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Published in:

Journal of Vocational Behavior

DOI:

[10.1016/j.jvb.2017.10.003](https://doi.org/10.1016/j.jvb.2017.10.003)

Publication date:

2018

Document Version

Peer reviewed version

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):

Kunst, E. M., van Woerkom, M., van Kollenburg, G. H., & Poell, R. F. (2018). Stability and change in teachers' goal orientation profiles over time: Managerial coaching behavior as a predictor of profile change. *Journal of Vocational Behavior*, 104, 115-127. <https://doi.org/10.1016/j.jvb.2017.10.003>

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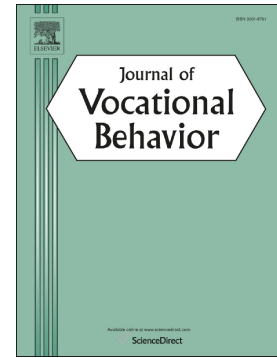
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Accepted Manuscript

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PII: S0001-8791(17)30125-2
DOI: doi:[10.1016/j.jvb.2017.10.003](https://doi.org/10.1016/j.jvb.2017.10.003)
Reference: YJVBE 3114

To appear in: *Journal of Vocational Behavior*

Received date: 23 February 2017
Revised date: 25 September 2017
Accepted date: 4 October 2017

Please cite this article as: Eva M. Kunst, Marianne van Woerkom, Geert H. van Kollenburg, Rob F. Poell , Stability and change in teachers' goal orientation profiles over time: Managerial coaching behavior as a predictor of profile change. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Yjvbe(2017), doi:[10.1016/j.jvb.2017.10.003](https://doi.org/10.1016/j.jvb.2017.10.003)

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Stability and change in teachers' goal orientation profiles over time:

Managerial coaching behavior as a predictor of profile change

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This research was supported by a grant from the Netherlands Organization for Scientific Research (411-12-070).

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Abstract

Goal orientation is an important predictor of motivation at work. This study introduces goal orientation profiles in the work domain, evaluates their stability over time and assesses the impact of managerial coaching behavior on change in employees' goal orientation profiles. We hypothesize that coaching managers inspire, facilitate, and guide employees to change towards profiles with relatively high levels of learning goal orientation and performance approach goals, and relatively low levels of performance avoidance goals. We conducted a two-wave study with a one-year time interval among teachers ($N = 521$) working in Vocational Education and Training institutions in the Netherlands. Latent transition analysis and multinomial regression analyses were applied. Four distinct profiles were identified: success-oriented, diffuse, low-performance, and high-avoidance. Although the majority of the teachers remained in the same goal orientation profile over time (91.2%) a small percentage of the teachers shifted towards the success-oriented goal orientation profile. Facilitative managerial coaching was positively associated with belonging to the success-oriented goal orientation profile while guidance was negatively associated with belonging to the success-oriented goal orientation profile. Moreover, facilitative managerial coaching supported change to the success-oriented profile while guidance and inspirational managerial coaching did not support this transition.

Keywords: goal orientation; latent transition model; managerial coaching behavior; teachers

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According to achievement goal theory (Ames & Ames, 1984; Dweck, 1986, 1990; Nicholls, 1984) people can pursue different goals in achievement situations, such as learning goals, performance-approach goals and performance-avoidance goals (Vandewalle, 1997). Most studies on goal orientations have applied a single goal orientation approach, relating all goal orientations separately to outcome variables, and neglecting the fact that combinations of goal orientations can coexist within one individual (Pastor, Barron, Miller, & Davis, 2007). However, according to the multiple goal perspective Barron and Harackiewicz (2001) all goal orientations are present within an individual, although the salience of these different goal orientations can vary depending on personality and situational cues. Different goal orientations can either strengthen each other or function as a buffer for the negative effects of dominant negative goal orientations (e.g., a high performance-avoidance goal orientation balanced by a high learning goal orientation) (Barron & Harackiewicz, 2001). For this reason, we need to study goal orientation profiles of subgroups of individuals with specific combinations of goal orientations instead of single goal orientations.

Although there has been an upswing of studies applying goal orientation profiles, the majority of these studies are based on student samples (Luo, Paris, Hogan, & Luo, 2011; Pintrich, 2000; Tuominen-Soini, Salmela-Aro, & Niemivirta, 2008). The only study that does investigate goal orientation profiles in a sample of employees (Van Yperen & Orehek, 2013) applies a clustering method which is not based on clear fit indices to decide on the best fitting number of profiles (Nylund, Asparouhov, & Muthén, 2007) and therefore difficult to replicate (Pastor et al., 2007). Results from goal orientation profile studies on student samples cannot easily be transferred to the work context because of two reasons. First, whereas the dominant focus in education is on learning and development, performance is more valued in the work

context (Tynjälä, 2008). Second, goal orientations are known to change with age (de Lange et al., 2010). The socioemotional selectivity theory (Carstensen, 2006) posits that, compared to younger workers, older workers focus less on future-oriented goals such as learning and development because they perceive time as more limited. Therefore, working adults are less likely to have a strong focus on learning goals compared to students.

Another omission in the literature on goal orientations is that to date only few studies have addressed to what extent goal orientations of employees may change over time and across situations (Kooij & Zacher, 2016; Parker, Martin, Colmar, & Liem, 2012; Potosky, 2010; Praetorius et al., 2014; Tonjes & Dickhauser, 2009). Goal orientations are generally viewed as relatively stable traits that can be compared with personality characteristics such as the Big Five (DeShon & Gillespie, 2005; Payne, Youngcourt, & Beaubien, 2007). However, goal orientations include both a stable and variable component (Praetorius et al., 2014) and are hypothesized to be susceptible for situational influences (Button, Mathieu, & Zajac, 1996). Based on trait-activation theory (Tett & Burnett, 2003) it can be expected that the variable fraction of specific goal orientations may be activated when workers are presented with trait-relevant situational cues in their work environment.

