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Using workplace changes as learning opportunities: Antecedents to reflection in professional work

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Antecedents to reflection in professional work

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Abstract

Purpose – This paper aims to contribute to an understanding of how individual characteristics and perceived contextual conditions shape reflection in professional work, particularly in workplaces that provide a variety of work experiences related to changes. The authors examine the effects of personal initiative, self-efficacy and perceived psychological safety in work relations with colleagues and supervisors on individuals' reflection at work.

Design/methodology/approach – A sample of 84 client advisors who had recently been affected by major changes in retail banking workplaces participated in the study. The participants completed a questionnaire consisting of instruments to map their self-rated personal initiative, self-efficacy beliefs, reflection at work and perception of psychological safety in work relations with colleagues and supervisors. The data were analysed by performing correlation analyses and hierarchical regression analyses.

Findings – The results revealed that both individuals' personal initiative and self-efficacy significantly positively affect reflection at work. An individual's perception of psychological safety – particularly among peers – positively predicts reflection.

Originality/value – This paper enriches the research on reflection in professional work, particularly against the backdrop of workplace changes. This is done by emphasising the power of individuals' proactive role and initiative-taking work behaviour; positive beliefs in their own capabilities, e.g. managing the various opportunities involved in workplace changes; and their perception of a psychologically safe environment within a work group that is characterised by interpersonal trust, mutual respect and supportive cooperation.

Keywords Reflection, Workplace learning, Self-efficacy, Personal initiative, Psychological safety, Workplace change

Paper type Research paper

Introduction

Change and adaptation to change are central to considerations of work and workplace learning. From an educational perspective, workplace changes constitute situations – mostly perceived by professionals as novel and challenging – that afford work-related learning by requiring individuals to adapt to new work tasks, alter work routines, develop new work processes and acquire necessary new knowledge and skills (Bauer and Gruber, 2007; Billett, 2004). Changes are omnipresent in most contemporary workplaces – evolving, for example, from new products, technologies and regulations – and affect professionals' work performances, professional knowledge and professional roles (Hetzner *et al.*, 2009).

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Although changes are often unexpected and unwelcome, they provide professionals rich opportunities for learning in the workplace (Antonacopoulou, 2004). However, experiencing a workplace change does not automatically lead to learning. Professionals differ in how they approach learning opportunities involved in a workplace change depending on their personal characteristics – such as their attitudes and beliefs, educational and professional backgrounds, age group, organisational positions and professional roles – and on many contextual factors related to the workplace environment, such as the support of colleagues and supervisors, work conditions, etc. (Billett, 2008; Tynjälä, 2008; van Daal *et al.*, 2014).

Recently, workplace learning has received much attention in research that resulted in diverse concepts, models and theories (Tynjälä, 2008). For example, Høyrup and Elkjaer (2006, p. 29) consider workplace learning to be "everyday learning processes" that "weave into daily work processes". They stress that the most important sources of learning in the workplace are the challenges of the work itself. Thus, learning in the workplace is embedded in everyday work processes and predominantly evolves from the interaction between individuals and the experiences they encounter in their workplaces (Billett, 2008; Hoekstra *et al.*, 2009). Tynjälä (2008, p. 132) emphasises that learning in the workplace can be characterised as "creating new modes of action, new practices, new procedures and new products". How professionals learn in the workplace can be summarised as follows:

- by doing the job itself;
- through cooperating and interacting with colleagues;
- through working with clients;
- by tackling challenging and new tasks; and
- by reflecting on and evaluating one's work experiences (Tynjälä, 2008).

In Kolb's (1984) theory of experiential learning – in which reflection on experiences is an integral element – learning is depicted as a cyclical process of four stages that give meaning and purpose to experience:

(1) an encounter with a concrete experience;
(2) reflective observation;
(3) abstract conceptualisation; and
(4) active experimentation.

