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Exploring the role of implicit person theory in the relationship between innovative work climate and proactive behaviour at work

Role of implicit person theory

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Abstract

Purpose – The purpose of this study is to explore the role of employees' underlying implicit person theories in the relationship with innovative work climate and proactive behaviour at work. First, the authors study how an employee's implicit person theory (IPT), or the domain-general implicit belief about the development potential of people's attributes, relates to learning goal orientation and proactive learning and entrepreneurial behaviour at work. Second, the authors investigate how employees' perception of their work climate is associated with this IPT.

Design/methodology/approach – The authors set up an exploratory study relying on survey data from a sample of 498 professionally active Flemish adults and analysed a correlational path through SEM.

Findings – The authors found that holding an incremental IPT (i.e. believing in the development potential of people's attributes) positively relates to proactive learning and entrepreneurial behaviour. Moreover, the authors found that employees working in an innovative work climate are more likely to hold an incremental IPT.

Originality/value – This study offers indications that IPT is a relevant explanatory variable in the relationship between innovative work climate on the one hand and learning goal orientation, learning work behaviour and entrepreneurial work behaviour on the other hand. As such, this study suggests that IPT is a promising concept that can be actively endorsed as a relevant underlying psychological process variable for fostering learning and entrepreneurial behaviour in organizations.

Keywords Implicit theories, Mindset, Work climate, Learning goal orientation, Proactive work behaviour, Learning behaviour, Entrepreneurial behaviour, Learning work behaviour

Paper type Research paper



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Introduction

In a world where rapid adaptation to changing circumstances is important for a company's survival (O'Reilly and Tushman, 2013), employees who demonstrate proactive behaviour are of great value (Parker *et al.*, 2006; Van Dam, 2013; Van Ruysseveldt *et al.*, 2021). Various studies have shown that employee proactive behaviour leads to better task performance (Fuller and Marler, 2009), more career success and more innovation (Seibert *et al.*, 2001a, 2001b). Proactive behaviour can manifest itself in different ways. On the one hand, employees can proactively seize opportunities to gain new knowledge and learn new skills. This *learning work behaviour* safeguards not only employees' performance at work but also their employability. On the other hand, employees can proactively take on new opportunities and ideas for improving work methods, products and cooperation. Hence, *entrepreneurial work behaviour* is also becoming increasingly valuable for keeping organizations effective in this rapidly changing knowledge-intensive economy.

In spite of its importance, for many employees, it remains challenging to actively perform learning and entrepreneurial behaviour at work. A growing body of research is looking into the organizational antecedents of these kinds of proactive work behaviour. For example, there appears to be a significant role of leader support (Wu and Parker, 2017), work characteristics (Wu *et al.*, 2018), HRM practices (Khandakar and Pangil, 2019), workplace spirituality (Afsar and Badir, 2017) and autonomy (Den Hartog and Belschak, 2012). Moreover, several studies are looking into the underlying psychological processes that potentially explain the impact of work context on proactive behaviour (Morrison and Phelps, 1999; Cacciotti and Hayton, 2015). Implicit theories were brought forward as a psychological process that lies at the basis of individuals' attitudes and behaviours. They specifically concern a priori beliefs about human nature that orient people towards specific goals (Dweck and Leggett, 1988; Plaks, 2017). Because the role of implicit person theories (IPTs) in relation to proactive behaviour at work has not often been studied empirically among employees working in organizations (Keating and Heslin, 2015; Han and Stieha, 2020), we explore how employees' IPT about the general malleability and development of personal attributes plays a role in entrepreneurial and learning work behaviour (Burnette *et al.*, 2013; Dweck, 2013; Keating and Heslin, 2015; Caniels *et al.*, 2018). Moreover, the question concerning the role of organizational context in explaining differences in the implicit theories that employees hold is still an open one. Therefore, we explore how the work climate can trigger an *incremental* development-oriented IPT among employees. For this, we build upon the IPT conceptualization of Heslin *et al.* (2005, 2006) and Heslin and VandeWalle (2005, 2011) studying the role of IPT in work contexts.