We expect that leaders may present such a trait relevant cue that is able to activate or deactivate specific goal orientations of employees. Previous studies showed that transformational leadership is associated with a learning goal orientation (Hamstra, Van Yperen, Wisse, & Sassenberg, 2014; Runhaar, Sanders, & Yang, 2010; Sosik, Godshalk, & Yammarino, 2004; Yee, Lee, Yeung, & Cheng, 2013) and that transactional leadership is associated with performance goal orientations (Hamstra et al., 2014; Yee et al., 2013). However, both transformational and transactional leadership refer to behaviors that are targeted at a collective of employees instead of at individual employees. In contrast, managerial coaching behavior refers to one-on-one interactions between a leader and an

individual employee aimed at stimulating the growth of individual employees (Anderson, 2013; Ellinger & Bostrom, 1999) and may therefore be more suitable for addressing goal orientations. By providing constructive feedback and framing tasks as opportunity for development instead of opportunity for failure, coaching managers may activate learning and performance approach goals and deactivate performance avoidance goals (DeShon & Gillespie, 2005; Janssen & Prins, 2007; Tuckey, Brewer, & Williamson, 2002). Managerial coaching behavior encompasses more than only providing feedback from the manager to the employee. Feedback in itself provides information on task performance only (Kluger & DeNisi, 1996) and is not always effective because individuals respond differently to different types of feedback (Kluger & DeNisi, 1996; Whitaker & Levy, 2012). For feedback to be effective a combination of positive goal setting towards future goals (Heslin, Carson, & Vandewalle, 2008), perceived utility and feedback quality (Whitaker & Levy, 2012) and guided reflection on future steps (Anseel, Beatty, Shen, Lievens, & Sackett, 2013) is necessary. Managerial coaching behavior from the leader incorporates all these types of behavior by helping to analyze performance and addressing both what to improve and how to improve it. Therefore, we expect that managerial coaching can stimulate employees to adopt a goal orientation profile that combines a high learning goal orientation, a high performance-approach goal orientation and a low performance-avoidance goal orientation.

Study aims and intended contributions

The aim of our study is to improve understanding of how combinations of goal orientations of working adults change over time as a result of managerial coaching behavior. This extends the current work on goal orientations in the work domain that only provide a theoretical discussion of the stability of single goal orientations (Fryer & Elliot, 2007), address the change of single goal orientations (Praetorius et al., 2014), include goal orientation in a longitudinal design without a focus on change in goal orientations over time

and only focusing on goal orientation as a predictor, mediator or outcome (Kooij & Zacher, 2016; Parker et al., 2012; Potosky, 2010; Praetorius et al., 2014; Tonjes & Dickhauser, 2009), or study the association between leadership and goal orientations based on cross-sectional samples (Hamstra et al., 2014; Moss & Ritossa, 2007; Runhaar et al., 2010). Furthermore, we aim to contribute to the literature on managerial coaching by investigating which specific managerial coaching practices are effective in stimulating a transition towards favorable goal orientation profiles. This extends current research that investigates the relationship between managerial coaching behavior and either individual performance (Agarwal, Angst, & Magni, 2009; Liu & Batt, 2010) or employee development (Ellinger & Bostrom, 1999; Ellinger, Ellinger, & Keller, 2003). In the current study we combine both outcomes by addressing the predictive value of managerial coaching behavior in obtaining the optimal balance between learning, performance-approach and performance avoidance goal orientations.

To obtain high levels of performance employees need a configuration of goal orientations that aim for new and challenging tasks with a continuous focus on improvement combined with a strong will to demonstrate performance, and a low emphasis on avoiding possible failure (Pastor et al., 2007). Our study contributes to the daily practice of leaders by addressing which managerial coaching behaviors are most helpful in stimulating such a configuration of goal orientations.

Theory and hypotheses

Goal orientation and goal orientation profiles in the work domain

Achievement goal theory (Ames & Ames, 1984; Dweck, 1986, 1990; Nicholls, 1984) posits that employees can pursue different goals in achievement situations. In this study, we follow the trichotomous distinction of goal orientations encompassing the learning goal orientation, the performance-approach goal orientation, and the performance-avoidance goal orientation (Vandewalle, 1997). Individuals striving for learning goals take risks and try out

new tasks to acquire a higher level of competences relative to their previous performance (Dweck, 1990). This preference to develop skills and competences is driven by a strong intrinsic motivation to learn and improve upon previous performance. Individuals with a learning goal orientation are thus characterized by the eagerness to learn and develop themselves, strong self-regulation and a high ability to cope with complex situations (Ames, 1992; Midgley et al., 1998; Pintrich, 2000). The learning goal orientation has been found to be associated with various work-related outcomes such as intrinsic motivation (Harackiewicz, Barron, Tauer, & Elliot, 2002), persistency (Elliot, McGregor, & Gable, 1999), feedback seeking behavior (Vandewalle & Cummings, 1997) and goal setting (Payne et al., 2007).

In contrast to the learning goal orientation, performance-approach and performance-avoidance goals refer to a strong preference to demonstrate competence to others and acquire their positive judgments about competences (Dweck, 1990; Elliot & Dweck, 2005b; Elliot & McGregor, 2001). People with a performance-approach goal orientation prefer to show successful achievement and high ability to others, whereas people with a performance-avoidance goal orientation participate in tasks only if there is a high chance of successful completion to prevent negative judgment on their final performance (Button et al., 1996). While performance-approach goals are mostly positive and result in persistence towards successful task completion, performance-avoidance goals result in less help seeking, low self-efficacy, and lower levels of self-set goals (Payne et al., 2007).

According to the multiple goal perspective that was developed by Barron and Harackiewicz (2001) all three goal orientations are present within a person although in different strengths and configurations (Luo et al., 2011). Within-person configurations of goal orientations can function as a buffer or even level out the negative effects of goal orientations that are known to be associated with negative outcomes (e.g. performance-avoidance goal orientation). From the multiple goal perspective, combining the benefits of the learning goal

orientation (i.e. higher self-efficacy, more intrinsic motivation for learning) with the benefits of a performance approach goal orientation (i.e. work effort or positive self-concept) might result in even higher levels of individual performance (Pastor et al., 2007).

Recent studies have successfully explored goal orientation profiles in samples of students using the trichotomous distinction of goal orientations (Jansen in de Wal, Hornstra, Prins, Peetsma, & van der Veen, 2015; Luo et al., 2011; Pastor et al., 2007; Schwinger, Steinmayr, & Spinath, 2016; Schwinger & Wild, 2012; Tuominen-Soini et al., 2008; Tuominen-Soini, Salmela-Aro, & Niemivirta, 2011, 2012), resulting in three to six different goal orientation profiles. In all studies, a majority of the sample was found to have a diffuse profile (average scores on all goal orientations). Other frequently found profiles include a combination of a high performance approach and learning goal orientation and a low performance-avoidance goal orientation (success-oriented profile) (Luo et al., 2011; Pastor et al., 2007; Schwinger & Wild, 2012; Tuominen-Soini et al., 2008, 2011, 2012) and profiles dominated by one of the goal orientations (high learning or high performance-avoidance goal orientation profiles) (Pastor et al., 2007; Schwinger & Wild, 2012; Tuominen-Soini et al., 2008, 2011, 2012).