Reflection plays a valuable role in supporting learning in the workplace because professionals extend their knowledge through a conscious cognitive process to make sense of everyday work experiences (Antonacopoulou, 2004; Boud *et al.*, 2006; Cunliffe and Easterby-Smith, 2004; Høyrup, 2004; Høyrup and Elkjaer, 2006), such as encountering the consequences of workplace changes. Various concepts of reflection are present in the literature. Most of them have in common the premise of transforming experience into learning by reviewing, evaluating, interpreting and making sense of one's actions, attitudes and beliefs to develop new understandings and appreciations, which then provide a basis for future action (Boud, 2001; Mann *et al.*, 2009; Nilsen *et al.*, 2012; Raelin, 2001). Boud (2001) defines reflection as a process of internally examining

and exploring an issue of concern triggered by an experience that results in a changed conceptual perspective, which is key to learning from experience. Schön (1983, 1987) claims that a reflective practitioner uses reflection both *in-action* (in practice) and *on-action* (after practice). In particular, on-action reflection involves a cognitive process in which professionals look back on their experiences and actions, explicitly examining them. Based on this viewpoint, Kauffeld *et al.* (2007) developed a competence-reflection inventory in which reflection is conceptualised as retrospectively examining and analysing one's own experiences and actions in the workplace and developing new strategies for future action.

In this article, we refer to reflection in professional work as a future-oriented but retrospective cognitive-affective process that involves awareness and review of workplace experiences, along with a critical analysis of their causes and effects that leads to new understandings, appreciations and conclusions to guide future action and behaviour (Boud, 2001; Driessen *et al.*, 2008). Thus, a reflection process implies intentionality and consciousness; emotions and cognition are closely interrelated and interactive. Not all professionals find it easy to practice reflection, as it necessitates certain cognitive and affective skills. Duke and Appleton (2000, p. 1557) emphasised "that the ability to reflect is developmental and that some reflective skills are harder to achieve than others". Key skills involve, for example, the ability to describe an experience, identify salient features of it, analyse the feelings it evokes, analyse it using different sources of knowledge, analyse the contextual factors that might have influenced it, synthesise existing knowledge with the new knowledge gained from the reflection and raise implications for future practice (Duke and Appleton, 2000).

Reflection is unlikely to occur in familiar situations in which professionals apply routine work practices. In contrast, new, unexpected or challenging situations trigger reflection processes because they afford professionals the chance to extend the knowledge necessary to manage the situation's demands (Mann *et al.*, 2009). Thus, perceived disturbance, difficulty, ambiguity and uncertainty function as the starting points for reflection. Workplace experiences that disturb work routines, inhibit familiar courses of action and, thus, lead to situations of uncertainty prompt reflection (Høyrup and Elkjaer, 2006; Nilsen *et al.*, 2012). Changes in the workplace provide for such phenomena.

Therefore, we conducted an empirical study at workplaces recently affected by major changes that resulted in various daily challenges for employees. The participants were client advisors from retail banking departments in branches of a German bank. The field of retail banking is, by nature, dynamic, because new products, technologies and regulations that demand fast responsiveness to change and a high need for learning continuously transform work requirements (Antonacopoulou, 2004; Hetzner *et al.*, 2009). The client advisors involved in our study had recently confronted a significant workplace change caused by a far-reaching modification of the advisory concept and the implementation of new advisory software. As the bank's management provided only limited support through formal trainings, the client advisors were required to actively engage in informal learning activities in the workplace. In response to the workplace change, they had to develop new work processes and acquire extensive new knowledge and skills, which demanded they cooperate and coordinate with peers and supervisors.

Antecedents to reflection in professional work

Although the literature often discusses the significance of reflection, especially within the occupational fields of healthcare and teaching (Bruno *et al.*, 2011; Mann *et al.*, 2009), research is still needed that continues to explore the conditions that shape reflection in professional work. We propose that – particularly in workplaces that provide a variety of work experiences related to changes – relevant preconditions for reflection involve:

- an individual's positive belief in his own capabilities to cope with challenging situations;
- the individual's proactive and self-starting approach towards work and learning; and
- a work environment that is perceived as safe and supportive.

Hence, the purpose of the present study is to contribute to an understanding of how individual characteristics and perceived contextual conditions impact reflection in professional work. To that end, we examine the effects of self-efficacy, personal initiative and perceived psychological safety in work relations with colleagues and supervisors on individuals' reflection at work.

