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QUANTITATIVE STUDY

Using a portfolio-based process to develop agility among employees

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The fast-paced and changeable nature of contemporary society results in organizations that increasingly need to train their employees to become more energetic, flexible, and adaptable: the so called "agile" employees. This study used personal development portfolios including frequent feedback interviews (with mentors and peers) over 2.5 years to assist 32 employees working in an organization undergoing change to become more agile. A portfolio implies setting agility goals, recording and assessing progress in one's agility. Data were collected on employees' agility, and were related to their portfolio. Results showed that the portfolio use significantly increased employees' agility and significantly enhanced the agreement between self-rated and other-rated agility. Findings favor the use of development portfolios by organizations in improving agility among their employees. Therefore, this study gives tools for the practice of Human Resources Development (HRD).

KEYWORDS

coaching, competencies/competency, HRD theory, workforce development

1 | INTRODUCTION

The fast-moving environment in which many organizations operate requires that they rethink their Human Resource Development (HRD) strategies (e.g., Bhattacharya, Harold Doty, & Garavan, 2014; Mooghali, Ghorbani, & Emami, 2016; Nijhof, 2004; Nijssen & Paauwe, 2012; Paauwe & Richardson, 2001; Right Management, 2010; Werner, 2014). HRD can play a crucial role in assisting organizational survival in fast-changing conditions (e.g., Russ-Eft,

Watkins, Marsick, Jacobs, & McLean, 2014; Wright, Cropanzano, & Bonett, 2007). The Association for Talent Development (ATD), formerly known as the American Society of Training and Development (ASTD), has described HRD as identifying, assessing, and, through planned learning, helping to develop the key competencies that enable individuals to perform well in current or future jobs (McLagan & Bedrick, 1983; Opoku, Arthur, & Antwi, 2016). Keeping a focus on the development of one's employees' key competencies is essential to improve their performance (e.g., Bernthal et al., 2004; Wilson, 2005).

One key component distinguished by the competency model that the ASTD has developed to enable employees to perform well in a changing or agile context is the "performance improvement" competency (Rothwell, Arneson, & Naughton, 2013). As changing organizations are becoming more the rule than the exception, employee agility is becoming increasingly important for employees' performance improvement (Alavi, Abd. Wahab, Muhamad, & Arbab Shirani, 2014). Instead of managing organizational change through a series of preplanned steps (e.g., Kotter, 1996), this focus on continuous employee agility is becoming more and more important (Braun, Hayes, Frautschy DeMuth, & Taran, 2017). An earlier study by Robertson, Roberts, and Porras (1993) has already shown a positive relationship between employee behavioral change and organizational change results. More recently, it again has been shown that employees largely determine the change readiness of an organization, with the success of organizational change efforts depending on employees more than on process or technology (Braun et al., 2017; Mooghali et al., 2016; Sherehiy, Karwowski & Layer, 2007).

Several studies have shown that employee readiness to *adapt* to organizational change predicts behaviors relevant to actual successful implementation of change (Holt, Armenakis, Feild, & Harris, 2007; Jones, Jimmieson, & Griffiths, 2005; Neves & Caetano, 2009). Likewise, given the unceasing pressure often present in organizations to adjust to external and internal demands, researchers and practitioners have recognized a need for employees who are *proactively* innovative rather than who are only executing their jobs (Frese & Fay, 2001; Griffin, Neal, & Parker, 2007). The underlying assumption is that such proactive employees show self-starting behaviors that add to organizational success (Crant, 2000; Grant & Ashford, 2008). Both the adaptive and proactive aspects of employees' behavior are captured by the concept of agility, indicating the importance of this concept. Harvey, Koubek, and Chin (1999) view agile employees as those employees who will adapt to changes implemented by the organization and who also may implement the changes proactively themselves. These researchers, therefore, define the concept of employee agility as "The ability to adjust to new or different conditions caused by varying demands of technological and organizational changes by altering one's acts, behavior, attitude, and mental state toward changes initiated internally (by the employee) or externally (e.g., organization or technology)" (p. 204). In our study, we follow this definition.

Until recently, employees likely not have been selected according to their agility as a formal job requirement. Yet, in today's environment, many organizations need to be able to adapt to changing external conditions and to uncertainty (Schmitt & Klarner, 2015). They may be affected by environmental changes such as deregulations, privatization, technological, and sometimes disruptive sociopolitical change. They in addition may be facing increasing competition and interconnectedness of global economies, the growing importance of global markets, and evolving market demands (e.g., Josefy, Kuban, Ireland, & Hitt, 2015). Organizations, however, may not always be successful during environmental changes, for example because they give no thought to the need to initiate change (Hannan & Freeman, 1984). At times, organizations may have good reasons to not automatically stimulate proactiveness among all employees, such as when an employee's risk propensity will diminish the effects of personal initiative on his or her performance (Glaser, Stam, & Takeuchi, 2016). Nevertheless, in general, helping develop employee agility as a key competency can be regarded as an important HRD strategy (cf. Kuo, Ye, Chen, & Chen, 2018).

Imaginable dispositional antecedents of agile behavior such as a proactive personality and future-oriented thinking (see, for example, P. Chen & Vazsonyi, 2011; Kuo, Chen, & Chen, 2018) will not offer much possibility to improve employees' agility due to the supposed stability of such antecedents. In contrast, training employees toward more adaptive and proactive agile behavior may offer opportunities for HR interventions. Interventions that emphasize the encouragement of employees' developmental activities have been shown to stimulate being proactive about one's personal development, which has been labeled as one's personal growth initiative (PGI; Meyers, Van Woerkom, De

Reuver, Bakk, & Oberski, 2015). If an intervention will focus on employee agility, it accordingly may be expected that employees will show an increase in their agility. To improve employee agility, organizations will need an HRD system that supports learning (Lombardo & Eichinger, 2000). One such system intended to produce behavioral change among employees is a development portfolio. Kicken, Brand-Gruwel, and Van Merriënboer (2008) understand a development portfolio as a process in which a collection of smart goals is formulated, an action plan is developed, and evidence is collected supporting an individual's achievement of competencies and learning outcomes. The material collected during this process must be reflected upon, as reflection provides the evidence that learning has taken place. By combining assessments from different sources such as peers (peer-ratings) and employees themselves (i.e., self-assessments), employees receive 360° feedback on their performance, for instance on their agility performance, which is expected to help identify gaps between their current and desired performance. The portfolio helps this aim by setting and reaching goals (Klenowski, 2002).

The present research is focused on ascertaining how goal setting, action taking, and feedback by means of a development portfolio process will enhance employee agility. Specifically, we aim to investigate the implementation of the development portfolio process as an agility facilitator. To this end, later we elaborate upon the notion of employee agility, after which we focus on agility goals and the development portfolio process as an intervention. We will use the classic feedback intervention theory of Kluger and DeNisi (1996) as an inspirational framework to argue the importance of the components of our portfolio intervention. This theory distinguishes three factors positively contributing to the effectiveness of feedback interventions, namely goal setting, keeping the locus of attention of participants to the task (versus themselves), and task complexity. A complex task such as attempting to become more agile at work needs long-term interventions. The portfolio process central to our study involved all these three factors, as will be described more elaborately later.