In line with Han and Stieha's (2020) and Yeager and Dweck's (2020) call for more conceptual and methodological clarity to address the current limitations in research on implicit theories, this study relies on cross-sectional data to offer an exploration of how the concept of IPT can be implemented for studying entrepreneurial and learning behaviour in the work context. We specifically address two research questions. First, how are IPT, learning goal orientation and proactive learning and entrepreneurial behaviour at work related? Second, we focus on how an innovative work climate could predict IPT. In doing so, we explore how IPT forms a relevant psychological process that offers a potential explanation for the relationship between work climate and work behaviour, as IPT shapes an employee's learning goal orientation.

Theoretical framework

The concept of implicit person theories and learning goal orientation at work

Implicit person theory in general. Building on Dweck and Leggett's social cognitive approach (1988) and [Crum et al. \(2013\)](#) adapted definition, we define an IPT as a lens or frame of mind that selectively organizes information into an implicit and simple conception of human nature and that orients individuals to a particular set of goals, guiding them to corresponding attitudes and behaviours. An incremental IPT specifically concerns the belief that people's attributes [intelligence, personality, talents, (. . .)] are malleable to develop. An entity IPT, on the other hand, concerns the belief that people's attributes are fixed and, thus, difficult to further develop.

We argue that IPT is closely related, yet different from the concept of mindset, in the sense that an IPT is a broader notion than mindset. They differ in two ways. First, mindset concerns an implicit theory regarding how you think about yourself (i.e. self-theory), whereas an IPT concerns how an individual thinks about human nature in general. This nuance is substantial, as it is possible that, for instance, someone believes in his/her own development potential but, at the same time, does not believe his/her co-workers are able to change. Second, mindset is generally domain specific, focussing on a specific domain like intelligence in achievement contexts, whereas IPT is not domain specific ([Dweck, 2006, 2013; Keating and Heslin, 2015](#)). Dweck's (2006, 2008) popular growth mindset concept originates from her work on IPT. As such, a growth mindset relies on an incremental theory of intelligence and entails the belief that your own intelligence is malleable and can significantly improve with effort. A fixed mindset, on the other hand, builds on an entity theory of intelligence, meaning the belief that your intelligence is a fixed trait on which you have little impact ([Dweck, 2006](#)). Simply put, the difference between IPT and mindset comes down to believing that all people have unknown development potential (incremental IPT) versus believing that you yourself can become smarter (growth mindset). Or the other way around, it entails believing that people's qualities are largely set in stone (entity IPT) versus believing that your intelligence is a fixed trait on which you have little impact (fixed mindset).

The concept of IPT originates from studies in educational settings. The effects on academic achievement and mental health in children and students have been widely studied ([Blackwell et al., 2007; Burnette et al., 2020](#)). Also, the effect of various interventions has been an important research topic ([Dweck, 1998; Blackwell et al., 2007; Burnette and Finkel, 2012; Paunesku et al., 2015](#)). Several scholars discuss important limitations of current research on implicit theories ([Sisk et al., 2018; Burgoyne et al., 2020](#)), pointing out small and inconsistent effect sizes. A possible explanation for these inconsistencies is the fact that this research has covered a broad array of target groups and contexts and an equally broad array of methodologies to measure IPT or mindset ([Yeager and Dweck, 2020](#)). Therefore, providing clarity in scope and approach is important for accumulating knowledge in this still highly relevant field.