Stability of goal orientation profiles over time

Studies on the dynamic nature of goal orientation profiles of students (Jansen in de Wal et al., 2015; Schwinger et al., 2016; Schwinger & Wild, 2012; Tuominen-Soini et al., 2011) report varying results. The largest change between goal orientation profiles over time is found in studies of young children (age 5 to 7), measuring goal orientations over a longer time span (e.g., more than 2 years) (13% - 35%) (Schwinger et al., 2016; Schwinger & Wild, 2012). When children grow older, there generally is a transition from learning goals to performance-approach and performance-avoidance goals (Archambault, Eccles, & Vida, 2010). In older

children (age 15 to 17) goal orientation profiles are relatively stable (60%) (Tuominen-Soini et al., 2011).

Although change in goal orientation profiles of employees has never been investigated, a handful of studies have evaluated the change in single goal orientations of workers over time (Kooij & Zacher, 2016; Parker et al., 2012; Potosky, 2010; Praetorius et al., 2014; Tonjes & Dickhauser, 2009). In these studies, the time between measurement moments varied from three months (Kooij & Zacher, 2016; Praetorius et al., 2014) to five years (Potosky, 2010). All these studies found the learning goal orientation to be less stable (test-retest correlation varied between .48 and .69) compared to the performance-approach and performance-avoidance orientation (test-retest correlation varied between .61 and .81). An explanation for the instability of learning goal orientations could be that the situation-specific focus on learning that may vary across tasks and work environments, whereas the urge to demonstrate competence may vary less across situations (Praetorius et al., 2014). Until now, no studies have investigated the change of goal orientation profiles of working adults. However, changes in single goal orientations may result in new configurations of goal orientations and therefore a different goal orientation profile that is differently related to outcomes. Because our study is the first to address the stability of employee goal orientation profiles the nature of our study is explorative and no specific hypotheses regarding the number of goal orientation profiles and level of stability will be formulated. However, based on previous research in student samples (Luo et al., 2011; Pastor et al., 2007; Schwinger & Wild, 2012) we expect between three and six goal orientation profiles including the frequently found diffuse profile (average scores on all goal orientations) and the success-oriented profile (high performance approach combined with high learning goal orientation and low performance avoidance goal orientation).

The role of managerial coaching in profile membership and profile change

As stated before, some goal orientation profiles are more favorable than others. The success-oriented profile, in which high levels of learning goal orientation are combined with high levels of performance-approach goal orientation and low levels of performance-avoidance goal orientation can be expected to yield the best results for both learning and individual performance (Elliot & Church, 1997; Pintrich, 2000). The goal orientation profile that includes high levels of performance-avoidance goals can be expected to be associated with lower levels of performance and learning (Payne et al., 2007).

Trait activation theory (Tett & Burnett, 2003) posits that personality traits are expressed as responses to trait-relevant situational cues. Because coaching managers stimulate employees to frame achievement situations as opportunities for development and task mastery instead of as chances to fail (Latham, Seijts, & Slocum, 2016) we hypothesize that managerial coaching behavior can be a specific environmental cue that may influence latent goal orientation profiles. Although managerial coaching is highly debated in terms of its definition and operationalization (Batson & Yoder, 2012; Ellinger, Hamlin, & Beattie, 2008; Hagen, 2012), a common theme in the literature on coaching is that it entails one-on-one interactions between the leader and the employee at the workplace aimed at guiding and inspiring improvements in an employee's work performance (Hagen, 2012; Heslin, Vandewalle, & Latham, 2006) or facilitating employee learning (Ellinger, Watkins, & Bostrom, 1999). Based on an extensive literature review of the coaching literature, Heslin et al. (2006) derived three integral components of managerial coaching. *Guidance* includes the communication of clear performance expectations and constructive feedback regarding both performance outcomes and how to improve. *Facilitation* entails providing support in analyzing past performance and exploring ways to solve problems and enhance performance. By facilitating creative thinking and being a sounding board, team leaders encourage employees to try out new initiatives and

challenging tasks. *Inspiration* refers to encouraging employees to use their full potential and to focus on continuous development (Heslin et al., 2006).

Because guidance behavior includes help in analyzing performance and providing constructive feedback, it may stimulate workers to develop their skills and competences and thereby to take a learning goal orientation. Moreover, by giving suggestions for how to improve performance guidance behaviors are likely to reduce the fear of failure and thereby diminish a performance avoidance orientation whereas the guidance regarding performance expectations may facilitate a performance approach orientation. Inspiration behavior includes expressing confidence in the employees' ability to develop and improve, encourage the employee for continuous development and support in taking on new challenges (Heslin et al., 2006).. These behaviors are likely to strengthen the confidence of employee when taking on new tasks and thereby to reduce a performance-avoidance goal orientation and to increase a learning goal orientation. Moreover, the support in taking on new challenges may also stimulate a performance approach goal orientation. The facilitation component of managerial coaching behavior may stimulate a performance approach orientation by facilitating creative thinking to help solve problems. Furthermore, by acting as a sounding board to facilitate idea development and providing encouragement of exploring behavior managers may reduce the fear of failure and stimulate employee development, thereby leading to lower levels of performance avoidance orientation and higher levels of learning goal orientation. For the reasons we outlined above, we hypothesize:

Hypothesis 1: Managerial coaching behavior (T1) in terms of (a) guidance, (b) facilitation, and (c) inspiration, is positively related to the likelihood that an employee will have a success-oriented goal orientation profile (a high learning, a high performance-approach and a low performance-avoidance goal orientation) (T1) compared to having other profiles.