2 | EMPLOYEE AGILITY

Alavi et al. (2014), Asari et al. (2014), and Sherehiy (2008) all identified adaptive agility attributes (e.g., resilience) and proactive agility attributes (e.g., courage) as important factors of agility. Adaptive agility refers to changing or modifying one's behavior to the changing organizational environment, whereas proactive agility refers to initiating activities that positively affect the organizational environment. Thus, employee agility seems to consist of two important aspects: (a) adaptive behavior, which is an employee's ability to respond to on-going changes; and (b) proactive behavior, which is an employee's ability to create new opportunities. Earlier scholars have coined concepts that may be regarded as similar to and partly overlapping with the concept of agility. Among these are the concepts of readiness for change, and proactive personality. An important distinction between agility and these concepts is that agility is regarded as a behavior, whereas the other concepts are usually seen as attitudes (feelings, thoughts), or personality, respectively. As another example, intrapreneurship (e.g., Gawke, Gorgievski, & Bakker, 2017) overlaps with agility, but it only focuses on the proactive aspect of agility.

The following seven constructs are regarded as components belonging to agility: resilience, teamwork, coping with change, decisiveness, eagerness to learn, independence, and courage (see, for instance, Breu, Hemingway, Strathern, & Bridger, 2002; Gunasekaran, 1999; Sherehiy & Karwowski, 2014). The next four components are regarded as aspects of adaptive agility. *Resilience* is viewed as an employees' ability to deal with setbacks (Sherehiy, 2008). *Teamwork* is the ability of an employee to work together with colleagues, share information, and stimulate group processes (Pulakos, Arad, Donovan, & Plamondon, 2000). *Coping with Change* is seen as an open approach to dealing with and adapting to the implemented changes (Plonka, 1997). The following three components are regarded as aspects of proactive agility. *Decisiveness* is characterized by an active approach of employees to find and exploit opportunities for change (Gunasekaran, 1999). *Eagerness to Learn* is understood as an active approach of employees toward personal development and is believed to be an important aspect of their agility because changes implemented often require an employee to learn new skills and tasks (Dyer & Shafer, 2003). *Independence* concerns the ability of

employees to perform tasks with minimal guidance and a preference for responsibility (Asmuβ, 2008). *Courage* is a proactive approach of employees toward possibilities and changes instead of waiting for things to happen (Mooghali et al., 2016). Together these seven aspects of agility provide a broad definition of agility that combines being part of a greater workforce with proactive approaches and the ability to react to changes.

Among previous agility researchers, Braun et al. (2017) and Mooghali et al. (2016) have investigated how to improve employee agility. Braun et al. developed and validated an employee agility scale as part of an organizational change program. Among a large sample of US employees, these authors were able to demonstrate that focusing on agility helped employees to handle uncertainty. They describe that they created a supportive environment for workers to proactively look for opportunities to improve themselves. In this way, the workers were able to practice agility. No further descriptions of specific actions or program characteristics were given. The authors further reported that managing employee stress appeared to be important in the course of improving employee agility and that a critical aspect of improving employee agility is shifting employees' attention from being fearful of change to enthusiasm about new chances or growing skills. Mooghali et al. (2016) conducted a survey study among hospital employees in Iran and report positive effects of HRD practices in which encouraging and training staff in the use of information systems made them more agile in the use of such systems. This publication unfortunately does not provide more specific information on what exact practices were undertaken.

3 | AGILITY GOALS AND THE DEVELOPMENT PORTFOLIO PROCESS AS AN INTERVENTION

The present study focuses on the development of adaptive and proactive agility by means of goal setting (e.g., Braun et al., 2017; Chonko & Jones, 2005; Pulakos et al., 2000). The basic assumption, coming from classic goal-setting theory (cf. Locke & Latham, 2006), is that setting learning goals will help to develop agile behavior. Several agility goals may be distinguished. Examples are trying to pursue becoming better at creating solutions (Poell & Van der Krogt, 2003), adapting to change (Crick, Haigney, Huang, Coburn, & Goldspink, 2012), being active in sharing ideas and taking initiative in meetings (Asmuβ, 2008), cooperating and sharing knowledge (Latham, 2009), and taking proactive initiative (McCarthy & Garavan, 2007). In line with Locke & Latham (2006), we believe that acquiring such adaptive and proactive agility behaviors may form complex aims to achieve, and that, therefore, the best results may be attained if specific learning goals are assigned. To this end, the development portfolio is thought to be a suitable learning intervention as it consists of a step-by-step plan toward attaining specific goals. Kicken, Brand-Gruwel, and Van Merriënboer (2008) describe the development portfolio process as follows. It is seen as a process during which *smart* goals are formulated, and to reach these goals, an action plan is developed and evidence is collected supporting an individual's achievement of the learning goals. Finally, the material collected during this process must be reflected upon to be able to result in the improvement of employee behavior, in the present case agility, across a certain time span. The combination of reflections from different sources such as feedback from peers (peer-ratings) and employees themselves (i.e., self-assessments) implies that employees receive (some kind of) 360° feedback on their agility performance to help identify gaps between their current and desired agility performance. Kicken, Brand-Gruwel, and Van Merriënboer (2008) suggested that combining assessments from different assessors, that is, "multi-source" feedback, helps to identify progress toward one's goals.

For feedback to be effective, it is a prerequisite that self-assessment and assessments from other sources, such as feedback from peers and mentors, are sufficiently consistent ("self-other rating agreement") (Kenny & West, 2010). Such consistency will increase, we believe, during the development portfolio process, because the activities during this process involve collecting evidence of [or lack of] competencies by both the employees and their mentors. Employees fill out a digital preformatted word file in which they describe the proof of how they have attempted to reach their goals and what the results of their behaviors were. The file in addition includes regularly written feedback from a mentor, generally in the form of comments. An employee's mentor mostly is the employee's supervisor or one of the members of his or her team, who needs to have been able to observe the employee on a daily basis to be able

to perceive the goal-related behavior of the employee. Our general expectation thus is that the portfolio process will enhance employee agility as rated by the employees themselves and by their mentors. Because this process provides a clear structure through which both the employee and the mentor will gain insights into the elements involved in stimulating agile employee behaviors, we also expect that the portfolio process will be able to improve the agreement between employees themselves and their mentors about their agility behavior. In the following, we will elaborate upon these arguments, further showing why we believe the portfolio process is able to influence employee agility and resulting in our hypotheses.

The feedback intervention theory by Kluger and DeNisi (1996) was used as an inspiration to frame our portfolio intervention study. Based on the meta-analytical results, their theory stresses several factors that positively contribute to the effectiveness of feedback interventions. The first of these is the significance of goal setting: setting goals is positively related to an effective intervention. The aspect of goal setting clearly is a part of the portfolio process. The second is keeping the locus of attention of participants to the task. In other words, for the intervention to be effective, participants should not be focused on themselves but should always be focused on the actions needing to be taken. Directing employees' attention to the task by means of an action plan and collecting proof for (or lack of) competence in relation to their agility goals relates to Kluger and DeNisi's second factor. Furthermore, their feedback intervention theory stressed that task complexity, such as trying to develop one's agility (versus a simple task such as memorizing a sentence) cannot do without long-term interventions. All mentioned factors of goal setting, attention to the task, and a long-term perspective were utilized in the portfolio process, which took over a period of 2.5 years. A good portfolio process entails all of these factors (cf. Kicken, Brand-Gruwel, Van Merriënboer, & Slot, 2008).