Self-efficacy

Self-efficacy refers to belief in one's capabilities to successfully cope with difficult demands and challenging situations by organising and executing courses of action to attain the required performance and desired results (Bandura, 2012). An individual's perceived self-efficacy has an important impact on human action and performance – especially in new and ambiguous situations – as it determines the initial decision to perform an action or behaviour, the amount of effort expended on that performance and persistence in the face of obstacles (Speier and Frese, 1997). Individuals' self-efficacy beliefs influence whether they think in self-enabling ways, and, thus, how well they motivate themselves and persevere in the face of difficulties (Bandura, 2012). Consequently, self-efficacy plays a major role in how professionals approach work-related goals, tasks and challenges, and it influences choice, effort, coping behaviour and persistence. Therefore, it is commonly considered an important motivational tool leading to various work-related outcome variables. Numerous studies in a range of occupational settings (e.g. clinical, educational and organisational) have provided empirical evidence that self-efficacy predicts and improves work performance, behaviour and learning (Elias *et al.*, 2013; Sousa *et al.*, 2012). Research conducted in work settings, and in the context of workplace learning, has shown that self-efficacy serves as a precondition to work-related learning (Elias *et al.*, 2013). This relationship is plausible because of self-efficacy's motivational aspects; many work settings offer professionals opportunities to take responsibility for their own learning and for the acquisition of new knowledge and skills. Elias *et al.* (2013) reported that professionals with high self-efficacy perform better on tasks that require acquiring new knowledge and skills than do professionals with low self-efficacy. Professionals who believe in their capabilities will more likely be motivated to succeed at learning and to expend more effort and persistence in learning activities. Van Daal *et al.* (2014) provided empirical evidence that self-efficacy positively predicts professionals' participation in learning activities in the workplace, such as informal interaction with colleagues, self-regulation of practice and experimentation.

Although various empirical studies examine the relevance of self-efficacy to learning and work performance, research on how self-efficacy relates to reflection in professional work is scarce. For example, van Woerkom (2006) provided survey results that revealed the strong positive impact of self-efficacy on critical reflective working behaviour. The present study aims to address this research gap by examining self-efficacy's effect on reflection in the workplace within the field of retail banking, where change and uncertainty are permanent work conditions.

Self-efficacy beliefs are conceptualised and assessed either as general or domain-specific. Whereas domain-specific self-efficacy is chiefly related to given matters, themes or particular situations (Elias *et al.*, 2013), a general sense of self-efficacy refers to a "global confidence in one's coping ability across a wide range of demanding or novel situations" (Schwarzer *et al.*, 1997, p. 71). As workplace changes required the participants of our study to handle various new and challenging situations, we opted to apply the generalised self-efficacy concept. We hypothesise the following:

H1. Generalised self-efficacy has a positive effect on reflection.

Personal initiative

Workplace changes are primarily externally driven and often occur as a consequence of decisions made at a higher level of the hierarchy within an organisation. These changes constitute situations for which most professionals' existing knowledge and skills are inadequate, affording these professionals opportunities to actively participate in the change process through developing and integrating new knowledge, perspectives and work practices (Bauer and Gruber, 2007; Hetzner *et al.*, 2009). We propose that the way in which individuals engage in the learning affordances involved in a workplace change depends on the existence of proactive and initiative-taking work behaviour. In this context, we refer to the concept of personal initiative, which is defined as a self-starting and proactive work behaviour involving persistence in overcoming the difficulties and setbacks that arise in the pursuit of a goal (Fay and Frese, 2001). Personal initiative is particularly important in situations involving change; professionals who show a high level of initiative are more likely to participate in workplace changes, proactively acquire new knowledge and skills, alter work routines despite an increased likelihood of making errors, develop new strategies and actively and persistently solve problems (Baer and Frese, 2003; Fay and Frese, 2001). Through a proactive, self-starting approach towards work and work performance, a professional showing personal initiative aims to improve her own work methods and procedures and to develop personal prerequisites for meeting future work demands and challenges (Den Hartog and Belschak, 2007; Searle, 2008). Therefore, personal initiative implies an active search for learning opportunities in the workplace and a willingness to engage in them.

From a workplace learning perspective, personal initiative is a concept that contributes to an understanding of how professionals actively approach work and learning, involve themselves in opportunities provided by workplace change and deal with uncertainties, obstacles and setbacks. Through personal initiative, professionals make their own contributions to a change process, thereby taking responsibility for their own work performances, learning and professional development. Lohman (2006) provided empirical evidence to suggest that initiative enhances professionals' motivation to participate in activities – such as reflection on one's own actions – that promote learning in the workplace. The findings reported by Lohman (2006) support our

theoretical assumption that personal initiative serves as an important precondition of a professional's reflection related to work. Consequently, we predict the following hypothesis:

H2. Personal initiative has a positive effect on reflection.