Moreover, we expect that managerial coaching behavior at T1 may stimulate a profile change over time. Button et al. (1996) suggest that individuals with low levels of goal orientations might be more susceptible to situational demands and to change compared to individuals with higher levels of goal orientations. Although we concur with these authors that high levels of specific goal orientations may be less easy to change, based on the trait activation theory (Tett & Burnett, 2003) we would expect that especially moderate levels of goal orientations have the potential to transform as a result of trait relevant cues. After all, low levels of a particular goal orientation may suggest that this dispositional trait is not present in a person, making it impossible to further stimulate this trait. More specifically, we expect that guidance managerial coaching behavior will support the transition from moderate levels of goal orientations towards the success-oriented profile because the given feedback and support in analyzing performance strengthens employees learning goal orientation and performance-approach goal orientation by addressing opportunities to develop and improve previous work performance. In the meantime, guidance behavior reduces the performance-avoidance goal orientation because the steps to take to improvement are discussed which can diminish fear of failure. Furthermore, we expect that facilitative managerial coaching behavior that supports employees to explore challenging opportunities at work can be expected to stimulate already moderately present levels of learning and performance-approach goal orientation and to reduce levels of performance-avoidance goal orientation when providing employees with hands-on support when they are performing new and challenging tasks. Moreover, inspirational managerial coaching can be expected to reduce the level of performance-avoidance goal orientation by expressing confidence in employee's ability to perform well in tasks at work and meanwhile strengthen the performance-approach and learning goal orientation of the employee. In contrast, when an employee scores low or high on learning and performance-approach goal orientations, there is no latent potential that can be further

activated by the manager. Hence, we do not expect change from profiles with low levels of learning or performance-approach goal orientations and high levels of performance-avoidance goal orientations towards the success-oriented profile. Therefore, we hypothesize:

Hypothesis 2: Managerial coaching behavior (T1) in terms of (a) guidance, (b) facilitation, and (c) inspiration, is positively related to the likelihood that an employee will transfer from a profile with moderate levels of learning, and/or performance-approach and/or performance-avoidance goal orientation to a success-oriented profile (a high learning, a high performance-approach and a low performance-avoidance goal orientation) (T2).

Methods

Sample and Procedure

This study was conducted among teachers in Vocational Education and Training (VET) colleges in the Netherlands. We approached all VET colleges in the Netherlands by sending them a flyer via e-mail, inviting them for a personal meeting to introduce our study. In these meetings, teachers were informed about the goals of this study and afterwards team leaders could decide to participate with all teachers from a specific educational program. The team leaders of these teams are responsible for leadership and execution of various HR activities such as performance appraisal and recruitment. Surveys were administered using an online program, enabling teachers to participate in the survey at a convenient moment in time. At the start of the survey, teachers were informed about the purpose of the data collection and the anonymity of their participation. Two waves of data were collected with one year between the measurement moments. A total of 984 teachers participated at T1, and a total of 757 teachers participated at T2. Full data on both waves was available for 521 of the teachers (53% retention rate).

The teachers who participated were between 21 and 68 years old ($M = 47.06$, $SD = 11.16$) at the first wave of data collection and nearly half (47.2%) of the participants were

men (comparable to 52% men in the overall educational workforce, and an average age of 44.0 years; CBS, 2017). Participants had on average 14.53 years of work experience ($SD = 10.78$) and were highly educated (27.9% academic education, 56.7% higher professional education, 9.7% vocational education, 5.7% other). This was comparable to the population of vocational oriented teachers in the Netherlands, where on average 76.7% is highly educated (CBS, 2017). In the structure of team-based work that Dutch VET colleges have adopted, team leaders have frequently planned and informal meetings with teachers. Three quarters of the teachers (75.5%) reported to have informal meetings with their team leader at least once a week and 63.5% indicated having formal meetings at least once a month. All sectors of vocational education were represented in the data of the first wave with 21.2% of the teachers from the technical sector, 32.2% of the teachers from the health and welfare sector, 19.8% of the teachers from the commerce sector, 5.5% of the teachers from the agricultural sector, and 3.8% of the teachers working in multiple sectors.

Measures

Goal orientation was measured with the Work Domain Goal Orientation instrument developed by Vandewalle (1997). Learning goal orientation (e.g., “I am willing to select a challenging work assignment that I can learn a lot from”) was measured with five items, Cronbach’s $\alpha_{T1} = .86$, Cronbach’s $\alpha_{T2} = .87$. Performance-approach goal orientation (e.g., “I enjoy it when others at work are aware of how well I am doing”) was measured with four items, Cronbach’s $\alpha_{T1} = .82$, Cronbach’s $\alpha_{T2} = .84$. The performance-avoidance goal orientation was measured with four items (e.g., “I am concerned about taking on a task at work if my performance would reveal that I had low ability.”), Cronbach’s $\alpha_{T1} = .81$, Cronbach’s $\alpha_{T2} = .81$. Items were rated on a 5-point Likert scale (1 = *strongly disagree* and 5 = *strongly agree*). A longitudinal confirmatory factor analysis was performed on the Work Domain Goal Orientation instrument of Vandewalle (1997) to verify the factor structure. As

the goal orientation construct originally was built up into two components (mastery vs. performance goals), three competing factor structures (one factor, two factors, three factors) were evaluated. Results of the longitudinal confirmatory factor analyses indicated that the three-factor structure had the most adequate fit to the data $\chi^2(284) = 1154, p < .001$, RMSEA = .05, 90% CI [.047 - .053], TLI = .91, CFI = .92, SRMR = .06. The alternative two-factor ($\Delta\chi^2(9) = 2674, p < .001$, RMSEA = .10, 90% CI [.097 - .102], TLI = .63, CFI = .67, SRMR = .17) and one-factor model ($\Delta\chi^2(14) = 4711, p < .001$, RMSEA = .12, 90% CI [.121 - .126], TLI = .434, CFI = .491, SRMR = .171) were significantly worse compared to the three-factor goal orientation model. Therefore, the three-factor solution including: learning, performance-approach, and performance-avoidance goal orientation was used in further analyses and the factor scores ($M = 0, SD = 1$) were saved for each goal orientation dimension.

Managerial coaching behavior was measured with the ten-item scale of Heslin et al. (2006). In this scale three types of managerial coaching were distinguished. Inspiration was measured with three items (e.g., ‘To what extent does your manager encourage you to continuously develop and improve?’), Cronbach’s $\alpha_{T1} = .92$, Cronbach’s $\alpha_{T2} = .93$. Guidance was measured with four items (e.g., ‘To what extent does your manager provide guidance regarding performance expectations?’), Cronbach’s $\alpha_{T1} = .93$, Cronbach’s $\alpha_{T2} = .94$, and facilitation was measured with three items (e.g., ‘To what extent does your manager act as a sounding board for you to develop your ideas?’), Cronbach’s $\alpha_{T1} = .89$, Cronbach’s $\alpha_{T2} = .89$. Items were rated on a 5-point Likert scale (1 = *strongly disagree* and 5 = *strongly agree*). The longitudinal confirmatory factor analysis for both the cross-sectional and longitudinal data indicated an appropriate model of the three-factor structure ($\chi^2(155) = 727, p < .001$, RMSEA = .055, 90% CI [.051 - .059], TLI = .96, CFI = .97, SRMR = .024) over the one-factor structure ($\chi^2(169) = 2552, p < .001$, RMSEA = .108, 90% CI [.104 - .111], TLI = .85, CFI = .87, SRMR = .047). Results of the longitudinal confirmatory factor analyses indicated that the

three-factor structure had the most adequate fit to the data, $\chi^2(155) = 532.57, p < .001$, RMSEA = .069, 90% CI [.062 - .075], TLI = .96, CFI = .96, SRMR = .02. The alternative one-factor model ($\Delta\chi^2(14) = 1173.79, p < .001$, RMSEA = .133, 90% CI [.127 - .138], TLI = .84, CFI = .85, SRMR = .05) was significantly worse compared to the three-factor managerial coaching model. Therefore, the three-factor structure (guidance, inspiration, and facilitation) was used in further analyses and the factor scores ($M = 0, SD = 1$) for the three-factor structure of managerial coaching behavior were saved.

