ARTICLE IN PRESS

Journal of Work and Organizational Psychology (2020) xx(x) xx-xx

Journal of Work and Organizational Psychology

https://journals.copmadrid.org/jwop

The Work Agentic Capabilities (WAC) Questionnaire: Validation of a New Measure

Roberto Cenciotti, Laura Borgogni, Chiara Consiglio, Emiliano Fedeli, and Guido Alessandri

Sapienza University of Rome, Italy

ARTICLE INFO

Article history:
Received 12 February 2020
Accepted 17 August 2020
Available online 23 September 2020

Keywords:
Agentic capabilities
Social cognitive theory
Measurement
Validation

A B S T R A C T

Agentic capabilities refer to the basic capabilities of mind that, according to social cognitive theory, allow people to proactively influence their functioning and external context. This study presents a new scale, namely the Work Agentic Capabilities (WAC) questionnaire, that consists of 28 items and measures forethought capability, self-regulation capability, self-reflection capability and vicarious capability in the organizational context. Accordingly, an exploratory (N = 290) and a confirmatory factor analysis (N = 300) demonstrated a four-factor structure. Agentic capabilities were positively correlated with psychological capital and its dimensions (i.e., self-efficacy, hope, optimism and resiliency), positive job attitudes (work engagement and job satisfaction), proactive organizational behaviours (job crafting and organizational citizenship behaviours), perceived job performance, and promotion prospects. Finally, we discuss meaningful differences in the mean values of agentic capabilities associated with sociodemographic and organizational variables. Results suggest that the WAC questionnaire can be reliably used to measure agentic capabilities.

El Cuestionario de Capacidades Agénticas en el Trabajo: validación de una nueva medida

Palabras clave:
Capacidades agénticas
Teoría social cognitiva
Medidas
Validación

R E S U M E N

Las capacidades agénticas aluden a aquellas capacidades de la mente que según la teoría social cognitiva permiten a las personas influir de un modo proactivo en su funcionamiento y en el contexto externo. El presente estudio presenta una nueva escala, el cuestionario de Capacidades Agénticas en el Trabajo (WAC, por sus siglas en inglés), compuesto de 28 ítems que mide la capacidad de previsión, autorregulación, autorreflexión y vicaria en el contexto organizativo. Un estudio con análisis factorial exploratorio (N = 290) y confirmatorio (N = 300) descubrió una estructura de cuatro factores. Las capacidades agénticas correlacionaban positivamente con el capital psicológico y sus dimensiones (es decir, autoeficacia, esperanza, optimismo y resiliencia), las actitudes laborales positivas (*engagement* y satisfacción en el trabajo), la percepción del desempeño laboral y las perspectivas de promoción. Por último abordamos las diferencias significativas de los valores medios de las capacidades agénticas asociadas a las variables sociodemográficas y organizativas. Los resultados indican que el cuestionario WAC puede utilizarse de modo fiable para medir las capacidades agénticas.

The global economic crisis and ongoing organizational changes have recently increased the level of competition among organizations and among workers in the labour market. As a result, contemporary organizations have been forced to improve their abilities and know-how in order to guarantee their own success. Job discretion, job complexity, and demands for individual proactivity and flexibility have consistently increased. According to Bandura (1986, 1999), individual proactivity is captured by the general concept of "human agency", that designates the ability "to influence intentionally one's functioning and life circumstances" (Bandura, 2008, p. 16). This concept appears to be very promising, considering its role as antecedent of both promoting one's self-development (e.g., competencies learning) and exerting an impact on one's context (e.g., positive organizational behaviours).

According to the literature, human agency has been operationalized and studied in several ways, including personal beliefs about one's capacities (i.e., self-efficacy; Bandura, 1986), the will to accomplish one's personal goals by generating appropriate strategies (i.e., hope; Snyder et al., 1991), and the enacting of proactive behaviours aimed at influencing the organizational context with regard to job resources and job demands (i.e., job crafting; Tims & Bakker, 2010), proving the concrete relevance of human agency for individual and organizational functioning (e.g., Snyder, 2000; Stajkovic & Luthans, 1998; Tims et al., 2012).

Cite this article as: Cenciotti, R., Borgogni, L., Consiglio, C., Fedeli, E., & Alessandri, G. (2020). The work agentic capabilities (WAC) questionnaire: Validation of a new measure. *Journal of Work and Organizational Psychology.* Ahead of print. https://doi.org/10.5093/jwop2020a19

Correspondence: rc10phd@gmail.com (R. Cenciotti).

ISSN:1576-5962/© 2020 Colegio Oficial de la Psicología de Madrid. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

ARTICLE IN PRESS

Moreover, social cognitive theory states that human agency, considered in all of its different expressions, is based on a set of individual capacities, so called "agentic capabilities" (Bandura, 1999), that allow people to motivate themselves, plan and manage their behaviours, elaborate and develop their knowledge, and adapt their actions in order to reach personal and professional goals. More specifically, the main agentic capabilities are articulated in forethought capability, self-regulation capability, self-reflection capability, and vicarious capability (Bandura, 1999).

Some authors have developed specific scales aimed at measuring concepts related to Bandura's agentic capabilities. Previous studies have focused on single capabilities, such as self-reflection (e.g., Roberts & Stark, 2008), vicarious observational experiential learning (Hoover et al., 2012), emotional self-regulation (Gross & John, 2003), or affective self-regulation perceived capabilities (Bandura et al., 2003). Two more integrated measures have been recently proposed. First, Bindl and colleagues applied a slightly different perspective to the work context (Bindl et al., 2012), by proposing a proactive goal-regulation model in which they measured four different aspects, namely envisioning, planning, enacting, and reflecting. However, these aspects were operationalized as behaviours (not capabilities) and included overt proactive behaviour in itself (enacting), thus are not consistent with Bandura's theory. More recently, Code (2020) presented and validated a new measure, the Agency for Learning Questionnaire (AFLQ), which comprised 4 scales, namely forethought, intentionality, self-reflection, and self-regulation. However, in this tool self-reflection was operationalized as self-efficacy while vicarious experience is missing. Moreover, this questionnaire is focused on the academic context and is targeted to university students. All in all, there is a lack of instruments able to measure agentic capabilities as a whole comprising the different capabilities conceptualized and developed by Bandura and applied to the work context.

Accordingly, the present study introduces a new instrument, the WAC questionnaire (i.e., Work Agentic Capabilities questionnaire), designed to measure the most relevant agentic capabilities introduced by Bandura (1999) in the organizational context. These agentic capabilities are considered significant resources with respect to employees' adaptation, learning, and their ability to promote changes, especially in a contemporary and dynamic environment. This research provides a psychometric evaluation of this instrument that entails the following dimensions: forethought capability, self-regulation capability, self-reflection capability, and vicarious capability. The general purpose is outlined in three specific aims: (1) to test the factorial validity and reliability of the WAC; (2) to investigate its nomological net by analysing the relationships between agentic capabilities and the most relevant personal resources responsible for human agency (i.e., self-efficacy, hope, optimism, resiliency, and their latent core factor, namely psychological capital; Luthans & Youssef, 2004), positive job attitudes (i.e., work engagement and job satisfaction), agentic organizational behaviours (job crafting and organizational citizenship behaviours toward others), job performance and promotion prospects; and (3) to explore whether agentic capabilities are related to the sociodemographic (i.e., gender and age) and organizational (i.e., professional role, organizational tenure, and achievement of a promotion during the last year) characteristics.