Implicit person theory in work settings. While the research in educational settings encompasses several decades ([Yeager and Dweck, 2020](#)), research on IPT in work settings is relatively limited. [Heslin et al. \(2005, 2006\)](#) and [Heslin and VandeWalle \(2011\)](#) have done important work specifically studying the role of IPT on performance appraisals and feedback. Other conceptual and empirical studies in work settings focussed on the concept of mindset rather than IPT. [Keating and Heslin \(2015\)](#) published a paper making a theoretical statement about the potentially important role of mindsets in stimulating positive attitudes and behaviour in employees. [Lyons and Bandura \(2020\)](#) specifically discuss the relevance of growth mindset for the manager as coach. Also, several recent empirical studies have focussed on the role growth mindset plays in, for instance, engagement at work ([Caniëls et al., 2018](#)), knowledge

sharing (Bryant and Aytes, 2019), leadership development (Sullivan and Page, 2020) and counterproductive behaviour (Li *et al.*, 2021).

This study explicitly focuses on a broader conception of IPT rather than mindset as such. This is because, first, the domain specificity of the mindset concept might be less relevant when a context is considered that involves a broad variety of skills, talents and desirable outcomes. For instance, entrepreneurial work behaviour as outcome can take on many forms and involve various skills, ranging from improving the workflow among divisions in the organization, to setting up a new idea sharing platform. These behaviours require more than merely intelligence (e.g. they require social skills, creativity and organization skills). Second, mindset is essentially a self-theory, whereas IPT is essentially a theory of human nature in general (Levy and Dweck, 1997; Dweck, 2006). The latter might be more relevant in a work context where, more often than not, achievement involves collaborating and dealing with other people, rather than pure individual achievement. Therefore, the broader theory of human nature will potentially have an impact on whether you will set up initiatives improving the organization or discuss ideas and feedback with your colleagues. After all, these are complex, shared initiatives that require a certain degree of shared learning in diverse fields. This concept of an incremental (versus an entity) IPT is in line with the original conceptualization of Levy and Dweck (1997) and the implementation in work contexts by Heslin *et al.* (2005, 2006) and Heslin and VandeWalle (2011).

Implicit person theory and learning goal orientation. The main proposition of IPT is that it impacts an individual's behaviour, mediated by their goal orientation (Dweck, 1998; VandeWalle *et al.*, 2019). Goal orientation refers to someone's preference towards tasks by considering the reasons for engaging in these tasks (Dweck and Leggett, 1988; Vandewalle, 1997). There are two classes of goal orientations: people with a learning goal orientation are concerned with personally increasing their competence; people with a performance goal orientation are concerned with beneficial judgements of their competence by others. IPT can be considered the baseline of goal orientation, in the sense that goal orientations are based on the IPT that someone holds (Dweck, 1998). As such, a learning goal orientation is based on an incremental IPT and a performance goal orientation is based on an entity IPT. Goal orientation is motivational in nature, directly guiding behaviour, whereas IPT concerns the specific underlying belief in human development that orients towards specific goals. Holding an incremental IPT, or in other words believing that abilities can be developed, has the immediate consequence that people believe that learning has value (Burnette *et al.*, 2013). When people hold an entity IPT, assuming that abilities cannot be altered leads to wanting to prove one's competence and, thus, performance goal orientation. Different goal orientations result in different behaviour. Previous research showed that having a learning goal orientation leads to better coping with challenges and being more persistent, while having a performance goal orientation makes people avoid challenges and deteriorate performance in the face of obstacles not to expose an inherent ability deficiency (Dweck and Leggett, 1988; Elliott and Dweck, 1988; Hong *et al.*, 1999).

Exploring a path from work climate to behaviour with implicit person theory as explanatory variable

IPT has been discussed as an important psychological process that impacts an individual's goal orientation and behaviour (Burnette *et al.*, 2013). We focus on proactive behaviour at work in the form of entrepreneurial and learning behaviour. Proactive behaviour is defined as "self-initiated and future-oriented action that aims to change and improve the situation or oneself" (Parker *et al.*, 2006, p. 636). Entrepreneurial behaviour is proactive behaviour aimed at improving the situation. Learning behaviour is proactive behaviour aimed at improving oneself.