Control variables. Age was included as a control variable in this study because previous studies found older workers to have a lower desire and motivation for learning, thereby possibly influencing the assignment of older teachers to profiles with relatively low levels of learning goal orientation (de Lange et al., 2010; Kanfer & Ackerman, 2000; Kooij & Zacher, 2016).

Analyses

We tested our hypotheses in two steps. In a first step we estimated the latent transition model (LTM). The analyses were performed using Latent Gold 5.1 (Vermunt & Magidson, 2013). The three goal orientations (learning, performance-approach, and performance-avoidance) were used as indicators for the latent profiles. LTM is a longitudinal extension of the latent profile analysis, which evaluates the probability of transition between profiles at multiple waves. Although it is not required to use the same number of profiles at the different points in time, this is recommended because it improves insight in shifts between goal orientation profiles over time (Kam, Morin, Meyer, & Topolnytsky, 2013). To evaluate model fit, multiple fit-indices were used. First, the Bayesian Information Criterion (BIC) was evaluated. The BIC uses the fit of a model and evaluates it by model complexity, with lower values being better. As such, it works like an Occam's Razor, preferring a simpler model over a more complex model when their fit is the same (Nylund et al., 2007). Second, the entropy

statistic was used to verify the accuracy of classification into profiles. The higher the entropy (which should be preferably over .70) the more the profiles are separable. A well-known issue in latent profile analysis is that it may pick up very specific aspects in the data as distinct profiles. To control for this and to verify theoretical interpretation, we ensured that each profile in our analyses included at least 5% of the respondents (Nylund et al., 2007). Additionally, the most likely profile membership of each observation at each wave was saved and used for further analyses.

In a second step, we conducted a multinomial logistic regression analysis to estimate the relationships between managerial coaching behaviors and goal-orientation profile membership across wave 1 and wave 2. The main characteristic of multinomial logistic regression analysis is the estimation of $k-1$ effects (k is the total number of profiles), relative to a reference group. To test our hypotheses, three different models were evaluated. To test hypothesis 1, managerial coaching at T1 and age as a control variable were regressed upon the different goal orientation profiles using the success-oriented profile as a reference category. To evaluate hypothesis 2, 3, and 4, a similar model was tested with the different change patterns as outcome variables. The reference category was different in each model, depending on the formulated hypothesis. Multinomial regression analyses result in odds ratios that simplify the interpretation. When the odds ratio was found to be above 1, this implies that when the value of managerial coaching (or age) increases, the likelihood of being assigned to a specific profile is higher than the likelihood of being assigned to the reference profile. An odds ratio below 1 implies that when the value of managerial coaching (or age) increases, the likelihood of being assigned to that specific profile is lower than the likelihood of being assigned to the reference profile (Kam et al., 2013).

Results

Descriptive statistics

Table 1 provides the correlations among the variables included in this study. The results show that the different goal orientations were significantly related to each other. Learning goal orientation on T1 was related to performance-approach goal orientation but the association diminished over time ($r = .25, p < .001, T1$; $r = .15, p < .001, T2$). Two components of managerial coaching behavior (T1) were positively related to learning goal orientation, namely guidance ($r = .16, p < .001$), and inspiration, ($r = .18, p < .001$). All three components of managerial coaching (T1) behavior were positively related to the performance-approach goal orientation (T1) namely, facilitation ($r = .10, p < .05$), guidance ($r = .10, p < .05$), and inspiration ($r = .10, p < .05$). Managerial coaching behavior (T1) was not related to the performance-avoidance goal orientation (T1).

=== Insert Table 1 about here ===

Latent transition model

Table 2 reports the fit indices for the three, four and five goal-orientation profile solutions. As can be seen from this table, the values for the BIC decreased between the three and four-profile solution ($\Delta BIC = -91$) but increased between the four and five-profile solution ($\Delta BIC = 19$), indicating that a four-profile solution had the best fit. The value for the entropy ($E = .80$) confirmed this finding. Up to four profiles, the entropy increased; however, a slight decrease was identified for the five-profile solution ($E = .78$). For this reason, we retained the four-profile solution for further analyses and used the most likely profile assignment of each observation.

=== Insert Table 2 about here ===

Based on the mean scores (see Figure 1) we identified a diffuse, a high-avoidance, a moderate-learning, and a success-oriented profile. Most teachers were assigned to the *diffuse* profile (47.9%) representing teachers with an equal focus on all three goal orientations. The *moderate-learning* profile (19.0%) represented teachers with a moderate level of learning goal

orientation and a low score on performance-approach, and performance-avoidance goals. The *high-avoidance* profile (19.9%) contained teachers with low levels of learning goal orientation and performance-approach goals but a high level of performance-avoidance goals. The *success-oriented* profile (13.2%) included teachers who strive for both learning and performance-approach goals, and who have low scores on performance-avoidance goals.

=== Insert Figure 1 about here ===

In a next step, we examined the stability and change between goal orientation profiles over time (Table 3). As can be seen from the most likely latent profile patterns the overwhelming majority of teachers had stable goal orientation profiles across both waves. Among the 517 teachers, only 51 teachers (9.8%) changed their membership of a goal orientation profile. As can be seen from Table 3, 22 profile changes were made towards the success-oriented profile. Among these changes, 18 adopted the diffuse profile at T1 and 4 adopted the moderate-learning profile at T1. No teachers changed from the high-avoidance goal orientation profile towards the success-oriented profile.