The elements of goals, action plan, and feedback in the portfolio process are elaborated more specifically in the following.

3.1 | Goals

The development of agility goals fits well to the viewpoint of pursuing learning goals and the opportunity to learn new things (versus pursuing performance goals; Deci & Ryan, 2000). Setting one's own agility goals implies that employees are concerned with the improvement of their own mastery of agility and less with their relative standing relative to others. When employees are involved in activities to improve their agility, they will be concerned with expanding their competencies more than with social comparison to their peers. The effectiveness of such a learning goal orientation coincides with the underlying notion of the portfolio is that goals set within it will help to increase effective behaviors (DeNisi, 2011).

The development portfolio contains information on the processes necessary to reach the desired behavior. Kicken, Brand-Gruwel, and Van Merriënboer (2008) suggested that employee performance can be assessed from multiple viewpoints (e.g., mentors and peers), which presumably can provide an accurate assessment of current behavior. To get the feedback needed to close the gap between current and desired performance, it is vital for employees to have clear individual goals (Cleveland, Murphy, & Williams, 1989). A broad range of development goal themes exists. Goals can be more self-oriented, for instance attaining more autonomy at work. Furthermore, they can achieve better learning strategies (Poell & Van der Krogt, 2003). And they can be more other-oriented, such as improving cooperation and information-sharing skills (Huang, 2012). In addition, goals can simply be focused on developing a more proactive instead of a reactive attitude at work (Berings, Poell, & Gelissen, 2008).

There are *four phases* involved in the setting of clear goals (Danielson & Abrutyn, 1997). In the present case, the focus is on agility goals. In phase one, "*collection*," employees assess the basic determinants (the "what, where, when and why") of their current agility. Here, employees are concerned with the collection of feedback by others (colleagues, mentors) relevant to their agility goals. In phase two, "*selection*," employees ascertain the developmental domain that will be their focus for the agility goal-setting process. Once the general developmental domain has been chosen, a range of agility goals relevant to that domain will be identified. In turn, these agility goals will be specified into a more concrete form. At this stage, the aim is to arrive at an entire set of agility goals for the developmental

domain. It is from this set that subsequently particular agility goals will be chosen as the focus of the process. More specifically, not all of the agility goals collected will necessarily be included in the final goal-setting process. An individual may collect such varying agility goals as wanting to become more confident and wanting to achieve formal qualifications. However, an employee may subsequently focus on increasing his or her confidence, because low confidence may impact one's ability to complete the qualification. Hence, employees may set agility goals related to courage and confidence, such as making public presentations or completing an assertiveness training.

The third phase, "*reflection*," involves the assessment of previous and current barriers to achieving agility goals. As an example, an individual with low confidence wanting to make public presentations may not be familiar with presentation software and technology (and thus will require some informatics technical training). During the final phase, *injection*, employees decide which of the full set of agility goals they wish to focus on for the remainder of the goal-setting project. In the aforementioned example, the individual may finally decide to follow an assertiveness training and informatics technical training. Training intermediate goals will facilitate his or her public presentation skills that ultimately help achieve the agility goals of gaining confidence and showing courage. Danielson and Abrutyn (1997) do not specify how many goals should be selected. In the current study, participants were strongly encouraged to choose two goals in an agility context of rapid organizational change. These goals should be SMART, which means they are Specific, Measurable, Attainable, Relevant, and have a Timeframe (Latham, 2009).

3.2 | Action plans and feedback

Desired goals, such as in our case, agility-related goals, cannot be reached before action is taken (Smither, London, & Reilly, 2005). Complex behavior can only be changed when conscious thought is given to the process (Baumeister, Masicampo, & Vohs, 2011). Activities such as discussions with colleagues that lead to specific intentions to take action are seen as effective actions (Berings et al., 2008). By considering the "what, where, when, and why" of the situation, a person can set specific goals (Doornbos, Bolhuis, & Simons, 2004). To return to the earlier example of the employee with low confidence, this individual may identify what the issue is (low confidence), where he or she experiences low confidence (e.g., public speaking), why (e.g., lack of experience and training), who he or she needs to approach to address the issue (e.g., to obtain training), and when (the timeframe within which he or she will resolve the issue).

A positive relationship has been demonstrated between goal setting, taking action, and giving feedback (Locke & Latham, 2002). Talking about behavior during development plans often starts by providing feedback (DeNisi, 2011), assessing and negotiating personal qualities on competence scales (Dewettinck & Van Dijk, 2013) and/or by discussing performance (Prowse & Prowse, 2009) or tasks (Anseel, Van Yperen, Janssen, & Duyck, 2010). All types of communications, for instance feedback sessions and personal development interviews, can be regarded as sources of feedback (Selvarajan & Cloninger, 2012). Feedback is seen as the dominant aspect of most development plan interviews. Mentors can provide feedback (DeNisi & Kluger, 2000) and discuss their employee's behavior (Anseel, Lievens, & Schollaert, 2009), set goals carefully for the employee consciously (Locke & Latham, 2002), and stimulate the design of detailed action plans (Masicampo & Baumeister, 2011).

Within a personal development interview, meaningful feedback regarding behavioral change is generally utilized to help identify discrepancies between current and desired work performance (Hensel, Meijers, Van der Leeden, & Kessels, 2010; Rowold, 2007). The determination of such discrepancies will facilitate the identification of the employee's strengths and weaknesses (Cleveland et al., 1989), which stimulates self-awareness and has a positive effect on agility (Hosein & Yousefi, 2012). In addition, employees will identify role-specific competences (Avkiran, 1999) and the process can highlight competences necessary for the organization in general (Wickramasinghe & De Zoyza, 2011). Feedback can thus be seen as a way to direct and motivate employees. Reflection seems to be a useful strategy for employees to process the feedback received (cf. Anseel et al., 2009). Often, however, employees are unable to find time and effort themselves to actively engage in subsequent reflection due to work pressure. Not being able to reflect may imply that a feedback intervention will not be effective. A written reflection on the received feedback in their portfolio can be regarded as a formal technique to make it possible for employees to have some

thinking time away from their daily work activities. Such arranged time to think through feedback and recognize what they have learned from it may help enhance reaching their agility goals.

3.3 | Goals, action plans and feedback: The present study

The present study aims to investigate how goal setting, action plans, and feedback are used in organizations to assist employees in acting (adaptive and proactive) to change in ways that are productive and meaningful to them. Embedding the portfolio steps of goal setting, action plans, and feedback in employees' day-to-day work and behaviors fits the notion of experiential learning (Pulakos, Mueller Hanson, Arad, & Moye, 2015). Experiential learning is based on the well-known sociocultural theory of the Russian psychologist Lev Vygotsky. From this theory, learning and development can be looked upon as resulting from an interactive participation in a community of practice (cf. John-Steiner & Mahn, 1996). It has been argued by Pulakos et al. that experiential learning is specifically relevant for complex behavior change, such as developing one's agility at work. Thus, by communicating goals and plans and receiving informal feedback, employees will be able to develop their agility through on-the-job structured experiential learning intervention producing meaningful behavior change.