Implicit person theory and entrepreneurial work behaviour. Entrepreneurial work behaviour entails proactive individual behaviour that actively improves the immediate organization and that is not strictly prescribed in the job requirements. It concerns behaviour that is considered as “going the extra mile” for the benefit of the organization and encompasses concepts like organizational citizenship behaviour (Organ, 1988), extra role behaviour (Van Dyne *et al.*, 1995), innovative work behaviour (Janssen, 2000) and intrapreneurship (Antoncic and Hisrich, 2001). In this exploratory study, we draw on these concepts filtering out a diverse set of behaviours that demonstrate a certain entrepreneurialism in the sense that new opportunities for improvement or renewal in the immediate work situation are spotted and actively acted on in collaboration with coworkers. It concerns, for example, working on new ideas and taking risks for improving work or taking initiative for helping people.

Above, we discussed how an incremental IPT fosters learning goal orientation (Dweck, 1998; VandeWalle *et al.*, 2019). The fundamental belief that personal qualities can be developed makes people more open to experiences from which they can learn and orient towards opportunities to improve their environment. As such, believing in people’s growth potential stimulates a more positive attitude towards taking joint challenges, sustained effort and learning from these experiences. This open, learning attitude likely results in actual – opportunity seizing – behaviour (Ajzen, 1991). Moreover, believing in not only your own but also coworkers’ growth potential facilitates active cooperation in this. After all, you are optimistic about the positive impact of shared effort and less concerned about saving face, as we are all learners here. Studies have effectively established the link between learning goal orientation and diverse forms of (individual and shared) proactive behaviour aimed at improving the situation (Marques-Quinteiro and Curral, 2012; Montani *et al.*, 2014). For instance, there appears to be a significant relationship between learning goal orientation and proactive helping behaviour (Chiaburu *et al.*, 2007), creativity (Hirst *et al.*, 2009) and cooperation (Poortvliet and Giebels, 2012).

We, therefore, argue that an employee holding an incremental IPT will be more inclined to actively take positive initiatives for the benefit of the organization because of this person’s openness to learning and improvement:

H1. Holding an incremental implicit person theory, mediated by learning goal orientation, is positively related to entrepreneurial work behaviour.

Implicit person theory and learning work behaviour. We also explore the effect of IPT mediated by learning goal orientation on learning work behaviour. We define learning work behaviour as proactively taking initiative for the personal learning process in an organization. Drawing on existing concepts like anticipation and optimization of employability (Van der Heijde and Van der Heijden, 2005), learning strategies (Holman *et al.*, 2012) and team learning behaviour (Edmondson, 1999), it concerns diverse behaviours that involve taking charge of the own personal development and looking for informal as well as formal ways to develop competencies at work. Examples of learning work behaviour range from asking a colleague to teach you something new and asking for feedback, to actively exploring training opportunities.

As argued above, believing in the growth potential of personal attributes fosters a more open attitude towards learning, as you believe that your own as well as your co-workers’ competencies develop with effort. This learning goal orientation then leads to learning work behaviour. For instance, previous research showed that learning goal orientation positively relates to knowledge sharing (Matzler and Mueller, 2011), information acquisition (Kunst *et al.*, 2018), feedback seeking behaviour (VandeWalle *et al.*, 2000), newcomer learning behaviour (Tan *et al.*, 2016) and team learning behaviour (Hirst *et al.*, 2009). As such, the fundamental belief that human qualities can be developed would make employees more

inclined to actively take charge of their personal learning and development at work, through shared informal (e.g. asking feedback) as well as formal actions (e.g. taking courses). Hence, we argue that holding an incremental IPT has a positive effect on learning work behaviour through learning goal orientation:

H2. Holding an incremental implicit person theory, mediated by learning goal orientation, is positively related to learning work behaviour.

