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Abstract

Organizations report great difficulty in measuring talent accurately, reflecting the lack of theoretical foundations for talent-identification in the HRM literature. This multidisciplinary review aims to contribute to the establishment of a stronger theoretical basis for talent-management by presenting a conceptual framework of talent in which the definition, operationalization and measurement of talent and its relation to excellent performance is clarified. We systematically introduce 11 propositions into the framework, building on fragmented insights from the literature—from the fields of HRM, gifted education, positive psychology, and vocational psychology respectively—that will guide readers in understanding and applying the proposed framework.

*Keywords:* talent definition, talent operationalization, talent measurement, multidisciplinary review, theoretical propositions

# A Multidisciplinary Review into the Definition, Operationalization, and Measurement of Talent

Over the course of the last decade, organizations seem to have become increasingly convinced that the deliberate identification of talent is crucial for maximizing organizational performance (Collings & Mellahi, 2009; Lewis & Heckman, 2006). Interestingly, however, human resource management (HRM) practitioners report great difficulty defining what talent is, let alone measuring it accurately for identification purposes (Tansley, 2011). Theoretical foundations for talent-management based on a clear operationalization of talent appear largely absent in the academic literature (Silzer & Church, 2009). Given that robust theory building and accurate interpretation of empirical data cannot take place before formal definitions are established, we claim that operationalizing and measuring talent is one of the major challenges the talent-management field currently has ahead of it (Wacker, 2004).

Although HRM scholars appear to be convinced that very few theoretical frameworks for talent-management are currently available, our systematic review shows that in fact a whole body of literature exists outside of the HRM domain with the potential of offering interesting insights into the operationalization and measurement of talent. The present paper aims to contribute to the establishment of a stronger theoretical basis for talent-management by integrating insights fragmented across different disciplines. With the help of our search strategy, three literature streams were identified in addition to the HRM literature as being of particular

relevance for this purpose: the giftedness literature; the vocational psychology literature, and the positive psychology literature.

Starting from the HRM perspective on talent, we systematically incorporate insights from the divergent literature streams, which counteract some of the limitations inherent to the HRM literature and therefore can help establish better conceptual foundations for talent-management. The relationship between talent and excellent performance functions as a general framework within which issues of predictive and construct validity are addressed, across 11 research propositions. With the future research directions, we shed light on how talent-management scholars might further capitalize on the cross-fertilization between insights from different disciplines so as to gradually establish the theoretical foundations needed to transform talent-management into a legitimate field of academic study. By discussing managerial implications in the concluding part, we provide practical guidelines for designing talent-identification practices grounded in sound theory.

## Search Strategy

To achieve a comprehensive multidisciplinary review of the literature on talent—which could account for the evolutions within the field—we used 1993 as the starting point of our literature search, thus covering insights developed over the last twenty years. We took four different steps to establish the final body of peer-reviewed, academic articles considered in this review.

### Step 1: Clarifying the Talent Construct

In order to find those articles that would be most informative for achieving conceptual clarity about talent, we first developed a general working definition of

talent based on the meaning contemporary English dictionaries ascribe to the term (Gallardo-Gallardo, Dries & González-Cruz, 2013). In the English language, talent is commonly understood as corresponding to an above-average ability that makes the individuals who possess, detect, develop, and deploy it, perform excellently in a given performance domain (Gagné, 2004; Tansley, 2011).

**Step 2: Selecting Search Terms**

We started our search by tracking articles that had 'talent' in their titles. As we were interested in talent and talent-identification in the context of the business world, specifically, we selected Business Source Premier as the database of departure. The use of talent as a search term resulted in a large number of hits across a wide range of journals. A preliminary analysis of these articles showed that talent was sometimes associated with 'gifts' and 'strengths'. Because both strengths and gifts refer to attributes that predict excellent performance, like talent—whilst these concepts, in contrast to talent have received ample conceptual attention in the academic literature—we deliberately selected strengths and gifts as two additional search terms. Given the focus of the present review, each of our main search terms (i.e., talents, gifts, and strengths) was used in conjunction with search terms like 'identification' and 'measurement' (see Appendix A).

**Step 3: Establishing Exclusion Criteria**

Our search in Business Source Premier resulted in a large number of hits. From a first analysis, we concluded that the majority of articles corresponding to our 3 main search terms were not relevant to our topic of interest. Therefore, we chose to work with explicit exclusion criteria with the goal of selecting only those articles that would

be truly informative to our systematic literature review. In accordance with our working definition of talent, we withheld articles based on three exclusion criteria: (a) articles that do not refer to human attributes[1]; (b) articles using talent as interchangeable with (a euphemism for) people or employees[2] ; and (c) articles that do not mention their vision on, or definition of the concept of talent[3] (or gifts, or strengths).

**Step 4: Expanding the Database**

Because our aim was to contribute to better theoretical foundations for talent-management by also considering academic domains outside the HRM field, we expanded our search to the PychInfo database. The same criteria for exclusion were applied. The searches conducted across both databases resulted in a final set of 161 articles withheld for this review (see Appendix A). The selected articles were situated in the HRM literature, the giftedness literature, vocational psychology and positive psychology.

In order to ensure adequate interpretation of our findings, articles were added to the list of 161 using the 'backtracking' method (i.e., review of the reference lists of the selected articles). Although the obtained article list may not be exhaustive, we are confident it is at least representative of the work published within the talent domain.

## Talent through an HRM Lens

[1] We for example excluded: Florano, E. R. (2003). Assessment of the strengths of the new ASEAN agreement on transboundary haze pollution. *International Review for Environmental Strategies*, *14*, 127-147.

[2] We for example excluded: Milton, L. P. (2003). An identity perspective on the propensity of high-tech talent to unionize. *Journal of labor research*, *24*(1), 31-53.

[3] We for example excluded: Ng, E. S., & Burke, R. J. (2005). Person–organization fit and the war for talent: does diversity management make a difference?. *The International Journal of Human Resource Management*, *16*(7), 1195-1210.