As the underlying notion of the portfolio process is that setting goals, planning actions and receiving feedback will help to increase effective behaviors (DeNisi, 2011), and as the portfolio process can be regarded as a structured and job-embedded experiential learning process (cf. Pulakos et al., 2015), we expect that it will enhance self-rated and other-rated agility. In addition, the development portfolio is expected to be a method that is able to increase self-other rating agreement, because it provides both the target (the employee) and the perceiver (the assessor) a structure in which insight is gained into the underlying processes involved in expressed behaviors (Kicken, Brand-Gruwel, Van Merriënboer, & Slot, 2008).

It, therefore, is anticipated that the use of the portfolio will positively influence employee agility as follows:

Hypothesis 1: *(H1)*: Self-rated adaptive and proactive agility will increase as a result of using the portfolio process.

Hypothesis 2: *(H2)*: Other-rated adaptive and proactive agility will increase as a result of using the portfolio process.

Hypothesis 3: *(H3)*: Self-other agreement about adaptive and proactive agility will increase as a result of using the portfolio process.

4 | METHOD

We first describe the participants in our study and the procedure used to recruit the participants. Then, the design of the portfolio process is described, followed by the measures, and finally the way of analyzing the data.

4.1 | Participants and procedure

Thirty-two employees (12 males, 20 females) participated in the study. Their mean age was 40.9 years (SD = 8.3) and they were all Dutch citizens. The participants had worked for an average of 10 years (M = 10.3, SD = 0.5) and all had a higher vocational education level.

All employees worked for a large Dutch nonprofit service organization undergoing permanent change (an agile organization). This organization constantly had to adapt to changes in law and technology, and, therefore, was actively involved in planning changes. As part of these plans, the participants had the responsibility to learn how to become more agile by following a course on management theory and law provided at a higher educational institute

by the first author. (This recurring 4-year course is provided part time to employed individuals interested to follow a course on this topic, as was the case for the employees coming from the organization described here.) They had a diversity of jobs, such as financial administrative jobs, secretarial jobs, sales jobs, and jobs in the ITC-domain. They worked in different departments and did not have managerial roles. They were motivated to learn how to deal with the changing organizational context and also how to inspire their peers to learn how to work in these changing environments, perhaps in a future managerial position.

The organization paid for their course participation, and was open to a longitudinal portfolio trajectory offered by the first author separately from the course. This portfolio trajectory intended to facilitate the employees in improving their agility. The first author had requested the HR Manager of the organization whether the organization was interested to participate in the longitudinal portfolio trajectory. There was no payment for participation in this trajectory. Neither the organization nor the employees had had any earlier experience with the use of portfolios. All participants received feedback in exchange for their participation in the study; no other inducements or rewards were offered. As the first author was lead investigator and expert in providing training in the area of organizational change and employee agility, this author held conversations with each participant separately to help them with the process of formulating agility goals, keeping on track with these goals, and providing feedback (see in Section 4.2). The other research team members were not involved in the hands-on parts of the study.

4.2 | Design of the portfolio process

The portfolio process had a longitudinal design in line with recommendations by Ployhart and Vandenberg (2010) and was conducted over two-and-a-half years (between September 2013 and April 2016). Figure 1 shows the six phases of the portfolio process, which are described below. A concrete example of phases 1, 2, and 3 related to an adaptive and a proactive agility goal is available from the first author upon request. The portfolio process comprised 10 time periods, each lasting 10 weeks. Each period consisted of face-to-face meetings and encounters, and during each period the employees worked on their individual portfolio "product." This product was a Word document within which all information, material, evidence, feedback, reflections, action plans, etc. were documented (see later for additional explanation). The interviews were held with employees' mentors, who each were chosen by an employee him or herself, were employed by the organization, and who were required to have a higher (vocational or academic) educational background and mentoring/coaching experience. In almost all cases, participants chose their own supervisor as a mentor. All but three mentors had one employee-mentee. Two mentors had two each and one mentor had three employee-mentees. The informal and formal conversations mostly would take an hour, which implied that over 1 year a mentor on average would use 80 hrs in total for advising one mentee. During such conversations, the mentee would typically talk ¾, and the mentor ¼ of the time. An employee was requested to also choose a peer, that is, a colleague who was able to join these interviews during the portfolio process, and who was prepared to make day-to-day observations on the job to be able to provide feedback to the employee.

4.2.1 | Self-rated and other-rated agility

To increase participants' self-insight into their agility, all participants needed to complete an agility scale (phase 1, Figure 1). (This scale was developed by the lead investigator and Cubiks, 2014; for more information on this scale, see Section 4.3.) To obtain insights into how others viewed them, their mentors and colleagues also completed the (other-rated) agility scale. This enabled an estimation of the self- (averaged) other agreement on their agility. Subsequently, the participants and their mentors met each other face-to-face, to discuss their self-rated and other-rated agility scores and the degree of agreement between their self-rated and other-rated agility. This was established for each of a series adaptive and proactive agility goals (see phase 2). During that meeting, each participant together the mentor and peer established the gap between their current and their desired agility level. The desired agility level also depended on the agility goals the organization thought was important (see phase 2), which was conveyed by the participant's mentor.

Self- and other-rated agility	SMART employee agility goals	Action plan	Evidence of (lack of) competence	Feedback	Self- and other-rated agility
Establish gap between current and desired agility; desired agility also in context of organizational goals	Choose one adaptive (resilience, teamwork, coping with change, decisiveness) and one proactive goal (courage, independence, and eagerness to learn	Enhance one's own goal commitment	Collect proof of (or lack of) competence related to agility goal (e.g., assignment, certificate or diploma)	Feedback interviews about (or lack of) competence and about content of portfolio document	Self-other agreement on one's current agility; do one's individual agility goals still match the organizational goals?
1	2	3	4	5	6

FIGURE 1 The phases in the portfolio process; each step results in information to be put in portfolio document (cf. Kicken, Brand-Gruwel, & Van Merriënboer, 2008)

4.2.2 | SMART employee agility goals

Next, in the same meeting with their mentors and peers, participants chose one adaptive and one proactive agility goal (phase 2, Figure 1). Thus, they could choose two goals from among the following agility-related goals, which were based on Alavi et al. (2014), Dyer and Shafer (2003), Pulakos et al. (2000), and Sherehiy (2008): one from (a) the adaptive agility goals of enhancing their resilience, teamwork, coping with change, and decisiveness, and one from (b) the proactive agility goals of enhancing courage, independence, and eagerness to learn. (For the measure of agility goals, see later in Section 4.3.) The goals had to be SMART. The participants were also encouraged to make their agility goals inspiring and energetic for themselves. As the first author was lead investigator and expert in providing training in the area of organizational change and employee agility, this author informally got together with each participant separately to support them with the process of keeping on track with their agility goals. Note that these informal conversations were held at the start of each time period of 10 weeks, as was agreed upon with the organization. If a mentor afterward felt that an agility goal did not fit the employee or the organization, the mentor could ask the employees to respecify or change this agility goal. By the end of the first 10 weeks, all participants had decided upon their agility goals for the following year.

