

TOWARDS AN EVIDENCE-BASED RECRUITMENT AND SELECTION PROCESS

HACIA UNA EVIDENCIA BASADA EN EL RECLUTAMIENTO Y EN LOS PROCESOS DE SELECCIÓN

Filip De Fruyt
Ghent University, Belgium
Filip.DeFruyt@ugent.be

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Laburpena: Ebidentzia gehiago erabiltzen bada, kalitate hobekoa eta garrantzitsua, arazoa zehaztasun handiagoz identifikatuko da eta emaitza hobekak lortuko dira giza baliabideen politikak eta estrategiak diseinatzerakoan erabakiak hartzean. Dokumentu honek helburu du ebidentzian oinarritutako erreklutamendu- eta hautaketa-prozesu baten alde egitea, ikerketa aurreratu baten berrikuspeneren bidez. Hautaketako eta langile-hautaketako profesionalentzako lau erronka nagusi hauei buruzko ikerketa berrikusiko da: talentua definitzea, erakartzea, ebaluatzea eta garatzea. Izan ere, hautaketak eta garapenak batera joan behar dute. Gainera, azpimarratzen du zeinen garrantzitsua den konstruktua eta metodoak aintzat hartzea lan-jarduera aurrerakusteko, erakundeek ebidentzian oinarritutako garapen- eta hautaketa-politika bat diseinatu behar dutenean. Azkenik, jarraibide batzuk ematen dira, ebidentzian oinarritutako gomendioak ezartzeari buruz, erakundearen estrategian eta jardueran operatiboetan.

Gako-hitzak: *hautaketa, garapena, giza baliabideak, enplegagarritasuna, ebidentzian oinarritua, 21. mendeko kompetenziak, trebetasun besterengarriak.*

Resumen: El uso de más evidencia, de mejor calidad y relevante, resultará en una identificación más precisa del problema y mejores resultados en la toma de decisiones al diseñar políticas y estrategias de recursos humanos. El objetivo de este documento es abogar por un proceso de reclutamiento y selección basado en la evidencia mediante la revisión de la investigación más avanzada sobre cuatro desafíos principales para los profesionales de selección y selección de personal: definir, atraer, evaluar y desarrollar talento, ya que la selección y el desarrollo deben ir de la mano. Además, enfatiza la importancia de considerar la validez de constructos y métodos para predecir el desempeño laboral al diseñar una política de desarrollo y selección basada en la evidencia dentro de las organizaciones. Finalmente, se proporcionan directrices sobre cómo implementar recomendaciones basadas en evidencia en la estrategia de la organización y las actividades operativas.

Palabras clave: *selección, desarrollo, recursos humanos (HR), empleabilidad, basado en la evidencia, competencias del siglo 21, habilidades transferibles.*

Abstract: Using more, better quality, and relevant evidence is likely to result in more accurate problem identification and better decision-making outcomes when designing HR policies and strategies. The aim of this paper is to advocate for an evidence-based recruitment and selection process by reviewing the state-of-the-art research on four major challenges for staffing and selection professionals: defining, attracting, assessing, and developing talent, as selection and development should go hand-in-hand. Furthermore, it stresses the importance of considering the validity of constructs and methods to predict job performance when designing an evidence-based selection and development policy within the organizations. Finally, guidelines on how to implement evidence-based recommendations into the organization's strategy and operational activities are provided.

Keywords: *Selection, Development, human resources (HR), employability, evidence-based, 21st century skills, transferable skills.*

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Introduction

After 50 years of continuous development, growth and professionalization, the field of human resources (HR) is facing the task to help people and organizations to deal with the challenges imposed by the Volatile, Uncertain, Complex and Ambiguous (VUCA) world. The demands are multiple and urgent, and coerce the HR field to redefine its mission and strategies. At the same time, the HR discipline has to become more evidence-based so it is better equipped to differentiate substance from fashion and is sitting in the best position to do its core task, i.e. attract and develop human resources within the organization.

1. Current challenges

HR recruiters and staffing and selection professionals are nowadays confronted with four main challenges: (1) «What skills do we need in (the near) future?», (2) «How to attract talent?», (3) «How to assess talent?», and finally (4) «How to develop talent once people are in the organization?» By extension, these questions are also on the desk of education and labor market policy makers, necessitating coordinated action to align strategies and efforts and connect education and training with the world of work.

