	SD	1	2	3	4	5
1. Concern	3.62	.63	(.80)				
2. Control	3.77	.54	.33**	(.70)			
3. Curiosity	3.61	.54	.48**	.40**	(.73)		
4. Confidence	3.73	.51	.47**	.52**	.53**	(.79)	
5. CAAS (Total)	3.68	.43	.77**	.72**	.78**	.80**	(.88)

Notes. Internal consistency reliabilities (Cronbach's alphas) are reported in parentheses. * $p < .05$; ** $p < .01$.

Table 3. *Multi-group Equivalence Test: Model Comparison*

Model	$\Delta\chi^2$	Δdf	$\Delta RMSEA$	ΔCFI
2	42.46	40	.001	.000
3	46.50	46	.001	.000
4	51.09	48	.001	.001
5	64.39	56	.001	.002

Note. Models are compared to baseline Model 1: $\chi^2 = 1386,19$; $RMSEA = 0.035$; $CFI = .863$.

Appendix

Dutch version of the CAAS (Career Adapt-Abilities Scale) – Belgium Form

Leeftijd _____ Omcirkel: Man of Vrouw

De volgende uitspraken beschrijven hoe mensen zich voorbereiden op het maken van keuzes in hun (werk)leven, zoals de overstap van school naar een andere opleiding, van opleiding naar werk, of van de ene baan naar de volgende baan. Hoe goed ben jij in de zaken die hieronder staan beschreven? Gebruik bij het beantwoorden de volgende schaal.

- 1 = Helemaal niet goed
- 2 = Niet goed
- 3 = Matig goed
- 4 = Goed
- 5 = Zeer goed

Factors	Items
Concern	1. Nadenken over hoe mijn toekomst eruit zal zien
	2. Realiseren dat de keuzes die ik nu maak, mijn toekomst bepalen
	3. Me voorbereiden op de toekomst
	4. Bewust worden van de opleiding- en beroepskeuzes die ik moet maken
	5. Plannen hoe ik mijn doelen ga bereiken
	6. Bewust bezig zijn met mijn (studie)loopbaan
Control	1. Optimistisch blijven
	2. Zelf beslissingen nemen
	3. Verantwoordelijkheid nemen voor mijn daden
	4. Opkomen voor mijn eigen mening
	5. Op mezelf rekenen
	6. Doen wat het beste is voor mij
Curiosity	1. Mijn omgeving verkennen
	2. Op zoek gaan naar kansen voor persoonlijke ontwikkeling
	3. Verschillende mogelijkheden onderzoeken voordat ik een keuze maak
	4. Verschillende manieren zien om dingen te doen
	5. Diep nadenken over vragen waar ik mee zit
	6. Nieuwsgierig zijn naar nieuwe mogelijkheden
Confidence	1. Taken efficiënt (snel en goed) uitvoeren
	2. Er voor zorgen de dingen goed te doen
	3. Nieuwe vaardigheden leren
	4. Naar beste vermogen werken
	5. Hindernissen overwinnen
	6. Problemen oplossen