From the late nineties onwards, the HRM literature has extensively discussed the topic of talent-management motivated mainly by the 'war for talent', a term introduced by a group of McKinsey consultants (Michaels, Handfield-Jones & Axelrod, 2001). The HRM literature, within which the talent-management literature is situated, is mainly concerned with strategic investments in terms of talent-identification, selection, development, planning and retention. These are subsumed under the umbrella term talent-management. Talent is typically operationalized as human capital, a term used to denote the stock of competencies, knowledge, social and personality attributes which is embodied in the ability to perform labor so as to produce economic value (Farndale, Scullion & Sparrow, 2010). According to the HR architecture model developed by Lepak and Snell (1999), human capital can be assessed in terms of value and uniqueness. Value refers to the potential to contribute to an organization's core competencies and advance its competitive position. Uniqueness refers to the extent to which human capital is difficult to replace due to unique job or organization requirements and labor market scarcities. Employees who possess human capital that is rated high both on value and on uniqueness are identified as the 'talent' of an organization (Lepak & Snell, 2002). Becker and Huselid (2006) argue that the value of talented employees depends on the specific positions they occupy. Specifically, those positions for which small increments in improvement in quality or quantity result in an above-average return on strategic measures are seen as pivotal (Boudreau & Ramstad, 2005) and should therefore be allocated to high value, high uniqueness employees called 'A players' (Becker,

Huselid & Beatty, 2009), making them the most pivotal talent of the organization (Boudreau & Ramstad, 2007; Cascio & Boudreau, 2011).

In general, scholars adhering to the human capital approach to talent-management believe that the relative contribution of people or positions to their organizations legitimizes disproportionate investment in certain employees or jobs (Becker & Huselid, 2006; Lepak & Snell, 1999). This is reflected in the principle of workforce differentiation that refers to the investment of disproportionate resources where one expects disproportionate returns, resulting in segmentation of the workforce on the basis of the strategic contribution a specific job or a specific employee can produce (Huselid & Becker, 2011). To this end, employees are frequently differentiated between based on their past and current performance in terms of predefined competencies. These competencies are associated with the capacity to take on senior jobs, so as to detect the leaders of the future (Sharma & Bhatnagar, 2009; Silzer & Church, 2009).

The human capital perspective on talent described typically draws inspiration from a resource-based view on humans, in which employees are directed towards creating added value for their organizations (Dries, 2013). Inkson (2008) warns us for the potential pitfalls of labeling employees as 'human capital' that is manageable towards certain outcomes in the same way other resources are. By characterizing humans as capital, the changing and highly unpredictable nature of individual attitudes and behaviors is not taken into consideration adequately (De Vos & Dries, 2013). Consequently, investigating talent and talent-management purely from a resource-based view seems insufficient to capture the psychological mechanisms that

come into play when managing individuals. In general, we posit—in line with Lewis and Heckman (2006)—that the talent-management literature is characterized by a disturbing lack of lucidity regarding its definitions, scope and aims. This is partly driven by the limited clarity the human capital perspective offers about the precise meaning of the underlying construct 'talent' (Gallardo-Gallardo *et al.*, 2013; Tansley, 2011). This leaves organizations with only minimal theoretical foundations for their talent-management decisions (Thunnissen, Boselie & Fruytier, 2013).

In what follows we also build on insights from outside the broader HRM domain to address this research gap, since they were detected as having the potential to counter the specific limitations inherent to the talent-management field. By integrating insights originating from the giftedness literature, vocational psychology, and positive psychology, we explicitly address different views on talent within which psychological aspects are incorporated and conceptualization issues are explicitly addressed.

## Defining Talent

Based on our conceptual framework of talent, visualized in Figure 1, we posit that talent can be operationalized as an ability and an affective component which function as necessary preconditions for achieving excellence which, in turn, can be operationalized as performing better than others (i.e., interpersonal excellence) or performing consistently at one's personal best (i.e., intrapersonal excellence). Our working definition of talent is the following:

> *"Talent refers to systematically developed innate abilities of individuals that are deployed in activities they like, find important, and in which they want to*

*invest energy. It enables individuals to perform excellently in one or more domains of human functioning, operationalized as performing better than other individuals of the same age or experience, or as performing consistently at their personal best".*

—Insert Figure 1 about here—

**Operationalization of Talent into Two Components**

Within our working definition of talent we distinguish between two components that predict excellence: an ability and an affective component.

**The ability component.** Across all relevant literature streams, talent is frequently associated with, and sometimes equated to excellent performance, which is adequately illustrated by the federal definition widely used in educational settings in the United States—i.e., "Talented individuals are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance" (Periathiruvadi & Rinn, 2013, p. 153).

Insights into this component are mainly found in the giftedness literature, situated in the field of education (Brown *et al*., 2005; Mayer, 2005), but are also frequently applied by HR practitioners. Primarily based on the work of Gagné (1998, 2004), we propose the following definition of the ability component of talent, within which two distinct predictors can be identified—innate abilities, and systematic development:

*"Talent refers to systematically developed innate abilities that drive excellent performance in one or more domains of human functioning".*

***First predictor: Innate abilities in a specific domain of human functioning.*** At the onset of the giftedness literature in 1920, talented children were defined as children who achieved high IQ scores due to a fixed innate trait. This was reflected in psychometric definitions of talent that focused on achieving a certain score, typically on an IQ test tapping into intellectual giftedness (Preckel & Thiemann, 2003; Robinson & Clinkenbeard, 1998).

It turned out, however, that the correlation between a single IQ score and exceptional performance later in life was rather weak (Ericsson, Krampe & Tesch-Römer, 1993; Ruban & Reis, 2005). Informed by this finding, scholars in the giftedness literature currently tend to advocate a multidimensional conception of talent building on domain-specific theories of multiple intelligences referring to different areas of human functioning (Bailey & Morley, 2006; Major, Johnson & Deary, 2012; Robinson, Zigler & Gallagher, 2000; Robinson & Clinkenbeard, 1998). Within this perspective, the conceptualization of talent that Gagné (2004) developed in his Differentiated Model of Giftedness and Talent (DMTG) is frequently cited. Based on Gardner's theory of Multiple Intelligences (1983, in Bailey & Morley, 2006; Baldwin, 2005), in which nine forms of intelligence were incorporated (i.e., linguistic intelligence, logical-mathematical intelligence, spatial intelligence, bodily-kinesthetic intelligence, musical intelligence, intrapersonal intelligence, naturalistic intelligence, existential intelligence, and spiritual intelligence), Gagné distinguished between four ability domains (i.e., intellectual, creative, socio-affective, and sensori-motor) that can lead to extraordinary performances in seven domains of human functioning (i.e., academics, arts, business, leisure, social action, sports, and

technology). Other conceptualizations of talent closely resemble that of Gagné, but differ slightly in terms of categorization and specificity of the ability domains, and the human functioning domains considered (Feldhusen, 1994).