1.1. Talent/transferable skills

Although HR professionals intensively invested the past 20 years in making task and competency-oriented function descriptions in the organization, selection nowadays has to focus more on assessing talent and transferrable skills in job applicants, instead of searching for a person with a clearly defined competency set aligned with a particular function. Instead of filling up specific job vacancies, organizations nowadays are looking for collaborators demonstrating broader employability attributes and learning potential (talent), to build a flexible workforce, characterized by transferrable skills and equipped to deal with quickly changing demands in the organization and world economy. What employees will do in two years in the organization may be very different from what they do now, so continuous learning and development are utmost important. This shift from 'looking for specific competencies' in job applicants to 'talent/transferable skills' started the discussion on the number and nature of these transferable skills.

Abrahams *et al.* (2019) recently reviewed the literature on 21st century skills and concluded that education and the labor market are now converging on a taxonomy of student/applicant SEMS, outlining five broad skill sets that form the largest common denominator across a multitude of models. This integrative model encompasses: '*Engaging with others*', representing skills that describe how we connect with and approach others, '*Amity/Collaboration*', describing more quality-related interpersonal skills, such as trust, respect and empathy, '*Emotion regulation*', capturing how we regulate our impulses and affective reactions, '*Self-management*', representing skills that help us getting things done and achieve standards, and finally

'Open-mindedness', including those skills that help us to adapt to new conditions, including creativity, open-mindedness and fantasy (Abrahams *et al.*, 2019; Primi, Santos, John, & De Fruyt, 2016). As could be derived from these descriptions, each domain can include more specific SEMs. Such taxonomic framework should provide direction to the kind of SEMs that have to be developed in education to prepare for the labor market. At the same time, the taxonomy defines the scope of assessment tools to be used for personnel selection and development purposes. The SEMs model proposed by Abrahams *et al.* (2019) strongly parallels with the five domains of the Five-Factor Model of personality (John, 1990; John & De Fruyt, 2015).

1.2. Attraction of talent

Often called the 'war for talent', recruiters and organizations are competing for talent looking for applicants demonstrating transferable skills and learning agility. On top of work content and conditions and salary, also the organizations' economic, societal and climate mission statements and policies, in association with developmental opportunities, became important decision criteria for job candidates to apply. Employer branding hence evolved to a crucial instrument to attract new employees.

Attraction of a rich pool of job applicants is a sine qua non for all subsequent phases of the selection process, because one can only select among those who apply. The best selection procedure is useless when the applicant sample is too small or when applicants do not have the minimally required skill levels. The image that organizations (as an employer) have in the public domain is thus critical and requires careful investigation, monitoring and investment, even before one thinks about setting up a selection system or development program. Applicants' perception of an organization or a labor market segment evolves over time, and its evolution has to be carefully scrutinized and edited so the right people apply. Military organizations in Western Europe, for example, have neglected for a long time their attraction profile, because the obligatory military service in several countries provided them on a yearly basis with the necessary pool of recruits. As soon as military service was abandoned, they experienced a shortage of applicants for filling specific vacancies, and suddenly had to think about (re-)branding their image. In sum, efforts to attract the right candidates are crucially important and form the starting point of everything else in HR.

1.3. Assessment of talent

The past decades, psychometric tests (intelligence, interests, personality and values) and assessment center exercises were increasingly used in selection procedures, complementing unstructured and structured interviews. These psychometric tools replaced more traditional selection criteria such as relying on education and training qualifications, job experience, and tenure for making selection decisions. This development followed recommendations from academic research showing that using these more sophisticated selection methods improved the validity of the selection process (Sackett & Lievens, 2008; Schmidt, Ones, & Hunter, 1992).

Whereas the various methods have been successfully introduced in selection practice, HR professionals have put a strong emphasis on incorporating the different methods, with less attention for the nature of the psychological constructs that had to be assessed. Competency models developed within HR often refer to broad and hybrid constructs, such as 'helicopter view', 'learning agility', 'critical thinking' or 'charismatic leadership' (Vergauwe, Wille, Hofmans, & De Fruyt, 2017), referring to a mixture of personality traits and cognitive attributes (Bartram, 2005). Such complex and multidimensional skill constructs have to be 'translated' into their constituting building blocks, and then one or more methods have to be chosen to assess these constructs (Hoekstra & Van Sluijs, 2003). The current urge to think about employability and transferrable skills necessitates the field to make a careful analysis at the conceptual level first, instead of narrowing the discussion to an emphasis on methods used to assess these constructs. De Fruyt, Wille and John (2015) recently made a conceptual analysis of employability, dissecting this construct into organizing components and suggested accompanying assessment methods.