Innovative climate and implicit person theory. Research demonstrated that organizational factors play a crucial role in influencing important employee behaviours such as organizational citizenship behaviour and performance (Johns, 2006). Specifically in relation to proactive behaviour, various factors like leadership, task variety, job stressors and autonomy have been shown to have a significant impact (Ellinger and Cseh, 2007; Fritz and Sonnentag, 2009; Den Hartog and Belschak, 2012; Montani *et al.*, 2014; Wu and Parker, 2017; Cerasoli *et al.*, 2018). Previous research has demonstrated that work characteristics interact with underlying personal processes to induce proactive behaviour at work (Wu *et al.*, 2018). In this study, we are exploring such a psychological process that might explain the relationship between (how an employee perceives) the organizational context and the employee's proactive work behaviour. We propose that an incremental IPT thrives in an innovative work climate.

A work climate of an organization represents the meanings employees develop of their work environment based on their perceptions of relatively enduring features of the organization (Choi, 2007). Building on previous studies holding diverse views on work climate for innovation (Malik and Wilson, 1995; Anderson and West, 1998; Isaksen *et al.*, 1999), an innovative climate entails an environment wherein ideas and change are actively stimulated on a personal level, on a team or organizational level. For example, employees have the feeling that ideas can be shared and that risks can be taken or that a system helps ideas flow.

Potosky (2010) argued how a learning goal orientation only thrives when there is an innovation supportive organizational context. IPT could offer a further explanation for this finding. Working in an environment that actively encourages new ideas, where people are stimulated to experiment, seek challenges, make mistakes and try again, you feel supported in being able to learn and grow. You effectively see positive change happen in people and situations. Seeing that change is indeed possible helps you believe in positive change. Or in other words, seeing people and ideas develop in your organization nurtures an incremental IPT in people. As such, an innovative climate can trigger holding an incremental IPT. Hence, we argue:

H3. An innovative work climate is positively related to holding an incremental implicit person theory.

Method

Data collection

We set up a quantitative survey study with panel members recruited through iVOX, a Belgian research agency. A representative database of 1,740 Flemish-speaking people of working age from Belgium received an email with the request to fill in a questionnaire to participate in the study. Questionnaires were completed by 498 participants (28.7% response rate). This sample size is adequate for the purposes of this study (Kline, 2011).

Our sample shows no immediate indication of response bias, representing the Flemish population regarding average working age, education and occupation. There is a small overrepresentation of employees with a degree lower than bachelor level. Around 16% of the respondents have a degree lower than a high school diploma, 49.4% have a high school

diploma or equivalent degree, 21% have a bachelor's degree and 13.8% have a master's degree or higher. We have distinguished between three age cohorts, 37.9% is below 34 years, 42.2% is between 35 and 54 years and 19.9% is older than 55 years. Regarding gender, 52% are male. Regarding occupation, 44.8% are blue-collar workers and 55.2% white-collar workers.

Measures

IPT was inspired by [Levy and Dweck \(1997\)](#) and measured with four items on a six-point Likert scale ranging from 1 = totally disagree to 6 = totally agree. As *IPT* is considered a continuum ([Yeager and Dweck, 2020](#)), the items were worded to measure an entity *IPT* (because of social desirability or common method bias concerns) and then reverse coded to derive the incremental *IPT* score. The measurement instrument was originally developed in Dutch. An overview of the translated questions can be found in [Table 1](#).

Learning goal orientation was measured using the validated Dutch translation ([Van Dam, 2015](#)) of [VandeWalle's \(1997\)](#) work domain goal orientation instrument. It used a seven-point Likert scale ranging from 1, "not at all", to 7, "to a large extent".

To assess a broad set of relevant behaviours and climate indicators, the following three scales were derived and adapted from various existing scales mentioned in the theoretical section above.

Entrepreneurial work behaviour was measured with six items referring to actual behaviour in the work context that demonstrates entrepreneurialism like seeing new opportunities for improvement or renewal and actively acting on innovations. Questions were rated on a four-point Likert scale (ranging from 1 = never to 4 = always), indicating how often employees actually performed the six behaviours in the work context.