Agentic Capabilities

According to social cognitive theory (Bandura, 1986, 1999), "people are neither driven by global traits nor automatically shaped and controlled by the environment" (Bandura, 1999, p. 29). In contrast, the bidirectional reciprocal influence between the individual and their organizational context is explained through several "basic human capabilities: (1) symbolizing, (2) forethought, (3) vicarious learning, (4) self-regulation, and (5) self-reflection. Employees use these basic capabilities to self-influence themselves in order to initiate, regulate, and sustain their own behaviour" (Stajkovic & Luthans, 2003, p. 128).

Within this perspective, cognitive processing plays a central role in human development and functioning (Bandura, 1986, 1999). Indeed, the capacity to represent facts and events as symbols, allows people to understand their environment and to manage external circumstances in order to influence their own experiences and lives. This cognitive mechanism is based on symbolizing capability, defined as the "extraordinary capacity to represent events and their relationships in symbolic forms" (Bandura, 1999, p. 29), by which an individual translates experience into cognitive models and gives structure, meaning, and continuity to their's life (Bandura, 1999). Cognitive processing, and thus the symbolizing capability, provides the foundation for anticipating future events, guides one's present reasoning and actions, and permits the analysis of one's and others' past experiences. These processes occur through the other agentic capabilities, i.e., forethought, self-regulation, self-reflective, and vicarious capabilities. Each of these capabilities will be described below and implies the use of symbolizing capability.

Forethought Capability

The expression of human agency depends, at first, on the possibility of giving a direction to one's behaviour, building horizons beyond the constraints of their immediate environment. Thanks to forethought capability, employees do not only react to their social and organizational context, but also form intentions, establish goals to be reached, and subsequently plan their future courses of actions (Bandura, 1999; Stajkovic & Luthans, 2003). This capability allows people to cognitively represent their future scenarios in the present, by conceptualizing a behaviour and its possible outcomes, and thus guide their behaviours in an anticipatory way (Stajkovic & Luthans, 2003). Through this exploration of the future people can set standards to be satisfied and motivate themselves to perform behaviours that fit with these outcome expectancies (Bandura, 1997, 2001). In this sense, another function of forethought capability is that of implementing a proactive control on behaviour. Indeed, when people set valued performance standards to reach, they activate a process of discrepancy production, generating a condition of disequilibrium between this standard, and the current condition, that in turn mobilizes future efforts (Bandura, 1999).

Within the organizational context, the forethought capability is central with respect to decision making because it permits individuals to analyse the likely consequences of different options. Moreover, it plays an important role in orienting behaviours toward successful performance. Essentially the forethought capability provides an employee with anticipatory vision of the performance level to be expressed and helps him (or her) to anticipate the likely organizational demands and the possible obstacles. Finally, this capability provides the basis for an accurate planning of the required strategies to reach future professional goals.

Self-regulation Capability

When personal intentions are formed in advance, individuals have to perform behaviours aligned with their own standards and goals in order to realize purposeful plans that have been internalized as cognitive symbols. Thus, they have to exert control over their behaviour in the present by giving shape to appropriate courses of actions and by motivating and regulating their execution (Bandura, 2001). In other terms, people are "self-reactors" able to direct themselves (Bandura, 1999). Accordingly, people can actively influence their motivation, affect, and action during their present

ARTICLE IN PRESS

performance through the self-regulatory capability (Bandura, 1999). Within this perspective, the first self-regulatory step is represented by self-monitoring, by which people pay attention to their internal processes and behavioural expressions. Subsequently, through self-regulatory capability, an employee can use his/her own performance judgements produced by the cognitive comparison between standards and perceived performance attainments in order to exert a self-reactive influence (Bandura, 1999). These judgements, indeed, produce affective reactions (e.g., satisfaction for effective behaviour or guilt for an action perceived as inappropriate), that in turn activate a process of discrepancy reduction, in which the employee provides with himself (or herself) incentives to adapt his/her own behaviour to satisfy established standards and goals (Bandura, 1999).

Accordingly, through the self-regulatory capability, employees can canalize and use their energetic and emotional resources, for example, in order to improve their job performance even in the face of stressful conditions, thus promoting the attainment of favourable outcomes (such as personal satisfaction or positive external evaluations). Moreover, self-regulation allows individuals to avoid acting in an inadequate manner, for example by helping manage feelings of anger within the relationship with an organizational referent, and thus preventing unfavourable outcomes (such as the occurrence of destructive conflicts with supervisors or colleagues). All in all, the self-regulatory capability permits employees to lead themselves, regulating their emotional reactions and enacting more appropriate behaviours with respect to the current internal and external conditions, providing an added value to well-being and performance in the present.

Self-reflection Capability

According to Bandura (1986), direct experience is an important source of learning. To this aim, and in order to capitalize upon personal experiences, people have to monitor their own functioning. This means that they are self-examiners of their past behaviours, in terms of reflecting upon themselves and the adequacy of their own thoughts and actions (Bandura, 2001). This intentional examination of personal psychological processes, both cognitive and behavioural, is allowed by the self-reflection capability and involves a cognitive comparison among these personal elements and the results produced by them (Bandura, 1999) realized at the level of symbolizing processes. Accordingly, the process of thought verification is realized by testing how well one's thoughts match some indicator of reality, among which we mention the results of the action produced by one's thoughts (enactive verification), the beliefs of other people (persuasory verification), and what can be deduced by information that is already known (logical verification). In this way, an employee can build appropriate and realistic judgements about the effectiveness of his (or her) actions and resources.

In the organizational setting, the self-reflection capability facilitates workers' learning by their direct successes and failures, reinforcing the more effective behaviours. Moreover, it is also useful to gain awareness about the self through feedback received from others, and to analyse past events through the identification of the causes of problems or undesired outcomes.

Vicarious Capability

Another way by which an employee can develop his/her competencies, values, and attitudes, yet different from direct experience, is represented by observational learning (Bandura, 1999). This mechanism, related to the process of social modeling, is based on the observation of people's actions and of the consequences that these actions produce (Bandura, 1986; Rosenthal & Zimmerman, 1978). Vicarious capabilities allow the employee to acquire, as cognitive symbols, the diverse aspects of others' behaviours and results, and thus to adapt these elements to their own personal intentions and goals. This capabilities operate through different types of mechanisms: attentional processes, that allow people to choose specific external models and to focus on these models; representational processes, that imply an active process of transforming and restructuring information derived by the modelled events into rules and conceptions to be remembered; behavioural production processes, through which the acquired symbolic representations are translated into specific courses of actions (Bandura, 1999); and motivational processes, concerning the will of adopting modelled styles of behaviours, and related to a cognitive evaluation of cost and benefits experienced by others.

The vicarious capability is an important basic resource in the organizational context since frequent changes in job demands often require workers to learn from others in teamwork conditions, without providing formal training. Moreover, within complex modern organizations, an error can have very negative consequences; accordingly, vicarious learning represents an effective strategy that allows employees to learn indirectly, without making errors, and thus without taking excessive risks.