Employability can be broadly defined as an individual's labor market fitness and ability to be in charge of his/her own career. At the operational level, employability can be minimally understood in terms of five attributes. Hogan, Chamorro-Premuzic, and Kaiser (2013) define employability as a person's propensity to (a) show task engagement and goal setting, (b) interact with other people («getting along» or «being rewarding to deal with»), and (c) adapt to/fit in an organizational structure or have the capacity to deploy such structure (for those pursuing self-employment). De Fruyt, Wille and John (2015) added two attributes, i.e. (d) 'demonstrating the ability and flexibility to learn on the job and prepare for future challenges' and (e) 'being able to deal with short- and long-term perspectives'. These two supplements of Hogan *et al.*'s (2013) framework are important, given the expectation

that employees will face longer work careers and probably will work in a range of different jobs and organizations. Individuals will not only have to care about their present jobs but will, at the same time, also have to invest in their future employability. Put differently, employees minimally need to (a) be willing to work and do the job (task engagement and goal setting), (b) be able to work with/among others, (c) fit in and endorse the values of an organization, (d) show an eagerness to learn and demonstrate flexibility and adaptability, and (e) be able to envisage and invest in current and future career paths (within or outside the organization). Components (a), (b) and (d) are directly reflected in the Five-Factor Model of personality, with (a), task engagement and goals setting, related to Conscientiousness, (b), working with/among others, related to Extraversion and Agreeableness forming the interpersonal circumplex, and (d), learning flexibility and adaptability, related to Openness to experience and Emotional Stability.

An additional change in contemporary selection assessment is that there is an emerging shift from assessment at the level of the individual to assessment at the level of teams. Rather than looking for all desired characteristics in a single individual (i.e. the 'super(wo)man' model), HR is making (or should make) a more concise analysis of the skills necessary in a team (i.e. the 'collaborative' model). In many ways, such approach is more useful and recommended, because it is unrealistic to expect that single individuals will exhibit the full range of attributes at the desired (high) level. The 'super(wo)man' model works deficiently already from the beginning, because potential interesting applicants select-out themselves when confronted with such extensive lists of required competencies, hence negatively impacting upon attraction. The result is a double loss: the applicant does not apply (and does not develop her/his skills further) and the organization loses a potential collaborator that could have become a skilled and loyal employee. Depending on the nature of the organization and what is necessary in its teams, HR professionals should look for supplementary fit on those skills that are required to create common core within a team. In addition, they will have to strive for complementarity among collaborators, so employees also have unique skill sets and expertise, because organizations, in the long run, will adapt better to changing markets and survive competition when there is enough heterogeneity in its workforce.

A third trend in selection assessment is that there is more explicit attention for select-out approaches, on top of select-in strategies. The past decade, fortunately, organizations opened up more to learn from what went wrong in management and

organizations. Before, they primarily focused on the bright side, honoring and celebrating successes (De Fruyt *et al.*, 2009). The increased attention in the mass media for different forms of counterproductive work behavior, abusive leadership, the 'me too' movement, management derailment, or incidents of bullying at work, forced recruiting and selection professionals to think about how to avoid such derailment already during the selection process. As a consequence, organizations not only provided a detailed description of the kind of competencies and skills they wanted to see in applicants (i.e. select-in, also called the 'bright side'), but also better defined what they wanted to avoid in their employees (i.e. select-out, also called the 'dark side'). This thought shift created a new line of selection and development assessment tools (e.g. TD-12: Tendances Dysfonctionnelles, Rolland & Pichot, 2007) to flag dysfunctional tendencies in applicants for jobs including a specific risk for derailment or where dysfunction could have strong consequences, such as jobs in the military, law enforcement, prison guards, security, or jobs in which one has to deal with people in a vulnerable position.

1.4. Development of talent

Evidence-based selection is one step, but like said before, it is unlikely that organizations will find employees that fully meet the recruiters' (often extensive) wish lists. In addition, people mature, learn and change (Wille, Hofmans, Feys, & De Fruyt, 2014) once they enter the organization, and there may be also impactful changes in their personal lives (e.g. co-habiting, raising a child, taking care of a relative etc...), so selection assessment should have its follow-up in one or another way at regular times across the career path. Taking such long-term perspective into consideration, selection and development processes go hand-in-hand, and HR should built this connection into its strategy. Conceiving the selection process this way, some first developmental points can already be identified during initial selection and onboarding. Rather than investing in the development of a small group of employees (the so-called high potential programs), organizations nowadays better invest more broadly into the development of their employees, implementing a 'no employee left behind' strategy. Outlining individualized developmental trajectories for everyone, guarantees that everyone participates in this process and remains 'agile' for future challenges. Regular check-in (instead of evaluation) moments with employees should identify work-life balance issues, adjust mutual expectations and further identify and refine developmental challenges and needs.