***Second predictor: Systematic development.*** Scholars situated in the giftedness literature are generally convinced that the aptitudes necessary to develop talent in a specific domain are only present in a small proportion of the population because they are genetically inherited. Although many people believe that genius is created purely through genetics—known as the 'Amadeus Myth'—innate dispositions are, although necessary, not sufficient to ensure high-level achievement (Robinson *et al.*, 2000). Innate abilities, referred to by Gagné (1998) as gifts, must be nurtured into talents in order to deliver excellent performance in at least one domain of human functioning (Baldwin, 2005). Extended and deliberate practice is a necessary condition for the manifestation of talent into excellence. It can be attained by engaging in formal, non-formal, or informal learning activities inside or outside of the school- or workplace (Gagné; 2004; Ericsson *et al.*, 1993; Pfeiffer, 2009)

**The affective component.** Since the eighties, a wide range of studies have discussed what we label 'affective' factors as vital to excellent performance (Bailey & Morley, 2006; Gagné, 2010; Robinson & Clinkenbeard, 1998). Kane (1986, in Bailey & Morley, 2006, p. 222) summarizes the main point of these studies adequately by stating that the factors ultimately accounting for achievement are likely to be the unique personal and behavioral dispositions that the individual brings to the actual performance. Attention for the affective component of talent resonates through the giftedness literature, the positive psychology literature, and the vocational

psychology literature. The multiple insights we collected from these different streams are summarized in the following definition of talent, in which the ability component and the affective component of talent are integrated:

> *"Talent refers to systematically developed innate abilities of individuals that are deployed in activities they like, find important, and in which they want to invest energy. It enables individuals to perform excellently in one or more domains of human functioning".*

While the definition of the ability component of talent focused primarily on multiple intellectual abilities, the affective component considers non-intellectual attributes and how these differentially affect the performance of individuals: "To predict which environments an individual is likely to enter, work in, and thrive in, you must not only know what they can do (their abilities, capabilities), you must also know what they want (their interests, needs, or motives)" (Lubinski & Benbow, 2000, p. 146). As illustrated by this fragment and by the above definition of talent, the affective component is made up of two main elements: 'motivation to invest' (i.e., activities in which one wants to invest energy) and 'interest areas' (i.e., activities one likes and finds important).

***First predictor: Motivation to invest***. In the giftedness literature mainly the concept of motivation, in relation to investments, has received attention. The frequently applied three-band talent definition of Renzulli (1986) forms an adequate illustration. It states that talent is the combination of three clusters, namely general or specific high ability, task commitment, and motivation. Numerous other authors argue that motivation plays a central role in achieving excellence in that it exerts a

positive influence on the willingness, capacity and preference to engage in deliberate practice (Bailey & Morley, 2006; Ericsson *et al.*, 1993; Feldhusen, 1994). Deliberate practice refers to activities that are structured, goal-orientated, require effort and are not always inherently enjoyable, with an average of ten years elapsing between first work and best work.

In the positive psychology literature the term strengths, instead of talents, is used to denote positive characteristics that allow individuals to thrive and prosper (Cascio & Luthans, in press; Luthans, 2002). The key is to detect one's unique strengths in order to deploy them in activities one is passionate about. The assumption is that only in activities that are conducted with passion, peak performances (i.e., episodes of superior functioning; Privette, 1983) can be achieved (Seligman & Csikszentmihalyi, 2000). With the concept of 'passion', described as the inclination towards an activity one likes, finds important and in which one wants to invest energy (Vallerand *et al*., 2003), the essential role of motivation and interests in attaining excellence is highlighted (Rea, 2000).

***Second predictor: Interest.*** Next to motivation to invest, interests are widely discussed in the giftedness literature and the vocational psychology literature and assumed to have a positive influence on excellent performance (Bailey & Morley, 2006). Gagné (2004) traditionally addressed this factor in his Differentiated Model of Giftedness and Talent (DMGT) as an interpersonal catalyst that influenced the development of gifts into talents. In 2009, Gagné revised his Differentiated Model of Giftedness and Talent (DMGT) and replaced the seven domains of human functioning he initially distinguished by six major occupational groups (i.e., technical,

science and technology, arts, social service, administration and sales, and business operations) based on Holland's work on vocational interests. This shift reflects the increasing attention given to interest areas when investigating talented children, adolescents and adults—also referred to as 'preferences' and 'orientations' (Milgram & Hong, 1999). Identification of interest areas is believed to be crucial in order to locate activities in which interests can be reinforced and actualized, leading ideally to the delivery of excellent performance (Lubinski & Benbow, 2000). Accordingly, vocational psychologists assess interests as a key component of talent with the goal of supporting individuals in finding a fit between the person they are and the job or career they aspire to so that extraordinary performance might be achieved (Arnold & Cohen, 2008; Greenhaus & Callanan, 2006).

From the 1990s onwards, several authors in the giftedness literature, as well, have addressed this issue by advocating that person-environment fit is crucial for obtaining optimal achievement. This is predicted by a match between personal abilities and ability requirements of the environment on the one hand, and a match between personal preferences and reinforces available from the environment on the other (Achter, Lubinski, Benbow & Eftekhari-Sajani, 1999).

By dissecting both the ability and affective component of talent into distinct elements we shed light on what the construct of talent entails exactly—a topic underexamined within the HRM literature to date.

**Proposition 1.** The measurement of talent can only be valid if the construct is operationalized as encompassing both an ability and an affective component *(construct validity).*

**Proposition 2.** The measurement of the ability component of talent can only be valid if this component is operationalized as encompassing both innate domain-specific abilities and amount of systematic development *(construct validity).*

**Proposition 3.** The measurement of the affective component of talent can only be valid if this component is operationalized as encompassing both motivation and interest areas *(construct validity).*

**Operationalization of Excellence as the Main Criterion for Talent**

In addition to talent encompassing an ability and an affective component, we adopt as a basic assumption that talent is evidenced by excellence—or put otherwise, that excellence should be the main criterion for talent. Given that organizations today operate within a continuously evolving knowledge economy in which the war for talent runs rampant, they are more than ever concerned with making accurate predictions regarding excellent individual performances that could advance the attainment of their strategic goals (Lepak & Snell, 1999). Accordingly, talent-identification practices are often installed with the aim of detecting those individuals who are capable of delivering excellent performances, so as to subsequently deploy their talents in a way that could enhance the organization's performance and competitive position (Collings & Mellahi, 2009; Lewis & Heckman, 2006).

Unfortunately however, theoretical papers explaining what talent entails exactly and how it relates to excellent performance—a main concern of HR practitioners—have remained largely absent in the literature. With the present review, we aim to address this research gap by proposing a conceptual framework of talent in

which the relationship between talent and excellence is made explicit, by systematically elaborating on issues of construct and predictive validity.