The Present Study

The first aim of the present study was to test the factorial validity of the Work Agentic Capabilities questionnaire. Given that social cognitive theory (e.g., Bandura, 1986, 1999) considers forethought, self-regulation, self-reflection, and vicarious learning to be human processes related to four different cognitive capabilities, we expected that (Hypothesis 1) the four factors, (1) forethought capability, (2) self-regulation capability, (3) self-reflection capability, and (4) vicarious capabilities, represent four different but correlated latent factors. Hence, each item will load on its corresponding factor.

Our second aim was to explore the nomological net of the agentic capabilities by examining the correlations of the questionnaire with a number of relevant and potentially related criterion variables. Consistent with Bandura's conceptualization (1999), agentic capabilities represent the cognitive mechanisms involved in agentic thinking and in agentic behaviour. Thus, we expected that the four agentic capabilities would be positively related with psychological dimensions characterized by a proactive mindset (Hypothesis 2), such as psychological capital (Luthans et al., 2007) and its components, namely self-efficacy, hope, optimism, and resiliency. Moreover, since individuals with high agentic capabilities tend to be intrinsically motivated towards their job and satisfied with it, we assumed that agentic capabilities would be positively related with positive job attitudes (Hypothesis 3), namely work engagement and job satisfaction. Since agentic capabilities allow human agency that, in turn, represent an individual's proactive behaviour able to transform their context and to reach significant goals, we assumed that the four capabilities would be positively related to two types of discretionary behaviours in the work context (Hypothesis 4). Specifically, as discretionary work behaviours we focused on organizational citizenship behaviours toward individuals (Williams & Anderson, 1991) and job crafting behaviours (i.e., increasing structural job resources, increasing social job resources, and increasing challenging job demands) (Cenciotti et al., 2016; Tims et al., 2012).

Moreover, given the fact that agency promote professional success, we assumed that agentic capabilities were positively related to success at work measures (Hypothesis 5), such as perceived job performance and promotions prospects.

Concerning the relationship between agentic capabilities and socio-demographic and organizational variables (our third aim), we reviewed the previous literature on similar constructs. Bindl et al. (2012) found no correlations between gender and the four dimensions related to proactivity and a small negative

ARTICLE IN PRESS

correlation between age and planning (that we may consider similar to forethought). Moreover, an agentic mindset is generically facilitating with respect to employees' role progression in the organization (e.g., Cenciotti et al., 2017). However, given the lack of previous evidence in this area, we did not formulate any specific hypothesis, but rather, explored how gender, age, organizational tenure, professional role, and career progression in the last year were associated with agentic capabilities.

Method

Sample

Participants, selected through convenience sampling and involving several researchers, included 590 employees working in private (62%), public (31%), and both private and public (7%) Italian organizations. Fifty-six percent of participants were female, 5% aged 18-25 years, 17% aged 26-25, 25% aged 36-45, 21% aged 46-55, and 32% were over 55. Regarding educational level, 58% had a university degree, 41% had completed high school, and 1% had completed junior high school. Organizational tenure was more than 15 years for 52%, 10-15 years for 16%, 5-9 years for 12%, and 0-4 years for 20%. With respect to organizational role, 74% were clerks and 26% were team leaders or managers.

In order to perform an exploratory factor analysis and a confirmatory factorial analysis, the overall sample was randomly split into two subsamples. The first subsample, subsample A, was composed of by 290 workers. Fifty-nine percent were female, 3% aged 18-25 years, 17% aged 26-25, 24% aged 36-45, 22% aged 46-55, and 34% were over 55. With respect to educational level, 56% had a university degree, 45% had completed high school, and 1% had completed junior high school. Organizational tenure was more than 15 years for 55%, 10-15 years for 14%, 5-9 years for 13%, and 0-4 years for 18%. In terms of their organizational role, 74% were clerks and 26% were team leaders or managers. The second subsample, subsample B, consisted of 300 participants. Fifty-two percent of these workers were female, 6% aged 18-25 years, 17% aged 26-25, 26% aged 36-45, 20% aged 46-55, and 31% were over 55. Regarding educational level, 61% had a university degree, 37% had completed high school, and 2% had completed junior high school. Organizational tenure was more than 15 years for 50%, 10-15 years for 18%, 5-9 years for 10%, and 0-4 years for 22%. Seventy-four percent were team leaders or managers and 26% were clerks.

Procedure

Part of the sample completed a paper-and-pencil questionnaire. The other part of the sample completed an online questionnaire. Participation in the study was voluntary and a cover letter informed participants about the research goals and outlined confidentiality of the data. Both versions of the questionnaire were anonymous.

Measures

Agentic capabilities. In order to measure these dimensions, 46 items were generated by three organizational psychologists who had studied the definitions of the four capabilities of interest, namely forethought capability, self-regulation capability, self-reflection capability, and vicarious capability. Items were formulated on the basis of the existing literature, and thus were in accordance with Bandura's conceptualization. Statements were contextualized in the organizational setting by explicitly relating the item content to the work domain through appropriate lexical solutions. For instance, a decision is described as "a work decision", while stressful conditions are referred as "stressful working conditions ", and a success is presented as a "professional success" (please see example items provided in this paragraph for each agentic capability, as reported below). Each statement was evaluated by five expert judges, that were required to measure their clarity and appropriateness on a 5-point scale. Items with greater than ninety percent degree of consensus were selected. As a result of this procedure, 28 items were included in the present study, seven for each agentic capability.

More specifically, forethought capability captures the capability to anticipate events that are likely to occur and define one's future actions (e.g., "Before making a work decision, I analyse in advance all the possible consequences" and "In my work, I foreshadow in advance the level of performance to be achieved").

Second, self-regulation capability refers to the capability to regulate one's personal states and thus one's current behaviour (e.g., "I can remain calm even in work situations of intense stress" and "When under stress, I multiply efforts to operate at my best").

Third, self-reflection capability is defined as the capability to analyse one's direct experience and thus to learn from past events (e.g., "After achieving success at work, I reflect on what behaviours have allowed me to reach it" and "I always analyse the causes that led me to a failure in my work").

Finally, vicarious capability is related to the capability to learn by observing the actions of other people and the effects they produced (e.g., "In my work, I observe with particular attention those who do my own job, using them as a reference in order to learn" and "To grow professionally, I am inspired by the behaviour of others that have been successful in the past").