2. Evidence-based HR (and selection)

An interesting characteristic of the professionals active in the HR community is that they represent very different training backgrounds bringing a lot of expertise and richness in viewpoints to the table. When it comes to designing an evidence-based selection and development policy within the organization, it is wise to consult the academic literature on psychometric assessment and validity to avoid that HR falls prey to a 'catch-of-the-day' approach, where the most fancy looking constructs or methods reign the selection agenda. To be in a position to develop an evidence-based selection approach, psychologists have studied the reliability, validity and utility of different selection methods to predict various consequential outcomes at work. Overall, this literature has been looking at the validity of different constructs (intelligence, personality, interests...) and methods to predict broad criteria of interest such as task performance (quantity and quality of performance), organizational citizenship behavior (extra-task performance), adaptive performance (how one adapts to changes) and counterproductive work behaviors.

A pioneering and influential meta-analysis examining the validity of selection tools to predict job and training performance has been conducted by Schmidt and Hunter (1998), with still ongoing follow-up investigations (Schmidt, Oh, & Shaffer, 2016). Overall, this meta-analytic work learned that general mental ability showed consistent substantive positive relationships with both job and training performance, with validity coefficients around .50. This validity was also found in European data sets and generalized across different occupations (Salgado *et al.*, 2003; Salgado & De Fruyt, 2005). Structured interviews, integrity tests, personality tests and to a lesser extent, also assessment exercises added to the predictive validity for both criteria. Schmidt *et al.*'s most recent work (2016), also showed interests to be valid predictors of performance and training proficiency. In a specific and separate meta-analysis, Nye, Su, Rounds and Drasgow (2012) showed that especially interest congruency (computed as a fit between a person's interests and attributes of the environment) was related to various indicators of job performance and academic performance and

persistence. Congruency measures predicted these criteria better than interest assessments alone. For an extensive review of different measures and methods see Schmidt *et al.* (2016).

The typical assessment procedure in different types of organizations nowadays starts with a careful function analysis or listing the kind of transferrable skills that the organization wants to attract. Once these constructs are defined, the minimal selection battery typically includes a structured interview, some form of cognitive assessment, a personality assessment, and one or more assessment center exercises. Eventually, these should be complemented with methods directed towards selecting-out. Assessments are usually organized according to the triangulation principle, where the same construct is preferably assessed using multiple methods, and constructs predict the criteria of interest (e.g. quantitative task performance, customer service orientation, absenteeism, organizational citizenship behavior, engagement...) in an incremental way, in other words, adding validity to explain the criterion. The order of selection methods depends on time available and the number of applicants that have to be assessed. Unproctored psychometric tools are preferably used upfront in the selection process when facing a large number of applicants, because these only take time from the applicant. An additional critical advantage is that these psychometric tools can assess a much broader range of select-in/out attributes/skills than can be done during interviewing, which is costly and time demanding from the perspective of the HR professional. Crucial skills (select-in) and potential dysfunctional tendencies (select-out) for which an applicant is flagged during the unproctored online assessment can then be further scrutinized during the selection interview and challenged in assessment center exercises.

Although selection procedures that are organized according to evidence-based principles are generally perceived as fair (Hausknecht, Day, & Thomas, 2004), a substantial number of applicants still face a selection process, and some of the methods used therein, as somehow artificial, so everything that can further increase face validity of selection tools is welcome. Gamified assessments, often ICT-based and involving virtual reality applications, got increasingly popular the past years. Although attractive and potentially promising, there is hardly independent evidence so far on their basic psychometric properties, such as construct validity, reliability and predictive validity.

3. Implementation

A key question for those in charge of HR policies in organizations is how to implement evidence-based recommendations into the organization's strategy and operational activities? This concern is pertinent for every HR policy, independent of how up to date its current HR processes are structured and designed, or the nature of the organization, being either for profit, non-for profit or public administration. Considering the challenges of the VUCA world and today's labor market, the following steps to rethink (when you are facing an in-depth HR re-structuring) and/or optimize (for smaller adaptations) selection in HR can be recommended.

