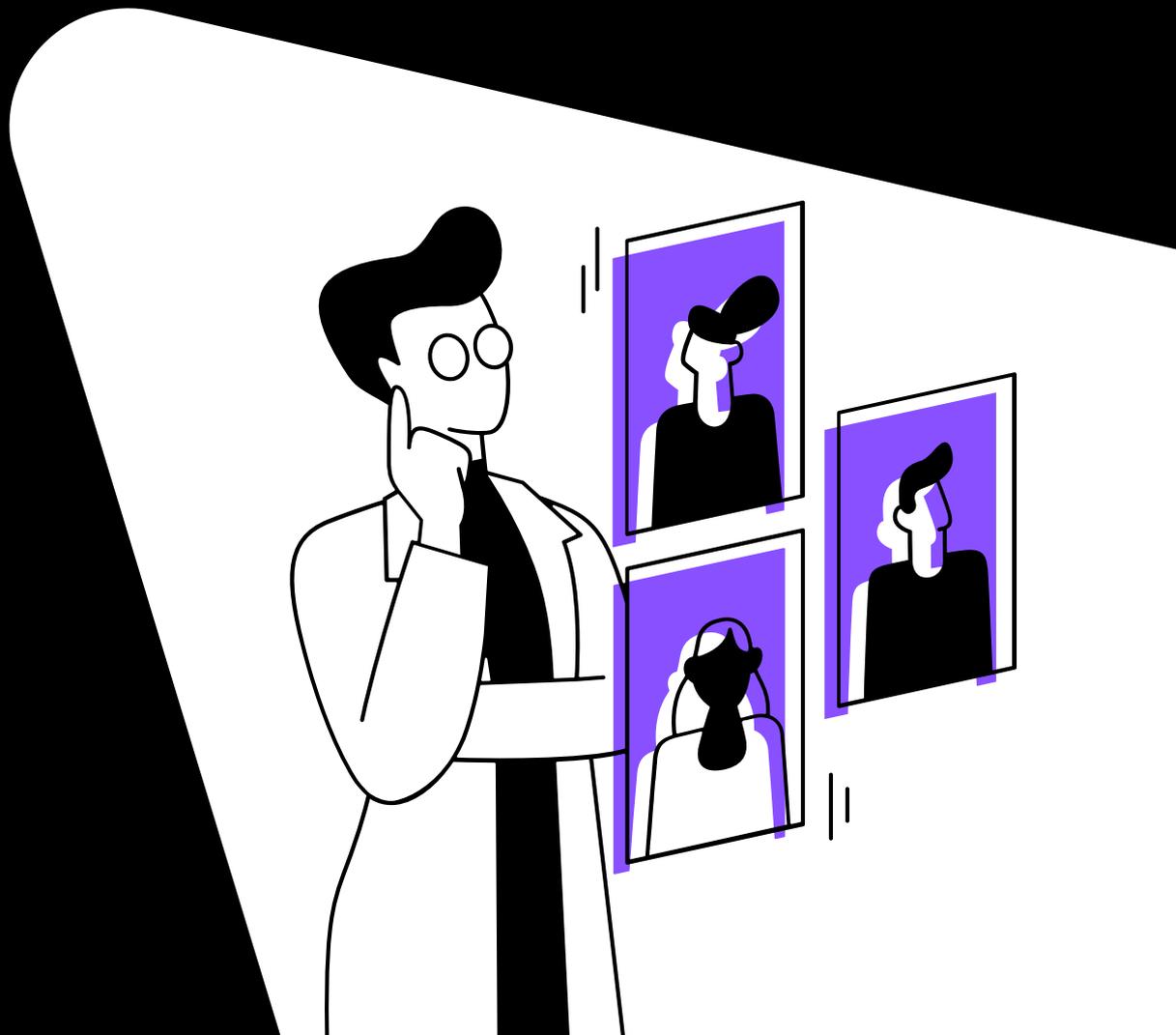


MARCO

Construction of the psychometric tool
of occupational interests assessment



ABOUT

Stéphanie Rambaud is a PhD in Psychology and creates psychometric tools for JobTeaser, thus ensuring that the tools are scientifically valid.

JobTeaser's mission is to help the new generation throughout Europe to reveal and to develop themselves professionally.

Stéphanie is also a researcher affiliated to LaPEA (Laboratoire de psychologie appliquée et d'ergonomie, Université de Paris, France, University de Paris, France).

Her main subjects are: emotions - self-knowledge - career guidance - social relations and well-being.

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DEFINITIONS

Occupational interests are defined as the differential variable of preferences towards types of activities -mainly professional- but also in terms of theoretical subjects or leisure activities (Vrignaud & Bernaud, 2005). More broadly, they encompass the motivations that will determine the choice towards one field of activity rather than another (Larcebeau, 1955).