The statements were measured on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree.*

Psychological capital. An individual's positive state of development, representing the core dimension of internalized agency shared by self-efficacy, hope, optimism, and resiliency (Avey et al., 2010), namely PsyCap (Luthans & Youssef, 2004), was measured by the Italian version (Alessandri et al., 2015) of the 24-item Psychological Capital Questionnaire (PCQ; Luthans et al., 2007). The PCQ is composed of four subdimensions: self-efficacy (the sense of confidence in being able to successfully accomplish challenging tasks), hope (the will to persevere toward goals and, when necessary, generate alternative pathways aimed to succeed), optimism (the explanatory style oriented towards making positive attributions regarding the present and the future), and resiliency (the ability to bounce back and even beyond when beset by problems and adversities). Cronbach's alphas were .89, .79, .70, and .77, respectively. Each subscale included six statements (e.g., "I feel confident contributing to discussions about the organization's strategy" for self-efficacy, "I can think of many ways to reach my current work goals" for hope, "I'm optimistic about what will happen to me in the future as it pertains to work" for optimism, and "When I have a setback at work, I have trouble recovering from it, moving on" for resiliency). The statements were measured on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

Work engagement. The positive and fulfilling state of mind that implies a persistent sense of well-being in one's work, namely work engagement (Schaufeli et al., 2002), was measured by the Italian version (Balducci et al., 2010) of the short Utrecht Work Engagement Scale (UWES-9, Schaufeli et al., 2006). This scale consists of three subscales: vigor (defined as having energy and mental persistence while working), dedication (defined as a sense of significance, enthusiasm, inspiration, and pride at work), and absorption (defined as being fully concentrated in one's work). Cronbach's alphas were .81, .90, and .77, respectively. Each subscale included three statements (e.g., "At my work, I feel bursting with energy" for vigor, "I am proud of the work I do" for dedication, and "I am immersed in my job" for absorption). Item responses were recorded on a 7-point frequency scale ranging from 1 = *never* to 7 = *always.*

ARTICLE IN PRESS

Job satisfaction. Consistent with previous research showing that a single-item measure is valid to capture overall satisfaction (Berson et al., 2008; Lee et al., 2008; Wanous et al., 1997), job satisfaction was measured by the following statement: "Overall, I'm satisfied with my job". This item was answered using a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree.*

Job crafting. Proactive behaviours enacted to creatively adapt one's work to one's needs and preferences, namely job crafting (Wrzesniewski & Dutton, 2001), was measured by the Italian version of the Job Crafting Scale (Cenciotti et al., 2016) introduced by Bakker et al. (2012), that entails three subdimensions. The first subdimension, increasing structural job resources, refers to behaviours aimed to acquire organizational resources such as opportunities for learning or variety, and includes four items (e.g., "I try to develop myself professionally"). The second dimension, increasing social job resources, reflects actions oriented to developing social relationships and gain more support from others, and is composed of by four items (e. g., "I ask others for feedback on my job performance"). The third dimension, increasing challenging job demands, captures actions aimed to develop one's work activity by seeking new challenges or by setting more difficult goals, and includes five items (e.g., "When an interesting project comes along, I offer myself proactively as project co-worker"). Cronbach's alphas were .83, .80, and .87, respectively. Items were answered using a 7-point frequency scale, ranging from 1 = *never* to 7 = *always.*

Organizational citizenship behaviours towards individuals. Altruistic behaviours enacted in relation to other people within the organizational context, namely OCB-I (Williams & Anderson, 1991), were measured by a self-report adaptation of the scale of organizational citizenship behaviours developed and validated by Williams & Anderson (1991). Specifically, we used seven items (e.g., "I help others who have heavy workloads"). Cronbach's alpha was .80. Items were answered using a 5-point frequency scale, ranging from 1 = *never* to 5 = *always.*

Job performance. Perceived performance was measured by a single item, adapted from the World Health Organization Health and Work Performance Questionnaire (HPQ; Kessler et al., 2003). This measure consists of a subjective evaluation of one's recent job performance, provided by answering the following question: "How do you evaluate your overall performance related to the last four weeks?". This item was answered using a 10-point scale ranging from 1 = *the worst possible performance* to 10 = *the best possible performance*.

Promotion prospects. The perceived probability to obtain an organizational career advancement, namely promotion, was measured by a single self-report item, adapted from Greenhouse et al. (1990), in which participants were asked to assess the extent to which they perceive to be likely to be promoted. This item was answered using a 5-point scale ranging from 1 = *very unlikely* to 5 = *very likely.*

Data Analysis[1]

To assess the factorial validity of the WAC (aim 1), an exploratory factor analysis (EFA) was performed on subsample A by using the R 3.6.3 statistical program (R Development Core Team, 2018) and Psych package (Revelle, 2019). Maximum likelihood method and Oblimin rotation were used since factors were expected to correlate. To test the model goodness of fit, the following indices were considered: chi-square value (χ^2), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), Akaike information criterion, and parallel analysis. The significance value of chi-square is sensitive to large sample sizes and may easily produce a statistically significant result (Bollen, 1989). We accepted TLI values equal or greater than .90, and RMSEA values lower than .08 (Bentler, 1990).

Reliability analyses (corrected item-total correlations and Cronbach's alphas) and confirmatory factor analyses (CFA) were performed on subsample B, using Mplus 7 (Muthén & Muthén, 2012) for the CFA. To test the model goodness of fit, we used the same indices presented above for EFA, along with the comparative fit index (CFI), that can be interpreted as the TLI.

Moreover, to verify the association of agentic capabilities with other relevant variables (aim 2), correlations with self-efficacy, hope, optimism, resiliency, PsyCap, work engagement, job satisfaction, crafting behaviours, organizational citizenship behaviours, perceived job performance, and perceived promotion prospects were investigated on the overall sample by using Pearson's *r* coefficient.

Finally, in order to explore whether there were differences in the mean scores of agentic capabilities across different subgroups (aim 3), related to specific sociodemographic (i.e. gender and age) and organizational characteristics (i.e., professional role, organizational tenure, and achievement of a promotion during the last year), one-way analyses of variance (ANOVAs) were conducted. When there were significant overall differences on variables with more than two levels, Tukey post hoc tests were run.

Results

Factorial Validity and Reliability

With regards to the EFA, the resulting structure was in line with the original conceptualization of agentic capabilities (Bandura, 1999). Indeed, all fit indices (see Table 1) and parallel analyses pointed to a four factor solution, composed by the four latent dimensions capturing vicarious capability, forethought capability, self-reflection capability, and self-regulation capability as the best fitting one. The factor solution explained 49% of the total variance.

Table 1. Model Fit Measures

					RMSEA 90% CI			
	χ^2	*df*	*p*	TLI	RMSEA	Lower	Upper	BIC
1 Factor	1965.54	350	<.001	.52	.13	0.12	0.13	-18.91
2 Factors	1237.48	323	<.001	.71	.10	0.09	0.10	-593.89
3 Factors	893.46	297	<.001	.79	.08	0.08	0.09	-790.49
4 Factors	622.54	272	<.001	.91	.07	0.06	0.07	-919.66

All items of the four-factor model (Table 2) mostly loaded only onto the hypothesized factors, and factor loadings ranged between |.57| and |.85| (mean = .73, *SD* = .09) for vicarious capability, between |.45| and |.74| (mean = .63, *SD* = .11) for forethought, between |.41| and |.77| (mean = .62, *SD* = .12) for self-reflection capability, and between |.34| and |.80| (mean = .59, *SD* = .16) for self-regulation capability. Correlations between factors were also found to be good, ranging from |.19| to |.57| (mean = .43, *SD* = .14). In terms of the correlational pattern among factors, higher correlations resulted between self-reflection capability and both vicarious capability and forethought capability (*r* = .58), while the lowest correlation was between vicarious capability and self-regulation capability (*r* = .19).