=== Insert Table 3 about here ===

Predictors of profile membership

As can be seen from Table 4, guidance (T1) was positive associated with assignment to the diffuse and high-avoidance goal orientation profile at T1. The large odds ratios ($OR = 1.84, p < .05$ for the diffuse profile, and $OR = 2.47, p < .01$, for the high-avoidance profile) indicate that teachers who perceived higher levels of guidance (T1) have a lower probability to be assigned to the success-oriented profile. Therefore, Hypothesis 1a was not supported. Facilitation (T1) was positively related to being assigned to the success-oriented profile at T1 (Diffuse profile: $OR = .32, p < .001$; High-avoidance profile: $OR = .35, p < .001$; Moderate-Learning profile: $OR = .39, p < .001$), confirming Hypothesis 1b. Inspirational managerial coaching behavior (T1) was not related to initial profile assignment at T1 (Diffuse profile: $OR = 1.44, p > .05$; High-avoidance profile, $OR = 1.07, p > .05$; Moderate learning profile: $OR =$

1.24, $p > .05$), and therefore Hypothesis 1c was not supported. In addition to managerial coaching, age predicted goal orientation profile membership at T1. The odds ratios (Diffuse profile: $OR = 1.04$, $p < .001$; High-avoidance profile: $OR = 1.05$, $p < .001$; Moderate-learning profile: $OR = 1.04$, $p < .01$) indicated that younger teachers have a higher probability to be assigned to the success-oriented profile.

==== Insert Table 4 about here ====

Predictors of profile change

Two different multinomial regression analyses were performed to investigate the transition from the diffuse profile towards the success-oriented profile, and from the moderate learning profile to the success-oriented profile. As can be seen in Table 5, facilitation (T1) increased the likelihood of a change from a diffuse towards a success-oriented profile compared to the likelihood of remaining in the diffuse profile ($OR = .22$, $p < .01$). Although facilitation (T1) was also positively related to the likelihood of making the opposite transition from the success-oriented to the diffuse profile, the odds-ratio ($OR = .13$, $p < .01$) indicates that as a result of facilitation, teachers were more likely to change from the diffuse towards the success-oriented profile. Facilitation (T1) also increased the probability of a transfer from the moderate-learning profile towards the success-oriented goal orientation profile compared to remaining in the moderate-learning goal orientation profile ($OR = .25$, $p < .05$) or to remain stable in the high-avoidance goal orientation profile ($OR = .15$, $p < .001$). As presented in Table 6, no significant effects for managerial coaching behavior (T1) were found when predicting change from the moderate-learning to the success-oriented profile. Therefore, Hypothesis 2a was only supported for facilitative managerial coaching behavior predicting change from the diffuse to the success-oriented profile and not supported for the change from the moderate learning to the success-oriented profile. As can be seen in Table 5 no significant effects were found for managerial coaching behavior guidance (T1) and inspiration (T1).

Therefore, hypothesis 2b and Hypothesis 2c were not supported for both the change of the moderate learning and diffuse profile to the success-oriented profile.

Age was a significant predictor of the transfer towards the success-oriented profile. Older teachers were more likely to stay within their profile when they were initially assigned to the diffuse ($OR = 1.08, p < .001$), high-avoidance ($OR = 1.09, p < .001$), or moderate-learning profile ($OR = 1.07, p < .001$).

==== Insert Table 5 about here =====

==== Insert Table 6 about here =====

Discussion

This study which is based on a two-wave study among 521 teachers provides evidence for the existence of four distinct goal orientation profiles over time; the diffuse profile, the success-oriented profile, the moderate-learning, and the high-avoidance profile. Thereby, we extend the insight regarding the within-person coexistence of goal orientations to a working population. By modeling goal orientation profiles instead of including interactions between single goal orientations, this study contributes to the call for more advanced research on goal orientation within organizations (Payne et al., 2007).

Our study contributes to the understanding of change in goal orientation profiles at work by showing that employee goal orientation profiles are highly stable. This is in line with the handful of studies on change in students' goal orientation profiles (Jansen in de Wal et al., 2015; Schwinger et al., 2016; Schwinger & Wild, 2012; Tuominen-Soini et al., 2011). However, we also found employee goal orientation profiles to be susceptible to influences from managerial behavior (Payne et al., 2007). Results of our study demonstrate that managerial coaching behavior was a predictor of initial profile assignment at T1. In line with theory, employees who perceived their manager as facilitating them in exploring new approaches to tasks, trying out alternatives, and thinking along when problems occur, were more likely to belong to a success-oriented profile. An unexpected finding was that

employees who perceived their manager to focus on guidance towards higher levels of performance by giving performance feedback or suggestions for performance improvement were more likely to have a high-avoidance or diffuse goal orientation profile, compared to having a success-oriented profile. Our finding that guidance behavior had a negative impact on the likelihood of having a success-oriented profile indicates that performance feedback does not stimulate an increase in the performance-approach or learning orientation, even when it is accompanied by help to analyze past performance, constructive feedback regarding areas for improvement and useful suggestions regarding performance improvement. Apparently, the communication of performance expectations and the feedback on past performance triggers fear of failure more than it triggers a focus on development and improvement. This is in line with studies on performance feedback that show that performance feedback is not necessarily effective to enhance task performance (Kluger & DeNisi, 1996). Future research could investigate to what extent feedforward interventions (Kluger & Nir, 2010) that focus on positive experiences in the past and on the conditions needed to achieve similar experiences in the future may offer a more effective alternative for stimulating a success-oriented profile.

We also found that managerial coaching behavior was related to the transition between goal orientation profiles over time. Our finding that facilitative managerial coaching behavior predicted changes from the diffuse towards the success-oriented profile indicates that by being a constructive conversation partner and by emphasizing development in relation to performance, managers may activate employees' latent tendency to focus on professional development and performance improvement (Sue-Chan, Wood, & Latham, 2010). In contrast to facilitation, providing inspiration was not related to employees' initial profile or their profile change over time. This might be because inspiration refers mainly to communicating trust in employees' ability to develop whereas facilitation provides more hands-on support from the manager during the execution of challenging tasks. Future research should try to

replicate these findings by estimating separate effects for each of the managerial coaching behaviors on employee development and performance. This will contribute to the insight in what can be considered to be the most effective managerial coaching behaviors.

Our results indicated that age was negatively related to membership of the success-oriented profile and that older workers were less likely to change their goal orientation profile over time. This is in line with the socio-emotional selectivity theory (Carstensen, 2006), which posits that older workers perceive time as limited and therefore pursue goals that are less future focused. Therefore, older employees may invest less time and energy in continuous development and focus more on avoiding low performance and failure in their regular work tasks (de Lange et al., 2010; Elliot & Dweck, 2005a). Because of the aging workforce (OECD, 2015), more research on transition of goal orientation profiles among older workers is recommended to broaden our knowledge on age and the motivation to continue working (Kooij, De Lange, Jansen, & Dikkers, 2008).