Thus, occupational interests represent one of the most popular means of characterizing, comparing and matching individuals with their work environments (Hogan & Blake, 1996). The specificity of interest questionnaires is found in the fact that they ask individuals to express their preferences and rejections regarding a large number of activities (Vrignaud & Bernaud, 2005). The purpose of conducting this type of inventory is to enable individuals to obtain more information in order to construct their career path and to clarify their choice of orientation (Vrignaud & Bernaud, 2005).

THE MODEL USED

The previous versions of Marco (v1 and v2) are based on the RIASEC model¹ by Holland (1959). This is one of the most widely used models for assessing interests to help vocational choices. The author defines six types of profiles combining interests, characteristics and activities of the person corresponding to different personality profiles (Guichard & Huteau, 2001). These six types of profiles are as follows: Realistic, Investigative, Artistic, Social, Enterprising and Conventional.

Suffering from a lack of adaptation towards the new generations of the professional world, Bernaud proposes in 2007 an update of the terms used in the RIASEC and, since interests seem to follow a pentagonal rather than a hexagonal model (Vrignaud & Bernaud, 1994a, 1994b), he also proposes a model in five profiles, PSICO: Practical, Scientific, Innovative, Conciliator and Organizer. In order to propose a robust tool adapted to our target population, we have chosen to use in this V3, this PSICO model from Bernaud's Horizon de Carrières tool² (2007), still inspired by Holland's work.

1. For further informations on the profiles : <https://www.careers.govt.nz/assets/pages/docs/career-theory-model-holland-20170501.pdf>
2. Exclusive publisher: Testallia editions. Tool developed after 6 years of research at CNAM-INETOP (Paris)

CONSTRUCTION OF THE QUESTIONNAIRE

Participants

Four thousand six hundred and fifty-one participants voluntarily completed the Marco v3 french questionnaire online (70.3% female, 29.4% male, 0.3% other). Recruitment of participants was carried out via social networks, in our partner establishments as well as at Pôle emploi (11.6% students, 59% non-salaried).

Materials et procedure

After reading the instructions, participants were asked to respond to 276 items divided into six exercises, each measuring preferences towards: Courses or training (63 items), People with whom one would like to work or be in contact (36 items), Extra-professional activities (33 items), Work environments (38 items), Professional activities (79 items), Dreams and aspirations (27 items). For each item, the participant positions his or her interest using an ordinal measurement scale represented by five smilies ranging from "not at all interested" to "very interested".

The 276 items have been pre-built to cover the 31 business branches classified by the CIDJ (i.e. Centre d'Informations et de Documentations Jeunesse).

At the end of the exercises, participants were asked to respond to socio-demographic data (gender, age, status) and were given the opportunity, if they wished, to indicate their interests using a five-point ordinal scale on each of the 31 CIDJ's branches of activity before being returned (i.e. 3,256 participants).

Data analysis

A psychometric tool must respect three main qualities: it must be normed, reliable (stable) and valid (consistent with the construct). Since our v3 is the first step of a heavy scientific validation that should lead to a later version, here are the first elements of statistical analyses performed in pre-testing:

(1) Norming. On the whole, the study of the distribution of the scores obtained at the different scales of activity (dispersion indices) is globally satisfactory, however with asymmetries noted for the trades related to agriculture and mechanics.

(2) Reliability. On the whole, the study of the internal consistency of our different scales of activity is satisfactory (Cronbach's Alpha ranging from .79 to .90).

(3) Validity. Statistical analyses performed using unsupervised (i.e. Principal Component Analysis) and supervised (i.e. Kendall rate) classification methods allowed us to extract the 169 items explaining the most variance on 27 new vocational branches.

Thus, the last stage of scientific validation of our French Marco tool will be carried out on the new version (v4) and will be the subject of a **psychometric report**. This new version of the tool will therefore be **shorter** (169 items) and **more robust** thanks to our statistical analyses which justify the selection of the most relevant items to represent the different branches of activity. All these steps in the construction of the tool allow us to provide the participant with a **reliable assessment** of his or her professional interests.

MODALITÉS DE PASSATION

Principle of ratings

The Marco psychometric tool has the dual objective of assessing the individual's occupational interests according to **(1) the five profiles** of the PSICO model evaluated using 12 items, **(2) the 31 vocational branches** from the CIDJ classification measured according to 7 to 11 items.

Next step

Conduct the same analysis for our english and german Marco tools.

Then, a psychometric tool must respect three main qualities: it must be norming (discriminating), reliable (stable) and valid (concordant with the construct). Since our pre-test for the french version is the first step of a heavy scientific validation that should lead to a later version, the future elements of statistical analysis will be done according to these psychometric qualities.

Thus, the last stage of scientific validation of our Marco tool will be carried out on the current online version and will be the subject of a psychometric report. This new version of the tool will be subject to iteration and will therefore be more robust thanks to our statistical analyses. All these steps in the construction of the tool will allow us to provide the participant with a reliable assessment of his or her professional values.



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