Subsequently, a CFA was conducted on the posited four-factor model (i.e., Model 1) and its fit was compared with several alternative models by testing the changes in χ^2. These alternative models assumed a three-factor structure, obtained by combining two of the four dimensions (i.e., Models 2, 3, 4, 5, 6, and 7), a two-factor structure, obtained by distinguishing vicarious capability from the overall other dimensions with a more internal focus (i.e., Model 8), or finally a one-factor structure (i.e., Model 9, see Table 3). The four-factor model demonstrated the best fit with the data, providing support for our first hypothesis and for the factorial validity of the WAC questionnaire.

ARTICLE IN PRESS

Table 2. Exploratory Factor Analysis on the WAC: Factor Loading Matrix (subsample A, *n* = 290)

Factor loadings					
	Factor				
	1	2	3	4	Uniqueness
FOR 3	-.02	**.72**	-.05	.03	.51
FOR 2	-.12	**.74**	.02	.01	.49
FOR 5	.08	**.67**	-.01	.09	.47
FOR 4	.02	**.63**	-.04	.01	.61
FOR 1	.06	**.72**	.06	-.09	.44
FOR 7	-.01	**.45**	.19	.09	.63
FOR 6	.07	**.51**	.13	.10	.56
SREG 4	.03	-.07	.13	**.56**	.63
SREG 7	.10	.12	.09	**.34**	.76
SREG 5	-.06	.09	.05	**.55**	.63
SREG 6	-.01	-.01	-.09	**.48**	.80
SREG 2	-.10	.01	.06	**.66**	.54
SREG 3	.10	.04	-.02	**.74**	.40
SREG 1	.01	.00	-.03	**.80**	.38
SREF 7	.05	.03	**.41**	.18	.70
SREF 3	.07	-.04	**.68**	.04	.58
SREF 1	-.11	.01	**.77**	.05	.45
SREF 6	.22	.22	**.46**	-.01	.47
SREF 4	.15	.03	**.70**	-.06	.39
SREF 2	.06	.04	**.74**	-.00	.37
SREF 5	.14	.10	**.55**	.11	.46
VIC 7	**.57**	-.07	.01	.12	.66
VIC 5	**.71**	.10	-.14	-.06	.54
VIC 4	**.72**	-.03	.10	-.09	.44
VIC 6	**.70**	.04	.14	-.02	.37
VIC 2	**.83**	.02	-.01	.02	.30
VIC 1	**.85**	-.07	.03	.04	.28
VIC 3	**.76**	.06	-.01	.06	.37
	1	2	3	4	
1	-	0.37	0.57	0.19	
2		-	0.56	0.44	
3			-	0.46	
4				-	

Note. 'Maximum likelihood' extraction method was used in combination with an Oblimin rotation.
FOR = forethought capability; SREG = self-regulation capability; SREF = self-reflection capability; VIC = vicarious capability. Uniqueness = Item uniqueness. With respect to factor loadings, those greater than or equal to .30 were highlighted for ease of interpretation.

Factor loading of the four-factor model (i.e., Model 1, see Figure 1) ranged between |.59| and |.76| for forethought capability, between |.48| and |.79| for self-regulation capability, between |.60| and |.77| for self-reflection capability, and between |.58| and |.81| for vicarious capability. Correlations between factors were also found to be good, ranging from .34 to .72.

With respect to the reliability statistics (Cronbach's alphas and item-total correlations), analysed on subsample B, they were adequate for each scale: forethought capability (seven items, Cronbach's alpha = .85, item-total correlations ranging from .54 to .72), self-regulation capability (seven items, Cronbach's alpha = .84, item-total correlations ranging from .44 to .69), self-reflection capability (seven items, Cronbach's alpha = .87, item-total correlations ranging from .56 to .71), and vicarious capability (seven items, Cronbach's alpha = .88, item-total correlations ranging from .53 to .75).

Correlations with Other Dimensions

Cronbach's alphas of the four agentic capability scales were preliminarily calculated on the overall sample and showed good reliability (.85 for forethought capability, .83 for self-regulation capability, .87 for self-reflection capability, and .89 for vicarious capability).

As expected, the four agentic capabilities were positively correlated with positive agentic states (see Table 4), namely self-efficacy, hope, optimism, and resiliency (with the exception of correlations between vicarious capability and both self-efficacy and resiliency, that resulted not significant), and with the overall level of PsyCap. Correlations between PsyCap and the three dimensions of forethought capability, self-regulation capability, and self-reflection capability were strong (ranging from .55 to .57). Moreover, the four agentic capabilities were positively correlated with work engagement, job satisfaction, crafting behaviours (i.e., increasing structural job resources, increasing social job resources and increasing challenging job demands), organizational citizenship behaviours toward individuals, and perceived performance. Finally, agentic capabilities were also positively correlated with perceived promotion prospects, except for self-regulation capability.

Mean Differences Related to Sociodemographic and Organizational Characteristics

The five panels of Table 5 present the significant differences in the mean values of agentic capabilities among subgroups related to

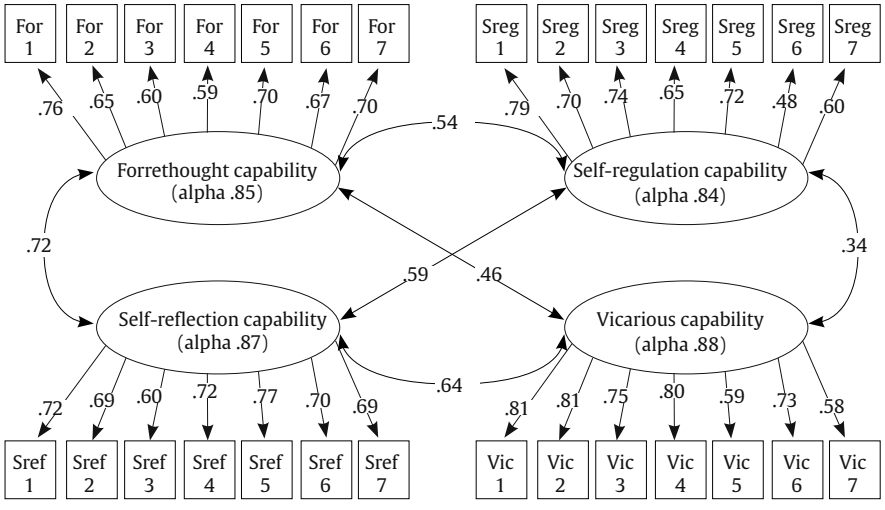

Figure 1. Results of Confirmatory Factor Analysis and Cronbach's Alphas on the WAC (subsample B, *n* = 300).
Note. VIC = vicarious capability; For = forethought capability; Sref = self-reflection capability; Sreg = self-regulation capability.