In the previous section we introduced our definition of talent, in which both an ability and an affective component are integrated. In line with this definition, we posited that motivation and interests operate, together with innate abilities and systematic development, as necessary preconditions to excellent performance within a specific domain. In what follows, we discuss interpersonal (i.e., performing better than others) and intrapersonal (i.e., performing consistently at one's personal best) excellence as two distinct operationalizations of excellence as the main criterion for talent, thus completing the in-depth discussion of our talent definition.

**Proposition 4**. The operationalization of talent in either an ability or an affective component is less valid for predicting interpersonal and intrapersonal excellence than the operationalization of talent in both an ability and affective component *(predictive validity).*

**Interpersonal excellence**. Scholars in the giftedness literature hold the belief that not all individuals can be talented. This is due to their assumption of a genetic basis for talent (Gagné, 1998; and 1998a). According to Ericsson *et al*. (1993)—and in line with the majority of scholars in the giftedness literature—the motivation to engage in lifelong deliberate practice differs among individuals as well. Only a few individuals—so called outliers—show the motivation to invest 10, 000 hours in perfecting certain talents, which is demonstrated to be crucial for achieving top performances (Gladwell, 2009).

Therefore, these authors argue that high-level performances are not feasible for everyone (Milgram & Hong, 1999). The emphasis thus lies on the identification of those individuals who perform significantly better than others of the same age or experience due to the presence of rare talents (Brown *et al*. 2005; Heller, 2004; Mayer, 2005; Sternberg & Davidson, 2005). In the HRM literature, it is typically argued that these employees deserve disproportionate investments because they are capable of enhancing organizational performance by their capacity to achieve excellence (Lepak & Snell, 1999).

**Proposition 5.** Organizational decision makers who operationalize excellence as performing better than other individuals of the same age or experience in a specific domain of human functioning are more likely to adopt talent-management practices in which there is differential investment—i.e., orientation of a select group of high performers towards activities they like, find important and in which they want to invest energy.

**Intrapersonal excellence.** Although the operationalization of excellence as performing better than others—resulting in a focus on A players (Becker *et al*., 2009)—remains to a large extent dominant today, Renzulli advocated a more 'inclusive' conception of talent already in 2005. He stated that everyone has a role to play in societal improvement and, as a result, we should provide all people with the opportunities, resources, and encouragement necessary to achieve their full potential through maximization of their involvement and motivation.

Renzulli's (2005) approach to talent, which is uncommon in the giftedness literature, is closely related to the approach typically adopted by authors situated in

the positive psychology as well as the vocational psychology literature due to the 'non-selective' stance it takes. Positive psychologists Buckingham and Clifton (2001), for instance, assert that each individual possesses a certain set of strengths (e.g., adaptability, discipline) and that it is the specific constellation of strengths that makes everyone unique. According to these authors, innate factors determine merely which set of strengths can be developed and not whether or not you can develop talent at all, as is assumed in the giftedness literature. It is essential to detect one's unique strengths in order to deploy them in activities one is passionate about (Vallerand *et al*., 2003). This will result in performing consistently at one's personal best (i.e., the maximum of one's capacity) (Seligman & Csikszentmihalyi, 2000). Adherents of the 'strengths-based approach' argue that utilizing everyone's strengths is crucial. This generates positive physical and psychological health outcomes such as individual fulfillment, which is believed to substantially increase the productivity of employees and in turn positively affect organizational performance (Wood, Linley, Maltby, Kashdan & Hurling, 2011).

**Proposition 6:** Organizational decision makers who operationalize excellence as performing consistently at one's personal best, are more likely to adopt talent-management practices in which there is egalitarian investment—i.e., orientation of all employees towards activities they like, find important and in which they want to invest energy.

## Measuring Talent

In this next section we build on our previous discussion of definitions and operationalizations of talent by addressing the 'measurement layer' of our proposed

framework (Figure 1). By connecting definition, operationalization, and measurement we want to offer support to HR practitioners in designing theoretically sound talent-identification practices. In what follows we discuss the specific talent measures and methods that can be applied to measure the ability and affective component of talent as well as interpersonal and intrapersonal excellence.

Although talent manifests in observable excellence, and one could argue that excellent performance would thus be the best measure of talent—a view frequently subscribed to by HR practitioners—we posit that it is crucial to measure the two underlying components of talent, as well. Only by assessing both the ability and the affective component, employees who are currently not performing excellently, but possess the ability to do so in the future, can be managed towards excellence by stimulating them to discover and undertake activities that (better) match their motivation and interest areas.

We argue, in accordance with Silzer and Church (2009), that talent-identification practices should not only aim to detect the talent already manifested in a given organizational setting, but also those employees who have the potential to be excellent in different (larger) roles or activities in the future. Thus, we advise against basing talent-identification decisions solely on performance scores—which only reflect currently deployed abilities—because they only evidence what is manifest at the present time. Such decisions lack the power for predicting the sustained interpersonal and intrapersonal excellence in which organizations are interested.

**Ability Component**

**Innate ability.** Informed by the theories about multiple intelligences we previously discussed (Bailey & Morley, 2006; Major, Johnson & Deary, 2012), we identify a wide range of multifaceted and domain-specific ability tests designed to capture specific innate abilities, that can be applied in talent-identification procedures (see Table 1) such as WISC-R, the Wechsler Individual Achievement Test, and the Self-Regulation and Concentration Test (Bianco, 2010; Sanders, Lubinski & Benbow, 1995; Saccuzzo & Johnson, 1995: Periathiruvadi & Rinn, 2012; Preckel & Tiemann, 2003). These tests are frequently combined with subjective judgments collected through supervisor, peer, and self-evaluation (Bailey & Morley, 2006; Baldwin, 2005). To this end, rating scales and nomination forms that focus on particular domains of human functioning are frequently applied. In the HRM field specific IQ-tests, typically utilized to evaluate verbal and/or analytic reasoning, are often introduced in selection procedures. The integration of these ability tests is driven by the fact that IQ demonstrated to be a superior predictor of job performance after recruitment (Schmidt & Hunter, 1998).

**Systematic development.** Although innate abilities have shown to be a necessary predictor of excellence, they need to be combined with a particular skills and knowledge set in order to perform excellently (Buckingham & Clifton, 2001). In the HRM field a number of methods are applied to assess the (amount of) knowledge and skills (i.e., experience) employees have systematically developed throughout the life span and are capable of improving further.