Psychological safety

Reflection is inherently related to the context in which it takes place. It is the work context that provides workplace experiences – such as the consequences of workplace changes – that invite professionals' reflection processes. This context shapes how the individual responds to these invitations by providing work conditions that are either facilitative or inhibitive (Billett, 2004). In this paper, we propose that the quality of the support an individual receives from colleagues and supervisors in the workplace influences reflection. Accordingly, we focus on the individual's perception of psychological safety in work relations with colleagues and supervisors.

Psychological safety is defined here as the individual's perception that the work group is a safe environment in which to take interpersonal risks, such as bringing up critical problems or openly admitting an error, without fear of embarrassment, rejection or punishment (Edmondson, 1999). Interpersonal trust, mutual respect and supportive cooperation characterise such a safe environment within a work group, which previous studies found to positively affect learning behaviour (Edmondson, 1999; Seifried and Höpfer, 2013). For example, Seifried and Höpfer (2013) reported three aspects that were crucial to perceived psychological safety:

(1) the support of peers and supervisors in problematic situations;

(2) an intact information flow that facilitates critical discussions; and

(3) supervisors' reactions to problems and failures.

Seifried and Höpfer (2013) also provided empirical evidence suggesting that the quality of the relationship between supervisors and their subordinates facilitates open, trustful interactions and influences individuals' work performance and learning (Seifried and Höpfer, 2013). Kwakman's (2003) survey findings revealed that the support of colleagues strongly influences participation in learning activities in the workplace.

Psychological safety may contribute to motivating and initiating reflection processes because professionals feel safe taking risks and openly discussing, sharing and negotiating work-related experiences or reflection outcomes (Van Woerkom, 2006). This reasoning is in line with Driessen *et al.* (2008), who suggest that practising reflection affords a work environment that provides a safe and open atmosphere. Willingness to interact and negotiate with peers and supervisors for reflection, such as seeking help in reflecting upon change-related work experiences, will likely depend on the perceived psychological safety in work relations with colleagues and supervisors. We address the following hypotheses:

H3a. Psychological safety–colleagues exerts a positive effect on reflection.

H3b. Psychological safety–supervisors exerts a positive effect on reflection.

Method

Participants and procedure

The present study comprised a sample of 84 client advisors who specialised in private customer consulting (50 per cent female, 45 per cent male and 5 per cent not reported) and worked in retail banking departments in branches of a German bank. Their banking work experience varied from 1 to 43 years ($M = 15.8$, $SD = 12.7$), and their ages ranged from 18 to 60 years ($M = 36.5$, $SD = 13.0$). The survey was approved by the bank's management, human resources department and staff council. Participation was voluntary, and anonymity and confidentiality were assured. As the first agenda item at a general staff meeting of the bank's retail banking division, which was attended by 87 per cent of the bank's client advisors, the researchers distributed a 20-minute questionnaire to the participants and collected the questionnaires directly after completion.

Measures

Participants responded to questionnaire items on a Likert-type response scale ranging from 1 (strongly agree) to 6 (strongly disagree). To minimise potential common method variance (CMV) due to using only a self-report survey for data measurement (Brannick *et al.*, 2010; Podsakoff *et al.*, 2003), we clearly labelled the sections of the survey and methodologically separated the study variables on the questionnaire through sections including questions unrelated to this research (e.g. customer orientation in client advisory, job satisfaction). Our analysis of internal consistency showed that Cronbach's alpha of all the questionnaire scales was above 0.70. This indicates good reliability of the measures.

Reflection. We used a Kauffeld *et al.* (2007) instrument to measure participants' self-rated reflection at work. The four-item questionnaire scale refers to individuals' reflection on own work experiences and actions in the workplace. The scale's internal consistency was $\alpha = 0.84$.

Initiative work behaviour. To measure participant's self-rated personal initiative in the workplace, we used a seven-item scale developed by Frese *et al.* (1997). The scale's internal consistency was $\alpha = 0.82$.

Self-efficacy. The measure of generalised self-efficacy contained ten items developed by Schwarzer *et al.* (1997). The scale's internal consistency was $\alpha = 0.89$.