First, the organization will have to identify and define the required talent attributes in the short but also in the long run. This process should be closely aligned with the prime business strategy of the organization, and has to lead to a realistic set of talent markers that can be used in selection, but that also translate into transferrable skills once collaborators are working for some time within the organization. The qualification 'realistic' is crucial here, because the labor market counts only a few sheep with five legs. Select-in requirements will have to define a minimal set of personal attributes (and levels) that can further mature and develop within the organization. This skill set has to be aligned with and incorporated in employer branding strategies to make the organization an attractive workplace so people apply. The operational description of employability provided previously can help to define this minimal and common attribute set. This identification phase will involve listing desired attributes/skills (select-in), and if necessary, also the description of what one wants to avoid (select-out).

Once constructs have been identified and defined, a second step is to think about methods to operationalize and assess these attributes in applicants, preferable according to the previously described triangulation approach. Using psychometric tools will increase the efficiency, validity and fairness of the selection process, because a larger number of applicants can be assessed more comprehensively under standardized circumstances using tools that show incremental validity to explain the criteria of interest. Key constructs are preferably assessed using a variety of assessment methods (triangulation) or relying on multiple informants (Connelly & Ones, 2010) and/or observers of behavior to improve validity and avoid common rater biases.

The previous steps will require considerable expertise, coming from within but also from outside of the organization. Voices from within the organization provide necessary input to learn about the business strategy and planning, but also to learn about questions and needs of collaborators and create the necessary buy-in with stakeholders. Translating all this input into the talent and transferrable skills vocabulary and selecting accompanying assessment tools will, however, require independent advice, preferably coming from an independent source acting as a liaison between the organization (and its employees) and psychometric test providers. Identifying early on such informed and independent soundboard is a necessary third step for successful implementation of a change in HR selection strategies.

Fourth, as we outlined previously, selection and development go hand in hand, so changes in the selection approach need to be aligned and integrated with follow-up assessments as people mature and grow in the organization. Such periodic and systematic individualized follow-up is essential in a generalized talent development program where «No employee is left behind». Talent development programs should be individualized and custom-made, starting from the individual's ambitions and current developmental needs and interests. Here again, we plea for realistic goal setting, well-integrated with an employee's current personal and professional situation. Investing in training and development of collaborators will have a huge pay-off, and is a collaborative effort with benefit for all participants. Keeping the internal workforce 'employable' is a common task for organizations today, and should be supported by all stakeholders, including the governing and management board of the organization, employees and unions but also the government. Organizations, herein supported by the government, have a strong responsibility to keep the workforce 'agile' and 'employable'. There is a chance of course that collaborators in which the organization has invested will move to other firms, but this can hardly be an argument not to invest in development and training, because a status quo in skill levels means a deficit in the long run for all actors. Even facing a risk that good employees leave to a competitor with their acquired knowledge and skills, organizations should realize that people may work for you again after some years in the case of merges and acquisitions.

Fifth and finally, such ambitious agenda can only be realized in an open and serene dialogue among all stakeholders. Such exchanges will be particularly important for complex organizations such as public administrations that have specific legislation and rules for recruitment, selection, and getting tenure and promotion. The installation of a specific taskforce

involving all stakeholders can facilitate such transfer. Selection and development is ultimately always an exercise of everyone on board. Even when the challenge is big and the organization has to catch up considerably, one can make big steps, or even take two steps at the same time. Today, there are several examples of organizations and/or public administrations that successfully transformed and implemented evidence-based procedures, and can serve as an example for their fellow organizations and institutions.

4. General conclusion

In this paper I have first tried to argue for an evidence-based recruitment and selection process. Secondly, I advocated that selection and development go hand-in-hand and should be jointly considered when designing HR policies and strategies. A third point was that there is research available on how to design these HR processes and HR professionals should consult and incorporate this evidence. Fourth and finally, it is clear that HR can only succeed in achieving its mission when all stakeholders are on board and participating. I hope this short review may inspire some and helps to achieve this ambitious goal.