Within this regard, HR practitioners frequently use so-called 'performance-potential' matrices for talent-identification—also referred to as the 'nine-box'

methodology, at least when there are nine possible combinations of performance and potential ratings (Silzer & Church, 2009a). Only employees who demonstrate a high level of performance and simultaneously show high potential within a given functioning domain are considered 'talented' according to this methodology. Performance can be assessed with the help of assessment centers in which the knowledge and skills base of employees is evaluated. Potential is typically operationalized as the possibility to perform well in a higher or different role and is mostly assessed using development centers and 'stretch' assignments (Silzer & Church, 2009). The time aspect is the main differentiator between talent and potential. While potential refers to the future possibility of excellent performance, excellence is the main criterion by which talent can be currently detected (Robinson, Fetters, Riester & Bracco, 2009).

In addition, assessing (the amount of) previously acquired knowledge and skills by investigating an individual's résumé and educational background is a frequently conducted practice (Silzer & Church, 2009).

—Insert Table 1 about here—

**Affective Component**

As for motivations and interests two large groups of measures can be identified: standardized self-assessment tools and reflection exercises (see Table 1).

**Motivation.**

***Standardized self-assessment tools.*** In the positive psychology literature, a number of self-report questionnaires are proposed to identify strengths as drivers of excellence. The StrengthsFinder (Buckingham & Clifton, 2001), the Values in Action

Inventory of Strengths (VIA-IS) (Brdar & Kashdan, 2010; Furnham & Lester, 2012; Linley *et al*., 2007; Littman-Ovadia & Lavy, 2012; Money, Hillenbrand & da Camara, 2008; Peterson, 2006; Rust, Diessner & Reade, 2009; Seligman, Steen, Park & Peterson, 2005) and the Inventory of Interpersonal Strengths (IIS) (Hatcher & Rogers, 2009) are extensively validated tools capable of capturing a wide variety of characteristics that enable human flourishing in particular performance domains.

**Interests.**

***Standardized self-assessment tools.*** Vocational psychologists have long developed and validated self-assessment instruments to (re-)orient individuals towards an occupation or career that corresponds to their vocational interests. Examples of self -report questionnaires that are believed to be of particular value for detecting interests are the Strong Interest Inventory (Betz & Borgen, 2000; Gasser, Larson & Borgen, 2007; Larson & Borgen, 2002), the Study of Values (1928, in Schmidt, Lubinski & Benbow, 1998) and the Career Anchors Inventory developed by Schein (1996).

***Reflection exercises.*** From the eighties onwards, both vocational psychologists and positive psychologists have been developing more open-ended methods that support individuals in eliciting the unique and continually evolving meanings they ascribe to talent by reflecting on meaningful life and work experiences and how talent plays a role in them. To this end, moments of successful talent deployment, as experienced over the course of life, can be probed using certain interview techniques—for instance, the biographical interview technique (Kelchtermans, 1993)—or evoked by providing individuals with specific reflection

tasks as is the case in the Intelligent Career Card Sort exercise (Amundson, Parker & Arthur, 2002; Parker, 2002), exercises on 'possible selves' (Markus & Nurius, 1986, Whitty, 2002) and so-called 'reflected best self's-exercises (Meyers, van Woerkom & Bakker, 2012; Roberts, Dutton, Spreitzer, Heaphy & Quinn, 2005). Depending on the specific questions asked or tasks given, these exercises can be applied to detect both motivations and interests. Regardless of the specific focus on motivation or interests, these exercises should result in the formation of ideas of what one might become in the future, on the basis of which individuals can make more effective career decisions.

Organizations can choose to adopt a talent definition in which either the ability and/or affective component is—to a greater or lesser extent—emphasized, thereby influencing not only the specific measures and methods they will use for identification purposes, but also the validity of the identification process. The latter should be an important concern for organizations engaging in talent-identification, in order to avoid 'false hits' and 'false misses'.

**Proposition 7.** Organizational decision makers who operationalize talent mainly by the ability component are more likely to prefer achievement tests, supervisor, peer and self-ratings of performance within particular domains of human functioning, and assessments of knowledge and skills as measures in their talent-identification practices.

**Proposition 8.** Organizational decision makers who operationalize talent mainly by the affective component are more likely to prefer standardized self-

assessment tools and open-ended reflection exercises as measures in their talent-identification practices.

Scholars operating within the discussed literature streams argue that instruments capable of measuring the affective component of talent form a necessary extension to ability measures, because talent is believed to be a complex constellation of innate and systematically developed abilities, motivations and interests, all interacting in determining excellence (Parker, 2002). This makes a combination of various instruments, tapping into both the ability and the affective component of talent, essential to obtain a holistic view of the talents of employees (Ericsson *et al.*, 1993). Only this way the identified talents can be accurately deployed in a manner that benefits both the individual and the organization.

**Proposition 9**. Organizational decision makers who operationalize talent both by the ability and the affective component of talent are more likely to combine achievement tests, supervisor, peer and self- ratings of performance within particular domains of human functioning, and assessments of knowledge and skills with self-assessment tools and reflection exercises as measures in their talent-identification practices, leading to identification with higher predictive power for interpersonal and intrapersonal excellence.

**Interpersonal Excellence**

Measures reflecting an underlying focus on interpersonal excellence are predominantly used to determine which individuals are capable of outperforming others. To this end, cut-off points, either with a relative (e.g., the top 10 percent of performers of a certain group) or an absolute norm (e.g., those individuals that

perform above a certain score) are frequently applied—both in the educational as in the HRM field—to distinguish between the 'haves' and the 'have nots' (Bélanger & Gagné, 2006; Pfeiffer, 2009).

The issue of cut-off points is closely related to discussions about prevalence, widely held in the giftedness literature. Prevalence expresses the percentage of individuals within a given population that can be considered talented (Gagné, 1998a; Gagné, 2004). Typically, cut-offs range from the top 0.001 to 10 percent of performers, representing extremely to mildly talented individuals in comparison to their peers (Gagné, 1998a; Pfeiffer, 2009). The assumption underlying the principle of cut-off points is that individuals who exceed a predefined relative or absolute threshold are in the possession of a particular rare ability that enables them to deliver performances impossible to achieve by the majority of the population. Consequently, these cut-off points are implemented to detect the A players who perform better than others (Becker *et al*., 2009).

> **Proposition 10**. Organizational decision makers who operationalize excellence as performing better than other individuals of the same age or experience in a specific domain of human functioning are more likely to prefer methods and measures benchmarked against a specific norm population—reflected by a focus on relative and absolute cut-off points in their talent-identification practices.