ARTICLE IN PRESS

Table 3. Confirmatory Factor Analysis on the WAC: Model Comparisons (subsample B, $n = 300$)

Model	χ^2	*df*	*p*	RMSEA	CFI	TLI	Model comparison	$\Delta\chi^2$	*df*	*p*
Model 1: 4-Factor Model	600.668	344	.000	.05	.91	.90				
Model 2: 3-Factor Model FOR+SREG, SREF, VIC	873.005	347	.000	.07	.82	.80	M2-M1	272.337	3	.000
Model 3: 3-Factor Model FOR+SREF, SREG, VIC	740.406	347	.000	.06	.86	.85	M3-M1	139.738	3	.000
Model 4: 3-Factor Model FOR+VIC, SREG, SREF	1,000.072	347	.000	.08	.78	.76	M4-M1	399.404	3	.000
Model 5: 3-Factor Model SREG+SREF, FOR, VIC	873.822	347	.000	.07	.82	.80	M5-M1	273.154	3	.000
Model 6: 3-Factor Model SREG+VIC, FOR, SREF	1,105.194	347	.000	.09	.74	.72	M6-M1	504.526	3	.000
Model 7: 3-Factor Model FOR+SREF, SREG, VIC	902.984	347	.000	.07	.81	.79	M7-M1	302.316	6	.000
Model 8: 2-Factor Model FOR+SREF+SREG, VIC	1,013.422	349	000	.08	.77	.75	M8-M1	412.754	5	.000
Model 9: 1-Factor Model	1,409.026	350	.000	.10	.64	.61	M9-M1	808.358	6	.000

Note. VIC = vicarious capability; FOR = forethought capability; SREF = self-reflection capability; SREG = self-regulation capability.

gender, age, professional role, organizational tenure, and achievement of a promotion in the last year.

The top panel reveals that females reported significantly higher levels of self-reflection and vicarious capabilities, compared to men, whereas there were no gender differences related to forethought capability and self-regulation capability.

The second panel shows that there were age differences only for self-regulation capability and vicarious capability. Employees between 36 and 55 years of age reported higher levels of self-regulation capability with respect to younger participants (18-35 years). These latter, in contrast, showed higher levels of vicarious capability than workers older than 46; moreover, employees between 36 and 45 years old also presented higher levels of vicarious capability, compared with the oldest employees (> 55).

The third panel shows that managers and team leaders presented higher levels of forethought and self-regulation capabilities with respect to clerks.

The fourth panel reveals that employees with less tenure in the organization (between 0 and 4 years) reported a higher level of vicarious capability compared to those who had worked in their organization for 10 or more years. Moreover, workers with tenure between 5 and 9 years also showed a higher mean value of vicarious capability than employees who had worked in their organizations for more than 15 years.

The bottom panel demonstrates that workers who received an organizational promotion during the last year reported higher levels of self-regulation and vicarious capabilities compared to employees who had not been recently promoted.

Table 4. Means and standard deviations of all variables and correlations (Pearson's *r* coefficients) between agentic capabilities and other dimensions

Correlated dimensions (and related number *N* of respondents)	Mean	*SD*	Forethought Capability (mean 5.33 *SD* 0.85)	Self-regulation Capability (mean 5.09 *SD* 0.91)	Self-reflection Capability (mean 5.65 *SD* 0.82)	Vicarious Capability (mean 5.11 *SD* 1.02)
Self-efficacy ($N = 324$)	5.68	0.91	.51**	.37**	.41**	.08
Hope ($N = 324$)	5.32	0.88	.52**	.45**	.47**	.33**
Optimism ($N = 325$)	5.03	0.90	.31**	.46**	.40**	.31**
Resiliency ($N = 323$)	5.48	0.85	.45**	.55**	.47**	.08
PsyCap ($N = 321$)	5.38	0.71	.56**	.57**	.55**	.25**
Work engagement ($N = 353$)	5.25	1.05	.46**	.51**	.46**	.37**
Job satisfaction ($N = 590$)	4.93	1.49	.31**	.34**	.28**	.24**
Increasing structural job resources ($N = 358$)	5.61	0.95	.51**	.42**	.49**	.35**
Increasing social job resources ($N = 356$)	4.22	1.44	.20**	.19**	.27**	.46**
Increasing challenging job demands ($N = 356$)	5.34	1.01	.52**	.45**	.48**	.30**
OCBI ($N = 230$)	3.83	0.63	.32**	.42**	.31**	.34**
Job performance ($N = 579$)	7.84	1.17	.35**	.37**	.30**	.17**
Promotion prospects ($N = 351$)	2.43	1.15	.17**	.07	.11*	.24**

Note. PsyCap = psychological capital. OCBI = organizational citizenship behaviours toward individuals.
*$p < .05$. **$p < .01$.

ARTICLE IN PRESS

Table 5. Mean Values and Standard Deviations of Agentic Capabilities in Subgroups of Gender, Age, Professional Role, Job Tenure, and Achievement of a Promotion in the Last Year

	Forethought Capability	Self-regulation Capability	Self-reflection Capability	Vicarious Capability
Gender	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Male (*n* = 261)	5.33 (0.83)	5.05 (0.96)	$5.50\ (0.86)_{b}$	$4.94\ (1.05)_{b}$
Female (*n* = 328)	5.34 (0.87)	5.12 (0.87)	$5.78\ (0.77)_{a}$	$5.25\ (0.97)_{a}$
	$F(1, 587) = 0.00$	$F(1, 587) = 0.69$	$F(1, 587) = 17.52^{**}$	$F(1, 587) = 13.72^{**}$
Age	*M* (*SD*)	*M* (*SD*)	*M* (*SD*))	*M* (*SD*)
18-35 (*n* = 129)	5.24 (0.79)	$4.92\ (0.98)_{b}$	5.62 (0.82)	$5.48\ (0.78)_{a}$
36-45 (*n* = 148)	5.42 (0.85)	$5.24\ (0.83)_{a}$	5.64 (0.77)	$5.24\ (0.95)_{ab}$
46-55 (*n* = 123)	5.39 (0.88)	$5.20\ (0.93)_{a}$	5.78 (0.92)	$5.00\ (1.11)_{bc}$
> 55 (*n* = 190)	5.29 (0.87)	5.01 (0.91)	5.60 (0.80)	$4.82\ (1.06)_{c}$
	$F(3, 586) = 1.41$	$F(3, 586) = 3.86^{**}$	$F(3, 586) = 1.38$	$F(3, 586) = 12.82^{**}$
Professional Role	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Clerk (*n* = 424)	$5.29\ (0.86)_{b}$	$5.03\ (0.93)_{b}$	5.62 (0.83)	5.13 (1.02)
Team leader or manager (*n* = 149)	$5.50\ (0.78)_{a}$	$5.24\ (0.88)_{a}$	5.72 (0.80)	5.00 (1.02)
	$F(1, 571) = 7.02^{**}$	$F(1, 571) = 5.66^{*}$	$F(1, 571) = 1.62$	$F(1, 571) = 1.67$
Organizational Tenure	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
0-4 (*n* = 116)	5.35 (0.81)	5.01 (0.97)	5.71 (0.81)	$5.55\ (0.85)_{a}$
5-9 (*n* = 68)	5.33 (0.93)	5.12 (0.97)	5.61 (0.92)	$5.25\ (0.79)_{ab}$
10-15 (*n* = 96)	5.38 (0.89)	5.17 (0.90)	5.58 (0.87)	$5.07\ (1.13)_{bc}$
> 15 (*n* = 308)	5.32 (0.84)	5.08 (0.89)	5.66 (0.79)	$4.92\ (1.04)_{c}$
	$F(3, 584) = 0.13$	$F(3, 584) = 0.54$	*M* (*SD*)	$F(3, 584) = 11.80^{**}$
Achievement of a Promotion in the Last Year	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Not promoted (*n* = 206)	5.40 (0.87)	$5.11\ (0.96)_{b}$	5.76 (0.80)	$4.98\ (1.11)_{b}$
Promoted (*n* = 47)	5.64 (0.85)	$5.42\ (0.96)_{a}$	5.90 (0.91)	$5.62\ (0.89)_{a}$
	$F(1, 251) = 2.85$	$F(1, 251) = 4.00^{*}$	$F(1, 251) = 1.08$	$F(1, 251) = 13.94^{**}$

Note. Within each category, means with different subscripts differed significantly; means with no subscripts did not differ. The total number of subjects included in relation to some characteristics differed from the total sample size (i.e., 590) because of missing values (in the cases of gender, professional role, and organizational tenure) or because of the lack of a corresponding item for a part of the sample (in the case of the achievement of a promotion in the last year).
$^{*}p < .05$, $^{**}p < .01$.