Psychological safety. To assess perceived psychological safety, we adapted established instruments (Edmondson, 1999; Van Dyck *et al.*, 2005): Two four-item scales were constructed to measure the individual's perception of psychological safety in work relations with colleagues (i.e. psychological safety–colleagues) and supervisors (i.e. psychological safety–supervisors). We pre-tested the questionnaire scales with a sample of 49 client advisors working within a financial services institution. The test yielded good reliability indices for both scales (psychological safety colleagues: $\alpha = 0.72$; psychological safety supervisors: $\alpha = 0.81$). The internal consistency estimates calculated in the present study were also satisfactory: psychological safety–colleagues: $\alpha = 0.78$; psychological safety–supervisors: $\alpha = 0.73$. Furthermore, we conducted a confirmatory factor analysis to assess the reliability and validity of the items and the factor structure for the two psychological safety constructs. The results revealed factor loadings for "psychological safety-colleagues" ranging from 0.65 to 0.85 and for

"psychological safety-supervisors" from 0.66 to 0.83. Hence, the measures proved to be of good quality.

Analysis. First, we calculated means, standard deviations and Cronbach's alpha of the study variables. Second, we assessed interrelations between the study variables through a correlation analysis. Third, we controlled for the influence of participants' ages, genders and years of banking work experience on the study variables. Fourth, we tested our hypotheses through hierarchical regression analysis. We predetermined the level of entry for each group of predictors to examine the unique contribution of personal initiative and self-efficacy (Group 1) and perceived psychological safety variables (Group 2) in predicting reflection. We also computed variance inflation factors to test for multicollinearity among the data. As we measured all study variables in a self-report questionnaire, we performed a Harman's one-factor test (Podsakoff and Organ, 1986) to analyse potential threats to validity associated with CMV.

Results

Table I depicts means, standard deviations and correlations of the study variables. We found personal initiative to be significantly positively related to reflection ($r = 0.61$). Generalised self-efficacy also showed a significant positive correlation with reflection ($r = 0.59$). Results further revealed significant positive associations between reflection and both psychological safety variables: psychological safety–colleagues ($r = 0.58$) and psychological safety–supervisors ($r = 0.42$). Apart from a significant negative correlation between psychological safety–supervisors and participants' years of banking work experience ($r = -0.22$), our data revealed no other significant relationships between participants' ages, genders or years of banking work experience and the study variables.

To test our hypotheses, we performed a hierarchical regression analysis (Table II). In the first step, personal initiative and self-efficacy were block-entered, which provided the variance in reflection accounted for in this group of predictors (see "Step 1 model" in Table II). In the second step, the perceived psychological safety variables – psychological safety–colleagues and psychological safety–supervisors – were block-entered into the Step 1 model to verify the amount of variance accounted for by these variables after controlling for the effects of personal initiative and self-efficacy (see "Step 2 model" in Table II).

	Variable	*M*	SD	1	2	3	4	5
1	Reflection	2.33	0.63	–				
2	Personal initiative	2.42	0.69	0.61**	–			
3	Self-efficacy	2.40	0.58	0.59**	0.62**	–		
4	Psychological safety–colleagues	2.44	0.70	0.58**	0.57**	0.52**	–	
5	Psychological safety–supervisors	2.41	0.64	0.42**	0.34**	0.43**	0.44**	–
6	Age	36.5	13.0	0.06	0.08	0.04	−0.06	−0.15
7	Work experience (in years)	15.8	12.7	0.01	0.13	0.11	−0.07	−0.22*
8	Gender	–	–	−0.01	0.16	0.16	0.01	−0.17

Notes: $N = 84$; *$p < 0.05$; **$p < 0.01$ (two-tailed)

Table I.
Means (*M*), standard deviations (*SD*) and correlations

Table II. Summary of hierarchical regression analysis for variables predicting reflection at work

Variable	Step 1 model			Step 2 model			
	B	SE B	β	*B*	SE B	β	VIF
Step 1:							
Personal initiative	0.34	0.09	0.39**	0.24	0.09	0.28*	1.91
Self-efficacy	0.38	0.12	0.35**	0.27	0.12	0.25*	1.87
Step 2:							
Psychological safety–colleagues				0.24	0.10	0.24*	1.71
Psychological safety–supervisors				0.10	0.08	0.11	1.34
R^2		0.45			0.50		
ΔR^2					0.05		