**Intrapersonal Excellence**

According to the majority of vocational and positive psychologists, measures of talent should be applied to gain insight into the unique constellation of talents that everyone

possesses, so as to adequately deploy them in environments in which performances at one's personal best can be reached (Buckingham & Clifton, 2001). In order to detect those talents that lead to intrapersonal excellence, methods and measures designed to benchmark individuals against their own (perceptions of) performance, so as to determine the gap between past, current and (expected) maximum performance, are most suited. Within this perspective, progression over time is an important variable, which can be captured through follow-up measurement—see, for instance, the literature on personal development plans (PDPs) (Taylor & Edge, 1997).

> **Proposition 11**: Organizational decision makers who operationalize excellence as performing consistently at one's personal best are more likely to prefer methods and measures benchmarked against an individual's own (past) performances and capabilities—reflected by a focus on subjective experiences of excellence in their talent-identification practices.

## Directions for Future Research

Through our multidisciplinary review we aimed to offer more insight into the definition, operationalization and measurement of talent, on the basis of which empirical studies could be designed. We offer some suggestions for future research.

### Contextualizing Talent

The (organizational) context (Bailey & Morley, 2006) will exert an influence on the talent definition an organization subscribes to and subsequently the talent-identification practices it will install, making it more likely for some individuals to be detected as talented than others.

Therefore research that could help clarify if and how organizational characteristics (e.g., size, sector, culture) relate to a certain definition and operationalization of talent seems useful. Especially valuable within this respect are research endeavors that could help assess for which types of organizations operationalizing excellence as interpersonal versus intrapersonal excellence is most beneficial. To date, however, the way in which interpersonal and intrapersonal excellence affect organizational excellence—a relation often assumed but difficult to research (Paauwe & Boselie, 2005)—remains unknown and therefore is in urgent need of further scrutiny.

**Inserting Assessors and Assessees into the Equation**

The personnel selection literature and the social psychology literature—beyond the scope of the present article, but nevertheless useful—show that talent definitions and measurements are subjective by nature due to the influence of assessor and assessee personal characteristics (Tormala, Jia & Norton, 2012; Tsay & Banaji, 2011; Vaughan & Hogg, 2005).

Informed by the insights in the present paper, we posit that organizational decision makers who operationalize talent both by the ability and the affective component are the most suitable assessors, because they will engage in the most valid measurement approach to talent. By empirically investigating the characteristics of those individuals (e.g., implicit person theory, personality), we could gain more insight into the profile of the most suitable 'identifiers' of talent.

Furthermore, little attention has been paid so far to how specific talent definitions, operationalizations, and measures are experienced by assessees. In this

regard, research that explicitly investigates attitudinal and behavioral reactions to (not) being identified as talent and links this to specific talent operationalization and measurements, forms a valuable contribution to the field (Gelens, Dries, Hofmans & Pepermans, 2013; Sonnenberg, van Zijderveld & van Gorp, 2012; van Zijderveld & Sonnenberg, 2012).

### From an Individual to a Relational Perspective

Throughout this review, we focused on talent as something that is individually held, detected, developed and deployed in order to achieve excellence, mainly adopting an individual perspective on talent. Given the widespread use of teams in organizations (Guzzo & Dickson, 1996), it would be relevant to examine how talent can be manifested and identified in team settings (Edwards & Sproull, 1985). By focusing on this more aggregated level, opportunities arise for studying effects of group climate and social beliefs on definitions and assessments of talent (Oltra & Vivas-López, 2013). Related to this, one might investigate how the talents of individuals, as described throughout this paper, can strengthen or hinder each other in achieving individual, team, or organizational excellence. This relational aspect of talent fell outside the scope of our review, but—given the importance of social networks (i.e., social capital) and teamwork in today's business environment—is certainly valuable to address in further research (Al Ariss & Syed, 2011; Jokinen, Brewster & Suutari, 2008).

## Managerial Relevance

By discussing managerial implications in terms of defining and measuring talent, we provide practical guidelines for designing talent-identification practices grounded in sound theory.

## Defining Talent

**Ability and affective component.** Regardless of the specific opinion organizational decision makers hold about the scarcity of talent, we posit that not all talents can be equally valuable to an organization. Since abilities are always linked to a specific domain of human functioning, which may or may not be related to the core activities of an organization, the value of particular abilities varies depending on the organization at hand. Nevertheless, in the HRM literature, it is often assumed that organizations, regardless of their strategic direction, implement talent-identification with the main goal of detecting those individuals that are capable of taking on senior jobs with broad responsibilities and are therefore seen as future leaders (Chamorro-Premuzic & Furnham, 2010; Guo, 2003, Roberts, Kossek & Ozeki, 1998, Smith & Victorson, 2012). In accordance with Gagné (2009) and Buckingham and Clifton (2001), we argue that exceptional ability can occur in a multitude of domains, of which leadership is only one. Therefore, we advise organizational decision makers to carefully assess which specific talent domains are most valuable for their organizations, given their strategic direction, before implementing specific talent-identification tools and procedures. Boudreau and Ramstad (2005; 2007), in their seminal work on 'pivotal positions', assert that all kind of employees, not only the ones holding leadership positions—as is often assumed in the HRM literature—can in fact be pivotal for guaranteeing the long-term success of an organization.

As the expression of talent into excellent performance depends on the fruitful mixture of specific innate and developed abilities, providing employees with opportunities for practice is essential (Capaldo, Iandoli & Zollo, 2006; Thunnissen *et al*., 2013). Since practice is installed to optimize the skills and knowledge sets of employees—which are by definition trainable—employees who possess the necessary innate abilities, but have not yet developed them in a systematic way thus can be trained towards excellence (Buckingham & Clifton, 2001). Since the amount of received practice can differ considerably between employees equally capable of achieving excellence, differential investment in their learning and development (customized to each talented employee's need for further development) seems desirable. Informed by these findings, it might be advisable for organizations to not only differentiate between talented and less talented individuals—often designated, in the HR literature, with the term workforce differentiation (Huselid & Becker, 2011)—but to also differentiate within the group of talented individuals and this on the basis of the level of practice they have had to date.

In addition to developmental support, organizations need to support individuals in orienting them towards activities that draw upon their motivations and interests areas. As motivation and interests are not entirely visible to other parties, it is crucial that individuals take a certain responsibility in articulating these to organizational decision makers (Arnold & Cohen, 2008; Dries, 2011).