Discussion

This study provided substantial support for the WAC. Our first aim was to test the factorial validity and reliability of this instrument, aimed at measuring the main four agentic capabilities introduced by Bandura (1999), namely forethought capabilities, self-regulation capability, self-reflection capability, and vicarious capability. As expected, an exploratory factor analysis and a confirmatory factor analysis revealed a four-factor structure that fit the data better than the alternative solutions with different numbers of factors. All four scales, moreover, showed satisfactory reliability (i.e., Cronbach's alphas and item-total correlations).

The second aim of the present contribution was to investigate the nomological net of the WAC dimensions by analysing the relationships between its four subscales and several variables used as criteria that we expected to be produced by these basic agentic capabilities of mind. Consistent with the literature (Bandura, 1986, 1999; Peterson et al., 2011), agentic capabilities were correlated with the main psychological resources oriented toward agentic expression (i.e., self-efficacy, hope, optimism, and resiliency) and with their core latent dimensions (i.e., PsyCap). The only exception found was that vicarious capability was not correlated with personal beliefs related to one's competencies (self-efficacy) and with the ability to recover from difficulties and stressful experiences (resiliency). We could explain these unexpected results in light of the process that leads from vicarious observation to the development of these psychological resources. Essentially, this is a process that requires time in order to consolidate the behavioural learning derived from external sources, and thus may not produce immediate consequences that can be measured at cross-sectional level.

All agentic capabilities were also positively correlated with job satisfaction and work engagement providing support for their connection with the fulfilment of intrinsic motivation throughout one's work.

The four agentic capabilities were also related to discretionary behaviours aimed to intentionally provide added value to one's work (i.e., crafting behaviours) and to others' work (i.e., organizational citizenship behaviours), with job attitudes reflecting motivational involvement in one's work and more generally with adaptation to the organizational context (i.e., work engagement and job satisfaction), and with some indicators of professional success (i.e., perceived job performance and promotion prospects). The only exception was the non-significant correlation between self-regulation and promotion prospects. A possible explanation could be that opportunity for a promotion challenges and emphasizes individual capabilities oriented towards the future (i.e., forethought capability) and to professional learning (i.e., self-reflection and vicarious capabilities), rather than requiring the capability to exert an influence over one's present behaviour (i.e., self-regulation capability).

All in all, the above results provided support for the criterion validity of the WAC questionnaire and suggest that agentic capabilities may play a significant role in promoting psychological states oriented towards proactivity (i.e., PsyCap and its four components) and in supporting the development of constructive relationships with the work context through positive job attitudes and effective proactive behaviours.

The third aim of the study was to explore whether agentic capabilities were associated to workers' sociodemographic and organizational characteristics. Agentic capabilities oriented towards competency learning, namely self-reflection capability and vicarious capability, were more salient for female workers and, in the specific case of vicarious capability, for people with less personal or organizational experience (i.e., younger or more short-tenured workers) or with less experience in their current role (i.e., workers

ARTICLE IN PRESS

that have been recently promoted to a new role). Indeed, younger and less tenured workers, being less experienced and having less strategies available to face working problems, may be more likely to consider other as behavioural models, thus showing higher levels of vicarious capability.

Moreover, agentic capabilities aimed at providing direction to future actions and at managing one's personal states while performing, namely forethought capability and self-regulation capability, were stronger for individuals having higher level of responsibility (i.e., team leaders or managers) and, in the specific case of self-regulation capabilities, for employees between 36 and 55 years of age and those who have been promoted during the last year. It is likely that these two categories are more likely to be exposed to stressful workloads and higher organizational demands.

Limitations and Implications

Some limitations of the present study concern the use of a cross-sectional design, that does not allow establishing clear relations of causality between agentic capabilities and other variables, as well as the sample size (N = 590). Moreover, all measures used in this research were self-report and thus did not allow for the testing of the relationship between agentic capabilities and external outcomes. Future studies should implement longitudinal designs in order to better address patterns of influence between agentic capabilities and other dimensions. In addition, future research should verify the relationships of agentic capabilities with measures provided from other people, such as performance ratings expressed by direct supervisors. Future contributions can also confirm the psychometric characteristics of the WAC on larger samples and investigate convergent validity by using the WAC questionnaire in association with other scales that measure constructs similar to agentic capabilities, such as the four aspects of proactive behaviour defined by Bindl et al. (2012).

Since agentic capabilities represent a set of basic resources responsible for the overall expression of human agency, they can be assessed by using the WAC questionnaire. Agentic capabilities may represent important antecedents of employees' proactivity in building their organizational experience, and thus in achieving satisfaction, engagement, and performance. This is particularly relevant, especially in contemporary organizations, that require employees to be able to adapt to changes, to learn continuously, and to create favourable conditions. Future studies should explore the role of agentic capabilities in helping workers to deal with organizational change or within the context of learning organizations (Garvin, 1993). Moreover, the measurement of agentic capabilities may have a role as potential antecedents of employability and boundaryless career (Arthur, 1994), which emphasizes the proactive role of the individual in creating his/her own career path and success.

The investigation of workers' agentic capabilities, moreover, can help managers and supervisors to identify how to promote professional growth, by capitalizing on the strongest agentic capabilities for each employee and, accordingly, by using appropriate strategies for development. For example, forethought capability may be promoted through goal setting, thus directing one's attention toward future actions and events. Self-regulation capability could be increased through feedforward (Kluger & Nir, 2010), that reinforces the association between actions to be performed and positive emotions and thus helps workers to realize their plans. Third, feedback can stimulate self-reflection capability, encouraging employees to analyse their past experiences. Finally, peer coaching may stimulate observation and learning from others thereby increasing vicarious capability.

Conflict of Interest

The authors of this article declare no conflict of interest.

Note

Data from this study are available upon request from the first author.