Theoretical implications

Studies on goal orientations in the work domain usually focus on employee outcomes such as creativity (Gong, Huang, & Farh, 2009), asking for feedback (Vandewalle & Cummings, 1997), job satisfaction (Janssen & Van Yperen, 2004), and job performance (Janssen & Van Yperen, 2004; Porath & Bateman, 2006). However, scant knowledge is available on how these positive employee outcomes may be achieved by influencing goal orientation profiles. Our study responds to the call for more research on situational characteristics that can influence goal orientations over time (Kaplan & Maehr, 2007; Praetorius et al., 2014) and adds to the growing body of literature that suggests that leaders are able to influence goal orientations of workers. Although we found that goal orientation profiles are highly stable, the significant results regarding the group of teachers that changed goal orientation profiles do indicate that managerial coaching behavior can influence these

relatively stable characteristics. By applying trait activation theory (Tett & Burnett, 2003) and showing that especially goal orientations that are present at moderate levels are susceptible to the influence of coaching behavior our study extends goal orientation theory by pointing out under which conditions relatively stable configurations of goal orientations can be changed.

Limitations and future research

Although the profile analysis on two-wave data is an important strength of our study, our study also has some limitations. First, we conducted our study among teachers and therefore the generalizability of our results is limited to employees working in the educational sector. Future research should further examine the composition of goal orientations profiles and the relationship with managerial coaching behavior in different sectors. Second, this study included only two waves of data with a one-year interval. Adding more waves of data with different time intervals between the measurements could confirm the relative stability of goal orientation profiles and provide new insights into the time needed for changes in goal orientation profiles. Third, since we found that age was related to profile membership, a longitudinal study could investigate the relationship between age and goal orientation profiles throughout the career including possible moderators of this relationship (e.g., work experience, stereotype threat).

Practical implications

This study indicates that managers can have a small though significant influence on the goal orientation profiles of their subordinates. Based on our results, we suggest that managers who want their employees to adopt a success-oriented goal orientation profile display facilitative coaching behaviors. When managers make time to act as a sounding board for employees, facilitate their creative thinking to help solve problems and encourage them to explore alternative ways of working, employees are more likely to switch towards the preferred success-oriented goal orientation profile. Facilitative behaviors prove to be more effective than providing inspiration, probably because facilitation refers to more hands-on

support than inspiration, which is mainly about expressing confidence in employee capacity to develop. Moreover, we suggest that managers should think twice before providing guidance in the form of giving performance feedback or suggestions on how to improve performance, as this may decrease the learning and performance approach orientation of their employees. These implications may have particular relevance for the educational sector, where we conducted our study. Our study shows that team leaders can make a difference when it comes to teachers' orientation towards learning and performance.

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Table 1

Correlations among the Study Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
<i>Goal Orientation</i>													
1. Learning (T1)	1.00												
2. Learning (T2)	.70 ^{***}	1.00											
3. P-approach (T1)	.25 ^{***}	.22 ^{***}	1.00										
4. P-approach (T2)	.15 ^{**}	.21 ^{***}	.62 ^{***}	1.00									
5. P-avoidance (T1)	-.36 ^{***}	-.34 ^{***}	.20 ^{***}	.16 ^{***}	1.00								
6. P-avoidance (T2)	-.32 ^{***}	-.35 ^{***}	.13 ^{**}	.21 ^{***}	.56 ^{***}	1.00							
<i>Managerial coaching behavior</i>													
7. Guidance (T1)	.16 ^{***}	.12 ^{**}	.10 [*]	.09 [*]	.02	.01	1.00						
8. Facilitation (T1)	-.08	-.07	-.10 [*]	-.10 [*]	-.03	-.04	-.71 ^{***}	1.00					
9. Inspiration (T1)	.18 ^{***}	.16 ^{***}	.10 [*]	.01 [*]	-.03	.02	-.70 ^{***}	-.64 ^{***}	1.00				
10. Guidance (T2)	.13 ^{**}	.22 ^{***}	.05	.08	-.01	-.05	.46 ^{***}	-.36 ^{***}	.35 ^{***}	1.00			
11. Facilitation (T2)	-.08	-.14 ^{**}	-.07	-.10 [*]	-.03	-.04	-.47 ^{***}	.52 ^{***}	-.42 ^{***}	-.71 ^{***}	1.00		
12. Inspiration (T2)	.12 ^{**}	.16 ^{**}	.07	.06	-.02	-.01	.42 ^{***}	-.36 ^{***}	.41 ^{***}	.73 ^{***}	-.69 ^{***}	1.00	
<i>Control variable</i>													
13. Age	-.15 ^{**}	-.22 ^{***}	-.14 ^{**}	-.11 [*]	.06	.07	-.08	.05	-.03	-.13 ^{**}	.08	-.07	1.00

Note. ^{***} $p < .001$, ^{**} $p < .01$, ^{*} $p < .05$;

Table 2

Results of the Latent Transition Analyses

Number of Profiles	<i>BIC</i>	Entropy
3	8352	.72
4	8261	.80
5	8280	.78

Note. BIC = Bayesian Information Criterion.

Table 3

Transition Probabilities for the Latent Transition Analysis

Wave 1		Wave 2			
		Diffuse	High-Avoidance	Moderate-Learning	Success-Oriented
Diffuse N = 47.9%	Prob.	.9150	.0115	.0015	.0719
	N	227	0	0	18
High-Avoidance N = 19.9%	Prob.	.0027	.9787	.0180	.0007
	N	3	97	4	0
Moderate-Learning N = 19.0%	Prob.	.0098	.0437	.9233	.0232
	N	0	2	87	4
Success-Oriented N = 13.2%	Prob.	.2744	.0012	.0609	.6635
	N	18	0	2	48

Note. N = 517; Probabilities on the diagonal indicate the stability probabilities (staying in the same profile).