5. References

- Abrahams, L., Pancorbo Valdivia, G., Primi, R., Santos, D., Kyllonen, P., John, O. P., & De Fruyt, F. (2019). Social-emotional skill assessment in children and adolescents: Advances and challenges in personality, clinical and educational contexts. *Psychological Assessment, 31*(4), 460-473.
- Bartram, D. (2005). The great eight competencies: A criterion-centric approach to validation. *Journal of Applied Psychology, 90*(6), 1185-1203. doi:10.1037/0021-9010.90.6.1185
- Connelly, B. S., & Ones, D. S. (2010). An Other Perspective on Personality: Meta-Analytic Integration of Observers' Accuracy and Predictive Validity. *Psychological Bulletin, 136*(6), 1092-1122. doi:10.1037/a0021212
- De Fruyt, F., De Clercq, B. J., Miller, J., Rolland, J. P., Jung, S. C., Taris, R., ... Van Hiel, A. (2009). Assessing Personality at Risk in Personnel Selection and Development. *European Journal of Personality, 23*(1), 51-69. doi:10.1002/per.703
- De Fruyt, F., Wille, B., & John, O. P. (2015). Employability in the 21st Century: Complex (Interactive) Problem Solving and Other Essential Skills. *Industrial and Organizational Psychology-Perspectives on Science and Practice, 8*(2), 276-U189. doi:10.1017/iop.2015.33
- Hausknecht, J. (2004). Applicant reactions to selection procedures: An updated model and meta-analysis. *Personnel Psychology, 57*(3), 639-683. doi:10.1111/j.1744-6570.2004.00003.x
- Hoekstra, H. A., & Van Sluijs, E. (Eds.). (2003). *Managing competencies: Implementing human resource management*. Nijmegen: Royal Van Gorcum.
- Hogan, R., Chamorro-Premuzic, T., & Kaiser, R. B. (2013). Employability and Career Success: Bridging the Gap Between Theory and Reality. *Industrial and Organizational Psychology-Perspectives on Science and Practice, 6*(1), 3-16. doi:10.1111/iops.12001
- John, O. P. (1990). The 'Big Five' factor taxonomy: Dimensions of personality in the natural language and in questionnaires. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 66-100). New York: Guilford.
- John, O. P., & De Fruyt, F. (2015). *Framework for the Longitudinal Study of Social and Emotional Skills in Cities*. Paris: OECD.
- Nye, C. D., Su, R., Rounds, J., & Drasgow, F. (2012). Vocational Interests and Performance: A Quantitative Summary of Over 60 Years of Research. *Perspectives on Psychological Science, 7*(4), 384-403. doi:10.1177/1745691612449021
- Primi, R., Santos, D., John, O. P., & De Fruyt, F. (2016). Development of an Inventory Assessing Social and Emotional Skills in Brazilian Youth. *European Journal of Psychological Assessment, 32*(1), 5-16. doi:10.1027/1015-5759/a000343
- Rolland, J. P., & Pichot, P. (2007). *Manuel de l'inventaire de Tendances Dysfonctionnelles TD-12*. Paris: ECPA.
- Sackett, P. R., & Lievens, F. (2008). Personnel selection. *Annual Review of Psychology, 59*, 419-450. doi:10.1146/annurev.psych.59.103006.093716
- Salgado, J. F., Anderson, N., Moscoso, S., Bertua, C., de Fruyt, F., & Rolland, J. P. (2003). A meta-analytic study of general mental ability validity for different occupations in the European community. *Journal of Applied Psychology, 88*(6), 1068-1081.
- Salgado, J. F., & De Fruyt, F. (2005). Personality in personnel selection. In A. Evers, N. Anderson, & O. Voskuil (Eds.), *The Blackwell handbook of personnel selection* (pp. 174-198). Oxford, UK: Blackwell Publishing Ltd.
- Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings.

- Psychological Bulletin*, 124(2), 262-274. doi:10.1037/0033-2909.124.2.262
- Schmidt, F. L., Oh, I. S., & Shaffer, J. A. (2016). The Validity and Utility of Selection Methods in Personnel Psychology: Practical and Theoretical Implications of 100 Years of Research Findings. Fox School of Business Research Paper. Retrieved from <https://ssrn.com/abstract=2853669> [Links]
- Schmidt, F. L., Ones, D. S., & Hunter, J. E. (1992). Personnel-Selection. *Annual Review of Psychology*, 43, 627-670.
- Vergauwe, J., Wille, B., Hofmans, J., & De Fruyt, F. (2017). Development of a Five-Factor Model charisma compound and its relations to career outcomes. *Journal of Vocational Behavior*, 99, 24-39. doi:10.1016/j.jvb.2016.12.005
- Wille, Bart, Hofmans, Joeri, Feys, Marjolein, & De Fruyt, Filip. (2014). Maturation of work attitudes: Correlated change with big five personality traits and reciprocal effects over 15 years. *Journal of Organizational Behavior*, 35(4), 507-529. doi:10.1002/job.1905