References

Alessandri, G., Borgogni, L., Consiglio, C., & Mitidieri, G. (2015). Psychometric properties of the Italian version of the Psychological Capital Questionnaire. *International Journal of Selection and Assessment, 23*(2), 149-159. https://doi.org/10.1111/ijsa.12103

Arthur, M. B. (1994). The boundaryless career: A new perspective for organizational inquiry. *Journal of Organizational Behavior, 15*(4), 295-306. https://doi.org/10.1002/job.4030150402

Avey, J. B., Luthans, F., & Youssef, C. M. (2010). The additive value of positive psychological capital in predicting work attitudes and behaviors. *Journal of Management, 36*(2), 430-452. https://doi.org/10.1177/0149206308329961

Bakker, A. B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations, 65*(10), 1359-1378. https://doi.org/10.1177/0018726712453471

Balducci, C., Fraccaroli, F., & Schaufeli, W. B. (2010). Psychometric properties of the Italian version of the Utrecht work engagement scale (UWES-9): A cross-cultural analysis. *European Journal of Psychological Assessment, 26*(2), 143-149. https://doi.org/10.1027/1015-5759/a000020

Bandura, A. (1986). *Social foundations of thought and action*. Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Bandura, A. (1999). A social cognitive theory of personality. In L. Pervin & O. John (Eds.). *Handbook of personality* (pp. 154-196). Guilford Publications.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52,* 1-26. https://doi.org/10.1146/annurev.psych.52.1.1

Bandura, A. (2008). Toward an agentic theory of the self. *Advances in Self Research, 3,* 15-49.

Bandura, A., Caprara, G. V., Barbaranelli, C., Gerbino, M., & Pastorelli, C. (2003). Role of affective self-regulatory efficacy in diverse spheres of psychosocial functioning. *Child Development, 74*(3), 769-782. https://doi.org/10.1111/1467-8624.00567

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238-246. https://doi.org/10.1037/0033-2909.107.2.238

Berson, Y., Oreg, S., & Dvir, T. (2008). CEO values, organizational culture and firm outcomes. *Journal of Organizational Behavior, 29*(5), 615-633. https://doi.org/10.1002/job.499

Bindl, U. K., Parker, S. K., Totterdell, P., & Hagger-Johnson, G. (2012). Fuel of the self-starter: How mood relates to proactive goal regulation. *Journal of Applied Psychology, 97*(1), 134-150. https://doi.org/10.1037/a0024368

Bollen, K. A. (1989). *Structural equations with latent variables.* John Wiley.

Cenciotti, R., Alessandri, G., & Borgogni, L. (2017). Psychological capital and career success over time: The mediating role of job crafting. *Journal of Leadership & Organizational Studies, 24*(3), 372-384. https://doi.org/10.1177/1548051816680558

Cenciotti, R., Borgogni, L., Callea, A., Colombo, L., Cortese, C. G., Ingusci, E., Miraglia, M., & Zito, M. (2016). The Italian version of the Job Crafting Scale (JCS). *Applied Psychology Bulletin, 277*, 28-36.

Code J. (2020). Agency for learning: Intention, motivation, self-efficacy and self-regulation, *Frontiers, 5(19).* https://doi.org/10.3389/feduc.2020.00019

Garvin, D. A. (1993). Building a learning organization. *Harvard Business Review, 69,* 78-91.

Greenhaus, J. H., Parasuraman, S., & Wormley, W. M. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal, 33(1),* 64-86. https://doi.org/10.5465/256352

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*(2), 348-362. https://doi.org/10.1037/0022-3514.85.2.348

Hoover, J. D., Giambatista, R. C., & Belkin, L. Y. (2012). Eyes on, hands on: Vicarious observational learning as an enhancement of direct experience. *Academy of Management Learning & Education, 11*(4), 591-608. https://doi.org/10.5465/amle.2010.0102

Kessler, R. C., Barber, C., Beck, A., Berglund, P., Cleary, P. D., McKenas, D., Pronk, N., Simon, G., Strang, P., Ustun, T. B., & Wang, P. (2003). The World

ARTICLE IN PRESS

Health Organization health and work performance questionnaire (HPQ). *Journal of Occupational and Environmental Medicine, 45*(2), 156-174. https://doi.org/10.1097/01.jom.0000052967.43131.51

Kluger, A. N., & Nir, D. (2010). The feedforward interview. *Human Resource Management Review, 20*(3), 235-246. https://doi.org/10.1016/j.hrmr.2009.08.002

Lee, T. H., Gerhart, B., Weller, I., & Trevor, C. O. (2008). Understanding voluntary turnover: Path-specific job satisfaction effects and the importance of unsolicited job offers. *Academy of Management Journal, 51*(4), 651-671. https://doi.org/10.5465/amr.2008.33665124

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology, 60(3),* 541-572. https://doi.org/10.1111/j.1744-6570.2007.00083.x

Luthans, F., & Youssef, C. M. (2004). Human, social, and now positive psychological capital management: Investing in people for competitive advantage. *Organizational Dynamics, 33*(2), 143-160. https://doi.org/10.1016/j.orgdyn.2004.01.003

Muthén, L. K., & Muthén, B. O. (2012). *Mplus User's Guide*. Muthén & Muthén.

Peterson, S. J., Luthans, F., Avolio, B. J., Walumbwa, F. O., & Zhang, Z. (2011). Psychological capital and employee performance: A latent growth modeling approach. *Personnel Psychology, 64(2),* 427-450. https://doi.org/10.1111/j.1744-6570.2011.01215.x

R Development Core Team. (2018). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing.

Revelle, W. (2019). *psych: Procedures for psychological, psychometric, and personality research* [R package]. https://cran.r-project.org/package¼psych

Roberts, C., & Stark, P. (2008). Readiness for self-directed change in professional behaviours: Factorial validation of the Self-reflection and Insight Scale. *Medical Education, 42(11),* 1054-1063. https://doi.org/10.1111/j.1365-2923.2008.03156.x

Rosenthal, T. L., & Zimmerman, B. J. (1978). *Social learning and cognition*. Academic Press.

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66*(4), 701-716. https://doi.org/10.1177/0013164405282471

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002).The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3,* 71-92. https://doi.org/10.1023/A:1015630930326

Snyder, C. R. (2000). *Handbook of hope*. San Diego, CA: Academic Press.

Snyder, C. R., Irving, L. M, & Anderson, J. (1991). Hope and health. In C. R. Snyder & D. R. Forsyth (Eds.). *Handbook of social and clinical psychology: The health perspective* (pp. 285-305). Pergamon Press.

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin, 124*(2), 240-261. https://doi.org/10.1037/0033-2909.124.2.240

Stajkovic, A. D., & Luthans, F. (2003). Social cognitive theory and self-efficacy: Implications for motivation theory and practice. In L. W. Porter, G. A. Bigley, & R. M. Steers (Eds.). *Motivation and work behavior* (pp. 126-140). McGraw-Hill.

Tims, M., & Bakker, A. B. (2010). Job crafting: Toward a new model of individual job redesign. *South African Journal of Industrial Psychology, 36*(2), 1-9. https://doi.org/10.4102/sajip.v36i2.841

Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior, 80*(1), 173-186. https://doi.org/10.1016/j.jvb.2011.05.009

Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are single-item measures? *Journal of Applied Psychology, 82*(2), 247-252. https://doi.org/10.1037/0021-9010.82.2.247

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management, 17*(3), 601-617. https://doi.org/10.1177/014920639101700305

Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26*(2), 179-201. https://doi.org/10.5465/amr.2001.4378011