Notes: $N = 84$; ΔR^2 = increase in R^2; *B* = regression coefficient; SE B = standard error of regression coefficient; β = standardised regression coefficient; VIF = variance inflation factors; *$p < 0.05$; **$p < 0.01$

The results of the first step indicated that the variance accounted for (R^2) with the first two predictors equalled to 0.45. In support of *H1* and *H2*, both personal initiative and self-efficacy proved to be significant predictors of reflection. The results of the second step revealed that the change in explained variance (ΔR^2) was equal to 0.05, which was a statistically significant increase in variance accounted for over the Step 1 model ($p < 0.05$). Psychological safety–colleagues proved to be a significant predictor as well, lending support for *H3a*. Psychological safety–supervisors did not significantly contribute to an increase in explained variance in this regression model. Overall, personal initiative, self-efficacy and psychological safety–colleagues explained approximately 50 per cent of the variance in reflection in our model. In light of these results, we confirmed *H1*, *H2* and *H3a*, but had to reject *H3b*. As our analysis revealed a positive correlation between psychological safety–supervisors and reflection, we considered it necessary to perform additional analyses to understand its missing explanatory power in our model. Therefore, as a first step, we estimated a hierarchical regression model in which the perceived psychological safety variables as predictors of reflection were block-entered. We found both predictors statistically significant when the other variables are not controlled for (psychological safety–colleagues: $B = 0.48, \beta = 0.49$, $SE = 0.09$, $p < 0.01$; psychological safety–supervisors: $B = 0.18, \beta = 0.20$, $SE = 0.09$, $p < 0.05$). The explained variance (R^2) was equal to 0.37. In a second step, the personal initiative and self-efficacy variables were block-entered into Step 1 of the model. The second step of this analysis revealed the same results as the original hierarchical regression analysis (see Table II, Step 2).

As all study variables were measured by a single self-report survey, and as we found significant interrelations between the predictor variables, we tested whether the data were potentially affected by multicollinearity and CMV. Generally, data are supposed to be affected by multicollinearity when the predictor variables are highly correlated with coefficients above 0.70 (Elias *et al.*, 2013), which our data did not display. Furthermore, the calculated variance inflation factors ranged from 1.34 to 1.91, which is well below the accepted value of 10. This indicates that multicollinearity did not significantly impact our results. To further test for the potential presence of CMV, we completed a Harman's one-factor test (Podsakoff and Organ, 1986). The results revealed that one factor

accounted for 32.31 per cent of the variance among the variables, suggesting that CMV is not a major issue in the current data.

Discussion

The purpose of this study was to investigate the individual characteristics and perceived contextual conditions – such as personal initiative, self-efficacy and perceived psychological safety – that are assumed to serve as antecedents to reflection in professional work, particularly against the backdrop of workplace changes. Concerning individual characteristics, the results substantiated our expectations by revealing that both personal initiative and self-efficacy are strong predictors of reflection. Regarding perceived psychological safety, results provided support for the significant positive impact of psychological safety–colleagues. The high variance displayed by individual characteristics is in line with Kwakman's (2003) results, which found that individual factors have a greater influence on participation in workplace learning activities than do work-environment factors (e.g. collegial support). Our findings are discussed in detail below.

First, the revealed positive effect of self-efficacy on reflection indicates that professionals who strongly believe in their capabilities to successfully cope with challenging situations at work, such as the occurrence of workplace changes, are more likely to practice reflection than their counterparts with weaker beliefs in their capabilities. For example, employees who feel capable of handling change situations might see a real benefit in reflecting on change-related work experiences. These findings are in line with previous research showing that self-efficacy serves as an antecedent to work-related learning (Elias *et al.*, 2013) and critical reflective working behaviour (Van Woerkom, 2006); it was also found to predict professionals' participation in workplace learning activities (Van Daal *et al.*, 2014).