Table 4

The Roles of Age and Managerial Coaching Behavior in Predicting Profile Membership on Wave 1

	<u>Diffuse</u>			<u>High-Avoidance</u>			<u>Moderate-Learning</u>		
	<i>B</i>	<i>SE</i>	<i>OR</i>	<i>B</i>	<i>SE</i>	<i>OR</i>	<i>B</i>	<i>SE</i>	<i>OR</i>
Age	.04***	.01	1.04	.05***	.01	1.05	.04**	.01	1.04
<i>Managerial Coaching Behavior</i>									
Guidance	.61*	.26	1.84	.90**	.31	2.47	.35	.30	1.42
Facilitation	-1.14***	.30	.32	-1.51***	.35	.22	-.95**	.35	.39
Inspiration	.37	.27	1.44	.07	.31	1.07	.22	.31	1.24

Note: $N = 517$; *** $p < .001$, ** $p < .01$, * $p < .05$; Reference category = success-oriented profile

Table 5

The Role of Managerial Coaching Behavior in Predicting Change from the Diffuse to the Success-Oriented Profile

Profile T1	Profile T2	N	Age	Managerial coaching behavior		
				Guidance	Facilitation	Inspiration
				<i>Odds-ratio</i>	<i>Odds-ratio</i>	<i>Odds-ratio</i>
Diffuse	→ Diffuse	234	1.08 ^{***}	1.94	.22 ^{**}	1.92
High-Avoidance	→ Diffuse	3	1.06	.40	.71	.67
Success-Oriented	→ Diffuse	18	1.04	3.56	.13 ^{**}	1.43
High-Avoidance	→ High-Avoidance	97	1.09 ^{***}	2.69	.15 ^{***}	1.44
Moderate-Learning	→ High-Avoidance	2	1.06	2.27	.43	.21
High-Avoidance	→ Moderate-Learning	4	1.02	.51	.56	.31
Moderate-Learning	→ Moderate-Learning	87	1.07 ^{***}	1.61	.25 [*]	1.66
Success-Oriented	→ Moderate-Learning	2	1.02	.94	.67	.61
Moderate-Learning	→ Success-Oriented	4	1.09 ^{**}	1.26	.12	1.11
Success-Oriented	→ Success-Oriented	48	1.03	1.03	.71	1.35

Note: N = 517; ^{***} $p < .001$, ^{**} $p < .01$, ^{*} $p < .05$; Reference category = transition from the diffuse to the success-oriented profile

Table 6

The Role of Managerial Coaching Behavior in Predicting Change from the Moderate-Learning to the Success-Oriented Profile

Profile T1	Profile T2	N	Age	Managerial coaching behavior		
				Guidance	Facilitation	Inspiration
				<i>Odds-ratio</i>	<i>Odds-ratio</i>	<i>Odds-ratio</i>
Diffuse	→ Diffuse	234	.99	1.55	1.87	1.74
High-Avoidance	→ Diffuse	3	.98	.32	6.07	.60
Success-Oriented	→ Diffuse	18	.95	2.85	1.11	1.30
High-Avoidance	→ High-Avoidance	97	1.00	2.14	1.24	1.30
Moderate-Learning	→ High-Avoidance	2	.98	1.81	3.68	.19
High-Avoidance	→ Moderate-Learning	4	.94	.41	5.81	1.09
Moderate-Learning	→ Moderate-Learning	87	.99	1.29	2.09	1.50
Success-Oriented	→ Moderate-Learning	2	.94	.75	5.71	.55
Diffuse	→ Success-Oriented	18	.92 ^{**}	.80	8.52	.90
Success-Oriented	→ Success-Oriented	48	.94 [*]	.82	6.03	1.22

Note: N = 517; * $p < .05$, ** $p < .01$; Reference category = transition from the moderate-learning to the success-oriented profile

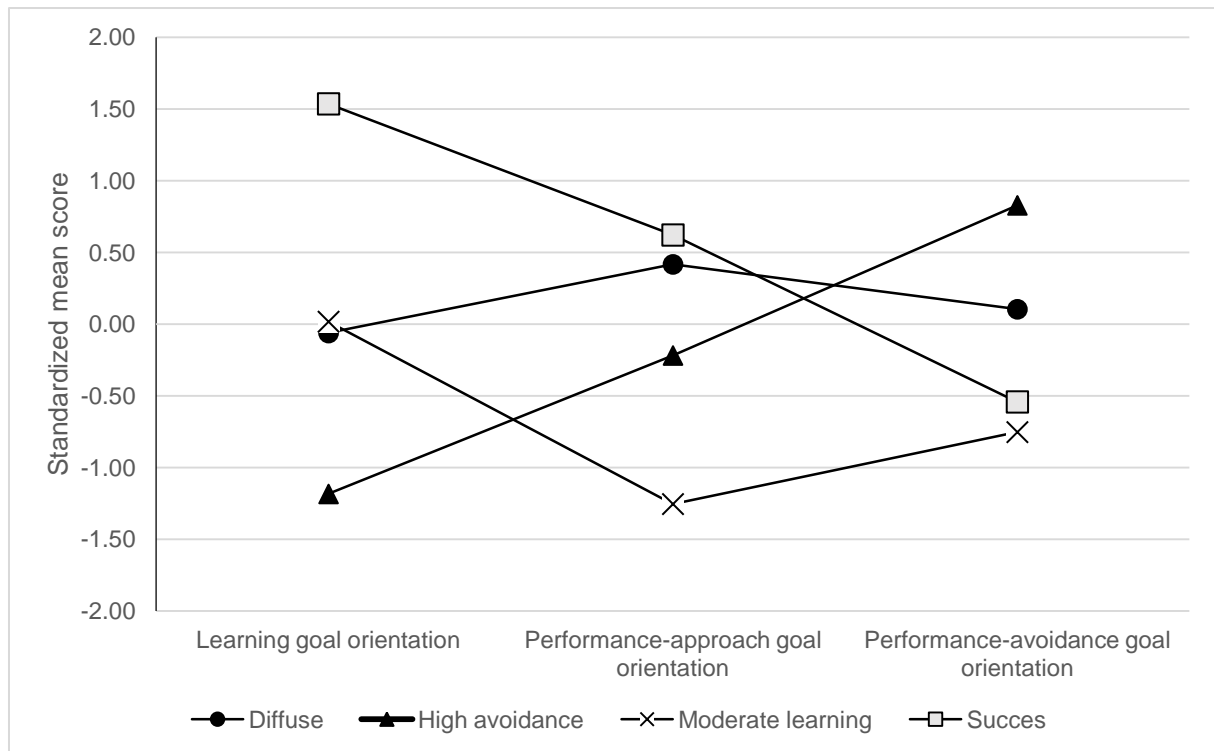


Figure 1. Goal Orientation Profiles as per the Final Solution of the Latent Transition Model

Highlights

- We identified four distinct goal orientation profiles in a sample of 521 teachers.
- Managerial coaching as expected to support change to the success-oriented profile.
- Over a year, a small number of teachers (8.8%) changed goal orientation profiles.
- Performance feedback was negatively related to the success-oriented profile.
- Facilitation is positively related to a transition to the success-oriented profile.