4.2.3 | Action plan

Phase 3 consisted of developing an action plan (phase 3, Figure 1). To construct their personal action plans toward more agility, each participant during a face-to-face meeting was asked by his/her mentor and peer to answer the following question: "How will you achieve progress toward your goals? When answering this question, keep in mind your personal strengths and weaknesses." The action plan needed to be derived from their two agility goals. The action plan was concerned with how participants wanted to achieve progress on these goals. These goals, a concrete action plan for each goal, and some personal strengths and weaknesses had to be written down in their portfolio document. In order to do so, they needed to write a detailed plan (for practical reasons this had a length of minimally 1,000 and maximally 1,200 words) in which they listed who and what they would need in order to succeed in the planned time. Thus, participants' action plans showed what they needed to do in order to accomplish their agility goals (their desired progress).

4.2.4 | Evidence of (or lack of) competence

In this phase, participants collected evidence working toward their desired levels of adaptive and proactive agility (phase 4, Figure 1). To provide them with suggestions and ideas for this purpose, each participant was given a copy of the "Competence Workbook" (Winkler, 2011). In this workbook, participants could find detailed and concrete examples of assignments that they could perform to work on their agility goals. To illustrate, for a proactive goal they could be active in sharing ideas or organize a workshop each 2 weeks. When participants had completed a specific assignment, they asked their peer to give them informal face-to-face feedback, which then served as proof of (or lack of) competence. These proofs were included by the participants to their portfolio document.

4.2.5 | Feedback

After having collected evidence in phase 4, a feedback interview was held, which was semistructured (phase 5, Figure 1). All participants had their first individual feedback meeting with their mentors and peers (one interview in each 10-week period). At the end of each 10-week period, all participants also had a meeting with the lead investigator, which had the form of an individual situational interview (Latham, Saari, Pursell, & Campion, 1980). Although the nature of the feedback would differ for each evaluator (the mentor, the peer, or the lead investigator), all evaluators kept track of the SMART-ness of the participants' goals. In addition, the mentors were specifically concerned with making sure that the action plan and progress toward the participants' goals remained directed toward becoming more agile. Additionally, mentors specifically focused on the applicability of the learning agility goals of the organization, whereas peers were specifically concerned with weekly progress. The peers, specifically, provided weekly informal feedback because of their daily interactions with the participant. Finally, the lead investigator provided feedback on the action plan, namely whether this plan was complete and sufficiently specific to allow participants to make the desired progress. In sum, the 10 feedback interviews each were held with three different evaluators (one's mentor, one's peer, and the lead investigator). The mentor and the lead investigator also evaluated the portfolio document in each time-period. This evaluation mostly was directed toward the concreteness of the proof of (in) competence. As an example: if the participant would have written down "on February 21st, I shared information with my team," during the interview the mentor could ask: "How did your team members react, and what was your response to that reaction?" The feedback given in this phase could be added to the portfolio document by the mentor and by the participant. In this way, participants remained reflecting on their activities toward the pursuit of their agility goals, which according to Kluger and DeNisi's (1996) framework should help keeping the locus of attention to the task and consequently should lead to agility improvement.

4.2.6 | Self-rated and other-rated agility

After 2.5 years, divided in 10 time periods of 10 weeks, the outcome of the portfolio process was measured by means of self-reported and other-reported agility (phase 6, Figure 1). For this purpose the same scale was used as in

phase 1. It was established whether one's agility had improved, whether the self-rated and other-rated agility had become more similar, and whether the improved agility goals were still in line with the organizational agility goals.

4.2.7 | Ten periods of 10 weeks

All in all, the portfolio process had a clear structure of six phases: (a) establish self-rated and other-rated agility, (b) set SMART agility goals, (c) develop an action plan, (d) collect proof of (or lack of) competence, (e) ask for feedback and reflect upon that feedback, and (f) establish self-rated and other-rated agility (the outcome of the process). The 10 time periods each lasted 10 weeks and totaled up to 2.5 years. During the first 10-week period, self-rated and other-rated agility was established (phase 1), participants set their agility goals (phase 2) and constructed their personal action plans (phase 3). This information was written down in the portfolio document (1,000–1,200 words). During the second 10-week period, participants collected proof of their (or lack of) competence (phase 4), were assessed by their mentor and their peer, and reflected on themselves (phase 5). From the second period onwards, in each 10-week period participants collected evidence for their competence (phase 4) and worked on their portfolio documents. In each 10-week period, they received face-to-face feedback from their mentors, peers, and lead investigator on their (lack of) competence, their agility-related goals and their (evidence of) competence. On the basis of this feedback, at the end of each 10-week period, they reflected upon themselves by writing a 1,000-to-1,200 word text in their portfolio document.

At the end of the first year, it was established for each participant whether the two agility goals were reached and still in line with the organizational agility goals. If so, a participant could start with working toward two new agility goals for the second year. After the second year, similarly, a feedback meeting was held to assess whether a participant had made sufficient progress on the agility goals. Participants who determined that they had made sufficient progress toward their learning agility goals could choose to work toward new agility goals. If insufficient progress had been made, they would retain the current learning agility goals.

At the end of the 2.5 year period, the participants, their mentors and colleagues once again filled out the agility questionnaire and the participants were asked to write an extensive reflection (1,200 words) on their personal development and current standing in relation to their agility goals. Overall, after the 10 (10-week) periods during a total of 2.5 years, an employee's written portfolio (written product) encompassed approximately 12,000 words on average (excluding the results of the agility questionnaires and attachments of proof of competences).

4.3 | Measures

4.3.1 | Agility

The self-rated agility scale was constructed by the lead author of this article in collaboration with Cubiks (2014). The scale was designed after carefully reviewing the available literature on agility (e.g., Alavi et al., 2014; Pulakos et al., 2000). The scale consists of two subscales: adaptive agility (17 items; e.g., "I offer solutions when things go wrong") and proactive agility (14 items; e.g., "I apply proactively what has been learned to new situations"). All items are scored on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Alpha values were 0.87 for both adaptive and proactive agility. The intercorrelation between the two scales was $r = 0.36$ (Cubiks, 2014).

A rephrased version of the self-rated agility scale formed the other-rated agility scale. For example, the statement "I offer solutions when things go wrong" was changed in to "He/She offers solutions when things go wrong." Alpha values were 0.88 for both adaptive and proactive agility. The intercorrelation between the scales was $r = 0.39$ (Cubiks, 2014). Note that alpha values and intercorrelations presented here originate from an earlier large-scale study by Cubiks.