We conclude that a valid assessment of talent requires striking a balance between organizational responsibility (i.e., detecting relevant areas of human

functioning and providing employees with opportunities for systematic development) and self-responsibility (i.e., articulating invisible motivations and interest areas).

**Interpersonal and intrapersonal excellence.** HRM scholars, typically adopting a human capital perspective to talent, seem to be convinced that workforce differentiation—corresponding to a focus on interpersonal excellence—is the way to go about managing talent. However, some organizations voice concern about applying workforce differentiation for two main reasons. Firstly, not all organizations are convinced that workforce differentiation will positively affect the attainment of strategic goals, due to the potentially negative impact unequal treatment can exert on the motivation and performance levels of employees not identified as talented (Gelens *et al.*, 2013). Secondly, certain organizations hold a reluctant attitude towards differentiation because such an exclusive interpretation of talent clashes with their culture (Iles, Chuai & Preece, 2010). With the help of our conceptual model (see Figure 1), we demonstrate that talent can also be operationalized as leading to intrapersonal excellence, which reflects a more inclusive view on talent, and implying more egalitarian investment.

Throughout the literature—albeit in different literature streams—it is argued that both the exclusive and the inclusive view of talent, referring to interpersonal and intrapersonal excellence as criterion for talent respectively, can generate positive organizational outcomes. We state that organizational characteristics will determine which operationalization of excellence is the most suitable and will therefore benefit the organization the most. What seems to be certain is that the specific talent definition organizations adhere to (i.e., emphasizing interpersonal versus

intrapersonal excellence) should be aligned with the strategic aims of the organization (de Vos & Dries, 2013; Zhao & Du, 2011). We posit that an organization's talent definition serves strategic purposes because, as demonstrated in this paper, it directly affects the concrete identification practices preferred by organizational decision makers which are subsequently interpreted and enacted upon by employees (Wright & Nishii, 2007).

**Measuring Talent**

As summarized in proposition 9, combining instruments that measure innate abilities, systematic development, motivation, and interests is advisable in order to obtain a holistic view of the talents of employees so as to accurately predict excellence (Parker, 2002). The measures and methods presented in Table 1 emphasize these different components of the talent construct and vary in terms of the measurement approach taken (i.e., standardized versus open-ended).

Each measurement approach has its own specific benefits and limitations, therefore we advise practitioners to combine different sorts of approaches. Standardized measures are extensively validated and easy to use within an organizational context because they can be applied to a large number of people in a standardized way. Due to the standardization, it is not possible to capture the complex nature of motivations and interests as differentially experienced by individuals. Rather, these are better detected by applying open-ended exercises in which individuals narratively reflect on the subjective meaning they ascribe to talent. Since the focus is on detecting the unique perception individuals have of (their) talent, we

can however characterize these as extremely individual and time-consuming exercises.

Furthermore, we advise using multisource assessments in order to reduce bias that could result from using only one assessor (Smither, London & Reilly, 2005). The talent-identification process is quite subjective by nature (Dominik & Gabriel, 2009; Heslin, Latham & Vandewalle, 2005). Consequently, we suggest combining tests, self, peer and supervisor instruments (see Table 1). Moreover, we strongly advise organizations to incorporate self-assessment tools in their talent-identification processes. These could help shed light on motivation and interests areas, components of talent that are not always visible to other parties. Because motivation and interests are approached as dynamically influenced by personal and environmental factors (Ibarra, 1999), we emphasize that talent-identification should be a continuous endeavor. Within this perspective life-long interventions for talent-identification are deemed suitable, not only early-career interventions as is so often the case in HR practice today (Savickas *et al*., 2009).

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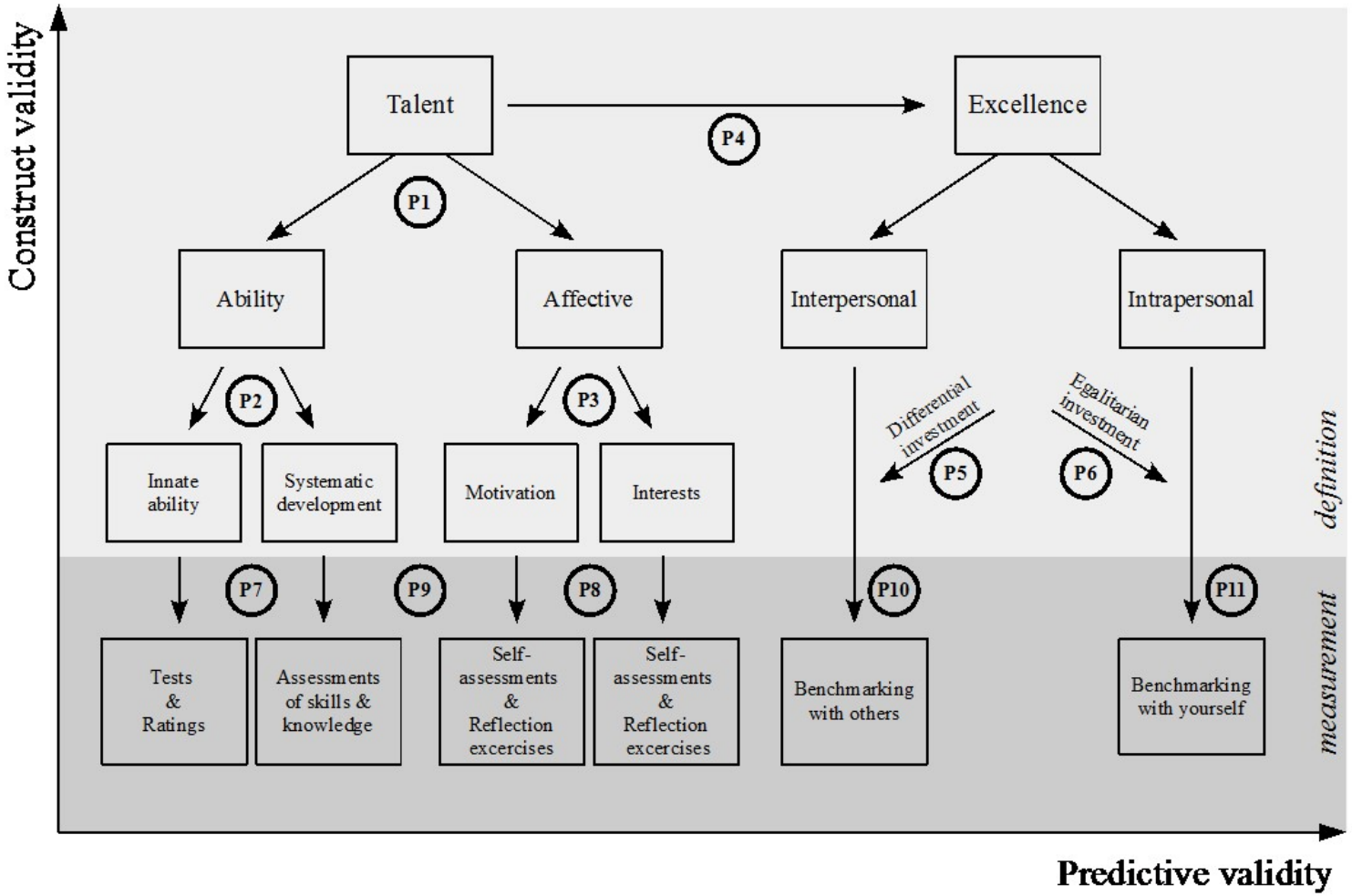