Second, our findings support the assumed positive impact of personal initiative on reflection, indicating that professionals who are willing to take initiative will more likely perform reflection processes intended to improve work practices and performance. This reasoning aligns with the results of previous studies that found personal initiative to be related to various individual- and organizational-level outcomes, such as performance, innovation and goal achievement (Baer and Frese, 2003; Frese and Fay, 2001). Professionals who feel responsible for their work performance and proactively approach work and learning will more likely reflect on their work, come up with new ideas, solve problems autonomously and implement new work procedures (Frese and Fay, 2001). Therefore, personal initiative represents important work behaviour, especially in new and challenging (change) situations involving a range of learning opportunities. For example, Hetzner *et al.* (2012) provided empirical evidence showing that initiative-taking work behaviour serves as a mediator between individuals' willingness to participate in workplace change affordances (i.e. readiness to change) and their reflection at work. Furthermore, our results revealed a positive relationship between personal initiative and self-efficacy. Previous studies also reported positive associations between these two variables (Bledow and Frese, 2009; Fay and Frese, 2001). Bledow and Frese (2009) noted that professionals with high self-efficacy were more likely to attach a higher likelihood of success to taking initiative. According to Fay and Frese (2001, p. 106):

> […] a person needs to believe in his or her ability to do things competently to show initiative. People who do not believe that they can do a certain action will not attempt to do this action.

Third, our results indicate that perceived psychological safety – particularly in work relations with peers – facilitates professionals' reflection. The finding that psychological safety–colleagues significantly predicted reflection in our equation model, whereas psychological safety–supervisors did not, indicates that the perceived psychological safety in work relations with peers seems to be of higher relevance than supervisor support when it comes to reflection. This might be explained by Den Hartog and Belschak's (2007) argument that the typically frequent and intense contact among members of a work group increases familiarity, and thus serves as a basis for mutual respect, trust and caring. Hetzner *et al.* (2009) reported that study participants mentioned particularly supportive peer behaviours as facilitating their adaptation to workplace changes.

It follows that a work group in which professionals feel safe to reveal their personal thoughts and to share their experiences, insights and even failures, without fearing blame, punishment or retaliation, encourages professionals to pursue reflection. Hetzner *et al.* (2012) provided empirical evidence suggesting that the experience of social relatedness within the work group plays an important role in supporting individuals' reflection processes. Also, Raelin (2002) argued that reflection flourishes in supportive working environments.

Regarding possible interactions between variables assessing individual characteristics (i.e. personal initiative and self-efficacy) and those assessing perceived contextual conditions (i.e. psychological safety), the data revealed positive relationships between perceived psychological safety variables and individuals' self-efficacy. This finding is plausible in that professionals might have stronger beliefs in their own capabilities to manage challenging situations when they work in a safe and open atmosphere where they feel supported by peers and supervisors. This reasoning is in line with recent research finding that professionals' beliefs in their capabilities to handle challenging situations related to errors are positively associated with perceived psychological safety in the workplace (Hetzner *et al.*, 2011; Seifried and Höpfer, 2013). Furthermore, our data revealed a positive relationship between personal initiative and perceived psychological safety. In this context, Baer and Frese (2003, p. 61) – who also found strong correlations between psychological safety and personal initiative – conclude that "it is easier to show initiative when one feels safe in a company or a group to speak up without risking too much".

Limitations and directions for future research

The present study has some limitations. First, our research relied solely on self-reported data. Due to restrictions imposed by the bank's management that constrained time-consuming research, a questionnaire survey seemed most appropriate to assess our study variables and to explicitly test our hypotheses. However, self-report questionnaires tend to measure self-concepts that do not necessarily reflect actual behaviour. Moreover, they run the risk of respondents skewing their responses towards what is most socially desirable (Bledow and Frese, 2009). We are aware that using a self-report questionnaire to measure all the study variables involves the potential risk of CMV. We did take measures to minimise this risk, such as including sections of questions unrelated to our research in the survey

(Podsakoff *et al.*, 2003). Second, the study was based on a relatively small sample size and focused on a particular field of work comprising client advisors specialising in retail banking. Results might be domain-specific, with limited transferable value in non-banking work settings.

Despite these limitations, continued research of individual characteristics and contextual conditions that shape reflection in professional work is important and worthwhile. Directions for future research include:

- mixed-method research designs;
- replication studies comprising extended sample sizes; and
- investigation of additional variables that theoretically serve as antecedents to reflection.