4.4 | Analysis

Data were analyzed using the (clustered) Wilcoxon signed rank test to test for significant differences (Rosner, Glynn, & Lee, 2006). The Wilcoxon signed rank test is regarded as more powerful to *t*-tests in most cases (Blair &

Higgins, 1985; Sawilowsky, 2005). Blair and Higgins (1985) state that even in those cases in which a *t*-test shows more power, the difference is unremarkable. Given our sample size, a significance level (two-sided) of alpha = 0.05, and an expected medium effect size (rank coefficient *r*) (Cohen, 1988), the power of the Wilcoxon test = 0.78—derived from The Wilcoxon Signed-Ranks Test Calculator, n.d. —which virtually equals the typically advised power of 0.80. The first measure (T0) was taken at the beginning of the portfolio process (prior to) goal setting in the portfolio, and the second at the end of the portfolio process (T1), 2.5 years later. We reassessed self-rated and other-rated adaptive and proactive agility 1 year after T1 (at T2), to be able to establish the degree of stability of any increased (agreement on) agility.

5 | RESULTS

Table 1 reports the results related to our three hypotheses, which are discussed later.

Hypothesis 1 stated that self-rated adaptive and proactive agility would increase as a result of using the portfolio process. The Wilcoxon signed rank test analysis showed significant differences between T0 and T1 in the expected direction: self-rated adaptive and proactive agility scores both were significantly higher at T1 (z = 1.99, p = 0.04, and r = 0.30, and z = 1.98, p = 0.04, and r = 0.32, respectively). Therefore, hypothesis 1 was supported.

Hypothesis 2 stated that other-rated adaptive and proactive agility would increase as a result of using the portfolio process. The Wilcoxon signed rank test analysis showed significant differences between T0 and T1 in the expected direction: other-rated adaptive as well as proactive agility scores were significantly higher at T1 (z = 2.43, p = 0.02, and r = 0.28, and z = 2.45, p = 0.02, and r = 0.30, respectively). Therefore, hypothesis 2 could also be supported.

Hypothesis 3 stated that self-other agreement about adaptive and proactive agility would increase as a result of using the portfolio process. The Wilcoxon signed rank test analysis showed significant differences between self-rated and other-rated adaptive as well as proactive agility scores on T0 (adaptive and proactive difference equaled 0.80 and 1.06, respectively, with z = 2.06, p = 0.03, and r = 0.31; z = 1.97, p = 0.04, and

TABLE 1 Results for self-rated and other-rated scores of adaptive and proactive agility, based on (clustered) Wilcoxon signed rank test analyses, including means and standard deviations (N = 32 employees)

				Clustered Wilcoxon signed rank test analysis	
	T0	T1	T2	T1–T0 difference scores (H3)	T2–T0 difference scores
Adaptive agility				*W*c,s = 1.78; *p* = 0.04	*W*c,s = 1.81; *p* = 0.05
Self-rating	*M* = 1.98; *SD* = 0.21	*M* = 3.77; *SD* = 0.41	*M* = 3.79; *SD* = 0.36	*z* = 1.99; *p* = 0.04 (H1)	*z* = 1.99; *p* = 0.04
Other-rating	*M* = 1.10; *SD* = 0.25	*M* = 3.27; *SD* = 0.43	*M* = 3.31; *SD* = 0.41	*z* = 2.43; *p* = 0.02 (H2)	*z* = 2.43; *p* = 0.02
Proactive agility				*W*c,s = 1.98; *p* = 0.03	*W*c,s = 1.86; *p* = 0.04
Self-rating	*M* = 2.20 *SD* = 0.23	*M* = 3.78 *SD* = 0.39	*M* = 3.78 *SD* = 0.37	*z* = 1.98; *p* = 0.04 (H1)	z = 1.98; *p* = 0.04
Other-rating	*M* = 1.14 *SD* = 0.27	*M* = 3.22 *SD* = 0.46	*M* = 3.25 *SD* = 0.44	*z* = 2.45; *p* = 0.02	z = 2.45; *p* = 0.02

Note. The first measure (T0) took place at the beginning of the portfolio process (prior to) goal setting in the portfolio, and the second at the end of the portfolio process (T1), 2.5 years later. The third measure (T2) occurred 1 year after T1. Effects for all hypotheses were of medium size, ranging from (rank correlation) r = 0.28 to r = 0.33. Similarly, for the T2–T0 differences, the effects varied between (rank correlation) r = 0.29 and r = 0.32. There were no significant differences between the T1-results and T2-results, which can also be seen prima facie.

r = 0.33). The Wilcoxon signed rank test analysis showed no significant difference between self-rated and other-rated adaptive and proactive agility scores on T1 (adaptive and proactive difference both equaled 0.50; z = 1.28, and p = 0.73; *ns*).

Next, we used the (clustered) Wilcoxon signed rank test analysis, which showed significant differences between the adaptive as well as proactive mean *difference* scores in the expected direction (Wc,s = 1.78, p = 0.04, and Wc,s = 1.98, p = 0.03, respectively). Therefore, the decrease in differences was significant for both adaptive and proactive agility. In other words, at T0 there was a significant disagreement between self-rating and other-rating scores of adaptive and proactive agility, whereas there was agreement between self-ratings and other-ratings on adaptive and proactive agility at T1, with the results showing a significant increase in agreement from T0 to T1. Consequently, hypothesis 3 could be supported.

Table 1 presents the findings for all hypotheses. This table also shows the results for the T2-assessment. From the table, it can be derived that there is no change from T1- to T2-scores, implying stability of the effect of the portfolio on the agility results. Figure 2 visualizes the results for the hypotheses.

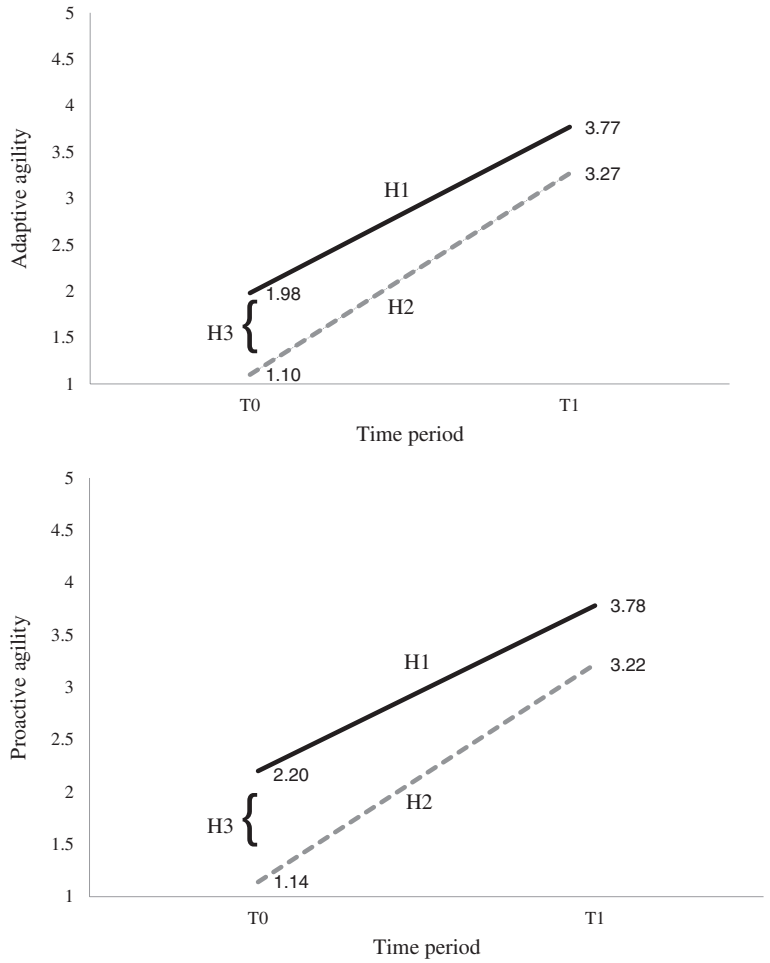

FIGURE 2 The visualized results of hypotheses 1, 2, and 3. *Note.* hypothesis 1 (H1: solid line) = self-rated agility, hypothesis 2 (H2: dashed line) = other-rated agility, and hypothesis 3 = self-other agreement (differences between self-rated and other-rated agility)