Figure 1. *Conceptual Model of the Definition, Operationalization and Measurement of Talent.*

Table 1. *Talent Measures and Methods.*

| | | Characteristics of the Measures & Methods | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | What? | | | | Who? | | | | How? | |
| Literature stream | Measures & Methods | Ability | Systematic Develop-ment | Motiva-tion | Interests | Tests | Self | Peer | Super-visor | Standard-ized | Open-ended |
| Giftedness Literature | WISC-R | X | | | | X | | | | X | |
| | Wechsler Individual Achievement Test | X | | | | X | | | | X | |
| | Standard Raven's Progressive Matrices | X | | | | X | | | | X | |
| | Advanced Ravens Progressive Matrices | X | | | | X | | | | X | |
| | Torrance Test of Creativity | X | | | | X | | | | X | |
| | SAGES | X | | | | X | | | | X | |
| | Scholastic Aptitude Test | X | | | | X | | | | X | |
| | Defining Issue Test | X | | | | X | | | | X | |
| | Self-Regulations and Concentration Test | X | | | | X | | | | X | |
| | Gifted Rating Scales-School form | X | | X | | | | | X | X | |
| | Scales for Rating Behavioral Characteristics of Superior Students | X | | | | | | | X | X | |
| | Marker's DISCOVER model | X | | | | | | | X | X | |
| | Iowa Acceleration Scale | X | | | | | | | X | X | |

Table 1. *Talent Measures and Methods (cont.)*

| | | Characteristics of the Measures & Methods | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | What? | | | | Who? | | | | How? | |
| Literature stream | Measures & Methods | Ability | Systematic Develop-ment | Motiva-tion | Interests | Tests | Self | Peer | Super-visor | Standard-ized | Open-ended |
| Giftedness Literature | Adjusted Gifted Rating Scales-School form | X | | | | | X | X | | X | |
| | Adjusted Scales for Rating Behavioral Characteristics of Superior Students | X | | | | | X | X | | X | |
| | Teacher nomination scales | X | | | | | | | X | X | |
| | Self-nomination scales | X | | | | | X | | | X | |
| | Peer nomination scales | X | | | | | | X | | X | |
| | Tel-Aviv Activities and Accomplishment Inventory | X | | | X | | | | X | X | |

Table 1. *Talent Measures and Methods (cont.)*

| | | Characteristics of the Measures & Methods | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | What? | | | | Who? | | | | How? | |
| Literature stream | Measures & Methods | Ability | Systematic Develop-ment | Motiva-tion | Interests | Tests | Self | Peer | Super-visor | Standard-ized | Open-ended |
| HRM literature | Verbal reasoning tests | X | | | | X | | | | X | |
| | Analytic reasoning tests | X | | | | X | | | | X | |
| | Assessment centers | | X | | | X | | | X | X | |
| | Development centers | | X | | | X | | | X | X | |
| | Stretch assignments | | X | | | X | X | X | X | X | X |
| | Résumé | | X | | | | | | X | X | |
| Vocational psychology | Strong Interest Inventory | | | | X | | X | | | X | |
| | The Study of values | | | | X | | X | | | X | |
| | Careers Anchors Inventory | | | | X | | X | | | X | |
| | The Intelligent Career Card sort | X | | X | X | | X | X | X | | X |
| | The biographical method | | | X | X | | X | | X | | X |
| Positive psychology | StrengthsFinder | | | X | | | X | | | X | |
| | The Values in Action Inventory of Strengths | | | X | | | X | | | X | |
| | The Inventory of interpersonal strengths | | | X | | | X | | | X | |
| | Possible selves exercise | X | | X | X | | X | | | | X |
| | Reflected best self-exercise | X | | X | X | | X | X | X | | X |

Appendix A. *Keywords Used and Number of Articles Retrieved from the Business Source Premier and the PsycInfo Databases (n=161.)*

| | | Nature of Selected articles | |
|---|---|---|---|
| Keyword | Selected articles | Empirical | Theoretical |
| Talent* AND Identif* | 18 | 6 | 12 |
| Gift* AND Identif* | 10 | 3 | 7 |
| Strength* AND Identif* | 7 | 1 | 6 |
| Talent* AND Defin* | 5 | 3 | 2 |
| Gift* AND Defin* | 4 | 0 | 4 |
| Strength* AND Defin* | 2 | 1 | 1 |
| Talent* AND Detect* | 2 | 1 | 1 |
| Gift* AND Detect* | 0 | 0 | 0 |
| Strength* AND Detect* | 1 | 0 | 1 |
| Talent* AND Select* | 5 | 3 | 2 |
| Gift* AND Select* | 2 | 1 | 1 |
| Strength* AND Select* | 2 | 0 | 2 |
| Talent* AND Assess* | 22 | 8 | 14 |
| Gift* AND Assess* | 6 | 3 | 3 |
| Strength* AND Assess* | 9 | 3 | 6 |
| Talent* AND Measure* | 17 | 6 | 11 |
| Gift* AND Measure* | 4 | 4 | 0 |
| Strength* AND Measure* | 3 | 2 | 1 |
| Talent* AND Tool* | 3 | 0 | 3 |
| Gift* AND Tool* | 0 | 0 | 0 |
| Strength* AND Tool* | 7 | 2 | 5 |
| Talent* AND Scale* | 2 | 2 | 0 |
| Gift* AND Scale* | 4 | 3 | 1 |
| Strength* AND Scale* | 9 | 9 | 0 |
| Talent* AND Method* | 15 | 9 | 6 |
| Gift* AND Method* | 1 | 1 | 0 |
| Strength* AND Method* | 1 | 1 | 0 |