First, we recommend designing mixed-methods research that combines self-report surveys with qualitative research methods (e.g. interviews, observation in the workplace, critical incidents, reflective journals). Furthermore, researchers should use multiple data sources, such as both peer and supervisor ratings. These research designs add additional strengths to the examination of the study's hypotheses and help avoid potential social desirability bias and CMV issues (Brannick *et al.*, 2010). Second, replication studies are needed to confirm and generalise the results obtained in the present study. We advise performing replication studies – eventually comprising larger sample sizes – in different institutions within the banking sector or in other occupational fields where frequent and continuous changes affect the workplace. Finally, future studies should focus on examining additional variables that supposedly serve as antecedents, such as reflective skills and attitudes towards reflection, cognitive ability, learning orientation and motivation, commitment, openness to experience and help-seeking behaviour.

Conclusion and practical implications

This paper provides empirical evidence suggesting that an individual's personal initiative and self-efficacy, along with perceived psychological safety – particularly in work relations with peers – supports reflection in professional work. Our findings hold several practical implications.

First, as work performance that provides opportunities for mastery and experiences in overcoming obstacles raises professionals' beliefs in their self-efficacy (Bandura, 2012), we propose that a successful reflection process – which can lead to new appreciations and decisions on future work practices and behaviours – provides for such mastery experiences and, thus, may positively stimulate self-efficacy beliefs. This has a reciprocal effect: the stronger an individual's self-efficacy, the more likely that individual will practice reflection in the workplace. According to Speier and Frese (1997), high self-efficacy beliefs increase the probability of performing difficult actions, as well as the effort and persistence needed to pursue these actions, whereas professionals with low self-efficacy are more likely to avoid challenging situations and give up when faced with obstacles. This implies that self-efficacy not only influences an individual's perceived capability, motivation and decision to enter a reflection process, but also directs his or her performance and persistence in this process. Therefore,

self-efficacy can be seen as a crucial precondition, facilitator and consequence of reflection. To exploit the value of this reinforcing cycle between self-efficacy and reflection, we recommend providing tools and training activities that stimulate and sustain reflection. Professionals may learn reflective journal-writing, keep learning portfolios or critical incident journals, indulge in "stop and reflect" episodes and attend formal one-on-one or peer-group reflection guided by qualified facilitators (Hetzner *et al.*, 2012; Mauroux *et al.*, 2014). In a study on the use of the smartphone as a mobile reflection tool for learning in the workplace, Könings *et al.* (2013, 2015) provided evidence that modern mobile technology can stimulate reflection: A "reflection app" aimed at registering learning moments during work as short texts, voice recordings, pictures or videos proved useful in stimulating and facilitating reflection processes, increased awareness of learning opportunities and, thus, supported informal learning. All these tools and activities allow for reflection becoming a structured process that produces evidence of the reflection process and its outcomes.

Second, the widespread use of reflection within the workplace affords employees' proactive and self-starting participation. Organisations can benefit from taking professionals' personal initiatives and self-efficacy into account when making recruitment decisions (Elias *et al.*, 2013; Sousa *et al.*, 2012). Furthermore, facilitating work conditions that appreciate and reinforce professionals taking initiative through, for example, personal initiative trainings, promotion systems and appreciations and support from supervisors and top management could result in important payoffs for organisations (Bledow and Frese, 2009; Searle, 2008).

Third, management and human resource developers need to bear in mind the relevance of psychological safety in facilitating professionals' reflection in the workplace. A shared belief about psychological safety within a work group is constructed through every member's contribution, whether it's showing behaviour that is supportive or inhibitive: The more each individual provides support to peers, and cares about, identifies with and feels involved in the work group, the more the work group is perceived to be a safe place in which to take interpersonal risks without fear of embarrassment, rejection or punishment (Den Hartog and Belschak, 2007). Supervisors also enhance the perceived psychological safety within a work group through appropriate leadership behaviour that does not allow blame or punishment, is receptive to open discourse and provides support, feedback and advice to subordinates (Seifried and Höpfer, 2013).

Reflection is a process that "involves looking at what is, in order to see what might be" (Edwards and Nicoll, 2006, p. 123), enabling professionals to consciously make meaning of (change-related) work experiences. Professionals may realise greater benefits from reflection when they believe in their own capabilities, take initiative and operate within a safe and supportive work environment that values and reinforces reflection. Occupational fields that are continuously affected by workplace changes need professionals who are receptive to change, feel capable of dealing with change situations and uncertainty, proactively participate in the change process and engage in learning activities, handle obstacles persistently, are prepared to avoid errors and are willing to continuously improve their work performances and work environments. These workers will be the ones to actively carry workplace changes forward.

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