6 | DISCUSSION

The aim of the present study was to investigate the implementation of the effectiveness of a development portfolio as an agility facilitator and an assessment tool for workplace learning. More specifically, based on standard goal-setting theory (Locke & Latham, 2006), the aim of the study was to investigate the portfolio process of goal setting in a context of organizational change with the intention to increase employees' agility behavior and self-other agreement on employees' agility. In particular, we investigated how agility goal setting, feedback, and reflection upon the provided feedback were used in organizations to assist employees in adapting to change and proactively initiating change in ways that are productive and meaningful to them.

We believe the portfolio process that was used was a prototypical example of what Pulakos et al. (2015) refer to when they discuss the notion of experiential learning. The reason is that experiential learning denotes learning-on-the-job: The steps of setting goal setting, action plans, and feedback are fully embedded in employees' day-to-day work and behaviors. Our finding that thorough, long-term, and deliberate practice toward more adaptive and proactive agility is effective clearly supports Pulakos et al.'s (2015) idea that experiential learning is highly relevant for complex behavior change, in the case of developing one's agility at work. Such a practice needs to be systematic, structured and driven by rigorous feedback and the possibility to reflect on one's experiences and iterative feedback. As was demonstrated by the work of Anseel et al. (2009), the effects of feedback are particularly effective if there is ample opportunity for reflection. In our study, such opportunity was created by the need for the employees to build up a portfolio document during 2.5 years.

Experiential learning is strongly related to the sociocultural theory of Vygotsky (cf. John-Steiner & Mahn, 1996). Vygotsky's theoretical work captures the idea that learning results from very interactive involvement in a community of practice. In the present case, this community consisted of mentors and colleagues at work. We, therefore, expected and were able to confirm that the use of the development portfolio would have a clear positive influence on employees' agility goal setting and self-other agreement about employees' agility.

The first and second hypotheses, namely that self-rated (Hypothesis 1) and other-rated (Hypothesis 2) adaptive and proactive agility performance would increase as a result of using the portfolio process, were both supported. Both agility scores were significantly higher at T1 than at T0. Hypothesis 3 stated that self-other agreement about employees' adaptive and proactive agility would increase as a result of using the portfolio process. This hypothesis was also supported. Moreover, a reassessment of self-rated and other-rated agility at T2, which took place 1 year after T1, supported the stability of the results at T1. Therefore, it can be concluded that agility goal setting and giving feedback in a development portfolio helped improve employees' agility and self-other agreement about adaptive and proactive agility of employees without relapsing over a period of 1 year. This latter finding, which demonstrates that portfolio use may help improve self-other agreement, forms an encouraging point when related to a meta-analysis by Harris and Schaubroeck (1988), given that this meta-analysis, focusing on self-supervisor, self-peer, and peer-supervisor rating agreement, concluded that self-other agreement does not always occur.

Our results fundamentally support standard goal-setting theory (cf. Locke & Latham, 2006), which focuses development of an action plan to motivate and guide people toward a goal. To our view, the mentor–mentee relationship over a long period formed one of the keystones toward the agility goals. Commitment and dedication of both mentee and mentors were enhanced because mentees chose their mentors (mostly their supervisors) and because mentors were supportive more than demanding, which fits with Dutch egalitarian culture. In line with the bases of goal-setting theory, we more specifically used the classic feedback intervention theory by Kluger and DeNisi (1996) as an inspirational framework to build up the design of our portfolio process. Our findings are supportive of their theory. This theory stresses the significance of goal setting and keeping the locus of attention to the task (directing attention to the task and committing to the goal by means of an action plan and collecting proof for [or lack of] competence) for an intervention to be able to result in improved performance. Furthermore, the theory stressed that task complexity, such as in the present study trying to develop employee agility (versus a simple task such as memorizing a sentence)

cannot do without long-term interventions. These aspects of goal setting, attention to the task, and a long-term perspective were utilized in the portfolio process, which included recurring feedback via interviews each 10 weeks over a period of 2.5 years. Because these factors are regarded to be significant in Kluger and DeNisi's theory, and could be utilized in the portfolio process, we were unable to disentangle the separate effects of each on improved agility. Nevertheless, we believe an attempt to unravel these effects is not needed, as a good portfolio process entails all of them (e.g., Kicken, Brand-Gruwel, Van Merriënboer, & Slot, 2008).

Our findings also confirm several dispersed ideas. First, our results support the notion of DeNisi (2011) that clear goal setting helps to increase desired behavior oriented to achieving one's goals. Additionally, the results support DeNisi's idea that complex behavior such as agility will become clearer in the process of feedback in the sense that agreement between oneself and others on agility increases. Furthermore, the findings are in line with a similar idea of Kicken, Brand-Gruwel, Van Merriënboer, and Slot (2008) that behavior in an action plan in a portfolio increases insights for employees themselves and for others. In our study, goal commitment by means of the portfolio process helped increase agility-related behavior (self-rated and other-rated). This outcome also supports research by Seijts and Latham (2000), who investigated the role of goal commitment for task performance. An essential way to view the portfolio is that it stimulates strong reflection on oneself, through permanent experiential activities on the job and by looking through the eyes of others (mentors, peers) thus leading to more self-awareness. Reflection and self-awareness may have been one of the ways leading to an increased self-rated agility. Hosein and Yousefi (2012), for instance, also reported that self-awareness has a great role in employee agility.

From yet another angle, one can view the portfolio process as an HRD tool in a HRM strategy. In this light, our results could be seen as supporting outcomes reported by Mooghali et al. (2016), who argued that HRD practices could have a significant and positive impact on agility. Our work implies that one way - perhaps not the only way - is long term, structured, and deliberate practice embedded at work and involving colleagues and supervisors in collective training.

6.1 | Practical implications

This study provides managers and HRD departments with new insights into the dynamics of management agility goals of their employees via the use of a portfolio process. In this process, the individual employee determines his or her agility goals, which are reinforced through the action plan. Our findings show clear evidence for the usefulness of a portfolio process to enhance employee agility: This process may lead to an increase in visibility and consensus about employees' agility and to an increase in employees' agility, which is essential within the context of organizational change.

The present study's portfolio intervention involved a long-term investment of several years. Given the complexity of agility, which consists of a collection of a diversity of behaviors and activities, the portfolio intervention to our view implies a long-standing effort. Although we were not able to investigate shorter portfolio processes than the period of 2.5 years in the present study, we believe agility effects will hardly come about or that they will relapse when short-time frames (e.g., shorter than a year) will be used. Therefore, a long-term view of learning and development is needed in HR.

As a next practical implication, when HRD interventions are focused on stimulating employee agility, this may imply that HRD in parallel needs to strengthen employees' resilience to counter any potentially increased stress levels occurring with higher agility levels (e.g., Braun et al., 2017). In other words, a focus on agility should also imply the well-being of workers within the organization. We would even want to argue that interventions targeted at enhancing agility need to also be able to increase the employees' so-called PGI. Meyers et al. (2015) defined PGI as proactively initiating and stimulating one's personal development. They stated that PGI is critical to employees' success, especially when the person is trying to improve upon his or her personal strengths. Such a perspective could mean that HRD may want to use the portfolio as a training method on the workplace to stimulate employees' agility and PGI simultaneously.

Furthermore, the focus of HR also needs to be on individual differences related to the learning of agility. There will be ceiling effects for some employees who are almost unable to cope with becoming more agile at work, whereas others perhaps should not automatically be stimulated toward highly agile behavior, for instance when their risk propensity is high (e.g., Glaser et al., 2016).

Finally, from the organization's perspective, better selection procedures may need to be developed to recruit applicants who show high agility. Employee agility, in particular learning agility, has been shown to also positively predict career advancement up and above job performance (Dries, Vantilborgh, & Pepermans, 2012), implying that good recruitment practices may also show good career advancement results.

6.2 | Strengths, limitations, and directions for future research

Several strengths and limitations of the present research need to be mentioned, as these relate to important directions for future research.

Regarding the strengths of our research, the following points can be made. First, we regard the use of the developmental portfolio as one of the strengths of this study. Even though developmental portfolios are very elaborate and time-consuming and, therefore, expensive ways of conducting a study, we believe that they are able to enrich and deepen our understanding of complex behavioral interventions. Comparable to diary study methodology (Bolger, Davis, & Rafaeli, 2003), portfolios are able to trace enacted - in the present case agility-related - behavior while this unfolds on a regular basis and displays itself in daily work situations. Reflections on one's own behavior in a portfolio together with reflections provided by others during long periods of time, in our case during 2 years, form behavioral traces which help explain the process of improving one's work-related agility. Such narrative information helps to interpret survey scores and to our view is a much-needed addition to the typical survey methodology. Future improvements in text mining, in which free narratives form input for algorithms (Kobayashi, Mol, Berkers, Kismihók, & Den Hartog, 2018), may even more enhance development portfolio usage as research methodology.

Another strength of this research is that it was conducted in the Netherlands. Most of the research on goal setting and feedback seeking has been conducted in North America (e.g., meta-analysis by Anseel, Beatty, Shen, Lievens, & Sackett, 2015). Furthermore, as far as we know, only a study by Kicken, Brand-Gruwel, and Van Merriënboer (2008) and Kicken, Brand-Gruwel, Van Merriënboer, and Slot (2008) on the development portfolio was conducted in the Netherlands, yet with a focus on the educational (versus the organizational) context. A contribution of the present study, therefore, is that feedback seeking as related to goal setting could be tested by means of the development portfolio in an under-researched setting.

A further strength of the present research is its longitudinal nature over a relatively long period of time, which allowed us to attain several important insights that would not have been possible through other approaches. One insight such an approach offers is that the whole process of becoming more agile behaviorally is about acquiring a complex behavior. One may think of learning to be actively involved in meetings at work in which people have unclear and potentially conflicting interests and roles, versus learning more simple skills such as making power point slides. The process, therefore, is time consuming, effortful, and needs extensive feedback and relearning (cf. Anseel et al., 2015). This process could not have been captured in nonlongitudinal designs. In a similar vein, DeNisi, Wilson, and Biteman (2014) remark that HR research to a large extent lacks longitudinal designs, adding to enlarging the theory-practice divide in this field. Another insight to our view is that the behavioral change of employees cannot work without the involvement of other colleagues, who also need to perceive the change. A longitudinal design facilitates the possibility that others also see the change.

Regarding the limitations, first, our data came from a single organization and involved a relatively small sample. Therefore, future research needs to ascertain the generalizability of the current findings across a range of agile employment contexts and larger samples. Some organizations, for instance, may hardly experience many and unexpected environmental changes and, therefore, are less interested in a very agile workforce. Second, our sample consisted of highly educated workers. We believe it is necessary to study a portfolio intervention among workers with a

lower education, as such an intervention could be a bigger challenge among such workers. This limitation relates to a more general issue within HR-related research, which is in need of more studies among lower educated (blue collar) employees. Third, recently, Urbach and Fay (2018) found that supervisors with a strong power motive were least likely to support their employees' creative ideas when these would threaten their own influence and when these ideas were perceived to serve their employees' own striving for power. Strong power motives among supervisors thus may influence whether they want their staff to be agile. Therefore, the involvement of direct supervisors as the most obvious assessors of their own staff needs to always be considered beforehand by the organization. This possibility could not be investigated in the present study, and can be regarded as a limitation of our research. Fourth, an important recommendation for future research is to focus more in depth on the quality of the mentor–mentee relationship. Our study took place in a Dutch egalitarian cultural context, in which mentees voiced clearly about their goals, action plans, and other issues. They were assertive and were doing most of the speaking, while their mentors (their supervisors) mostly were listening. It is needed to see whether our findings would generalize to other cultures in which mentor–mentee relationships may be less egalitarian and mentees less assertive. It may be speculated that when a mentor is in a more dominant position, agility behavior may be stimulated even more. Similarly, more research is dearly needed on cross-gender and cross-race aspects of the mentor–mentee relationship and how variations in the gender and race composition of this relationship may affect its outcomes. Fifth, the effects of enhanced employee agility need to be studied: to what extend will a heightened agility lead to more organizational commitment, less turnover, a higher well-being, better work performance, and better organizational performance? More studies establishing the link between agility and work outcomes are needed.

Finally, the current longitudinal research implied that participants were followed during two-and-a-half years, using a pretest–posttest design. However, we did not have a control group of participants available who did not make use of a portfolio. A design with a control group would have been more robust to be able to exclude alternative explanations for the increase in agility and in self-other agreement across time, such as maturation and history (cf. Robson, 1993, pp. 100–101). Yet, we believe it implausible that these results were caused by other factors, because we were able to confirm the stability of the increased agility and self-other agreement on agility in our sample by reassessing agility one year after the portfolio process intervention had been ended. This reassessment provided the same findings on agility as did the posttest. Nevertheless, future research should try to incorporate an experimental design with a control group if this is feasible, so that alternative explanations for the results can be entirely excluded.

7 | CONCLUSION

The present study showed that the development portfolio is a training method that can increase employee agility over a longer period of time, as it allows both the target (the employee) and the assessor (e.g., mentors and peers) to gain insights into the underlying processes involved in expressing agility behaviors. Making the process to achieve agility goals visible by means of the portfolio was able to improve self-other agreement on employees' agility. Therefore, improved agility among employees can help facilitate their own, as well as their organizations', effectiveness.

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