Learning work behaviour was measured with six items referring to proactively taking charge of the personal learning process. Questions were asked to indicate on a four-point Likert scale (ranging from 1 = never to 4 = always) how often employees actually performed the six behaviours in the work context.

Innovative work climate was measured with nine items referring to how employees perceive the innovative character of their work environment. Participants were asked to indicate on a six-point Likert scale how much they agreed with the different propositions. Items measure the employee's perception of the personal work situation, the team climate and the general organization's climate.

Given that we used self-report survey data, we checked whether there are strong indications for common method bias in our study using Harman's one factor test ([Podzakoff and Organ, 1986](#)). This test yielded multiple factors in which the different constructs were clearly distinguishable. This shows that common method bias would not pose a large problem.

Reliability and validity analysis

As we selected and adapted items from various existing scales for our measures, we set up elaborate reliability and validity analyses for the scales in this study. We performed an exploratory factor analysis in SPSS for an initial validation of the different constructs. Based on the results, we removed two items from the learning work behaviour scale. For further analysis, we used four items for learning work behaviour, as represented in [Table 1](#). Second, we performed a confirmatory factor analysis. A confirmatory factor analysis of these measures showed good fit to the data, $\chi^2(330) = 776.48, p < 0.001$; CFI = 0.917; TLI = 0.905; RMSEA = 0.052 [95% CI = 0.047; 0.057]; and SRMR = 0.052. This indicates the factorial validity of our instruments. In this factor model, all questionnaire items loaded on factors representing their respective constructs and negatively stated items were allowed to covary. Innovative climate was modelled as a second-order factor, subsumed by three factors

Table 1. Questionnaire items, factor loadings and reliability estimates of innovative work climate, implicit person theory, learning goal orientation, entrepreneurial work behaviour and learning work behaviour

Construct	Item	Factor loading	α
Innovative work climate Personal experience	I have the feeling that I can share new ideas with my colleagues	0.98	0.85
	I have room to consider what I want to accomplish in my work	0.80	0.70
	I am afraid to be reprimanded when I try new things at work	0.78	
Team experience	I am afraid to be reprimanded when I try new things at work	0.41	
	People are afraid to speak up in my team	0.90	0.72
	We can regularly do silly things in my team	0.45	
Organization experience	In my team, initiatives are taken to encourage new ideas	0.66	
	In my organization, new ideas are rather discouraged than encouraged	0.90	0.60
	In no circumstance, mistakes are tolerated in my organization	0.76	
Implicit person theory	There is a system that helps ideas flow throughout my organization	0.65	
	Talent is something people are born with and which has little room for change	0.62	0.63
	Not all people are capable to learn new things	0.57	
Learning goal orientation	People are as they are and there is not much to do to change that	0.63	
	If someone has to put in a lot of effort, then this mostly means that he/she does not have the talent it takes	0.57	
	I spend a lot of time and energy keeping up with new developments in my field	0.69	0.87
Entrepreneurial work behaviour	I enjoy challenging and difficult tasks that allow me to learn new skills	0.81	
	I prefer to be in work situations that require a high level of ability and talent	0.67	
	I am willing to practice a challenging task to learn new skills	0.83	
Learning work behaviour	I often look for opportunities to develop new skills and knowledge	0.71	
	Voluntary taking on an assignment that isn't part of your job description	0.53	0.84
	Changing and improving a common way of handling things	0.73	
Learning work behaviour	Realizing a nice new idea thanks to your efforts (possibly together with colleagues)	0.78	
	Spontaneously making time to help a colleague	0.50	
	Making people enthusiastic for a new project	0.84	
Learning work behaviour	Taking a risk with an idea that has a low success rate but that would be positive for the organization	0.64	
	Asking a colleague for feedback	0.55	0.77
	Reading about work-related issues in the media with a lot of interest	0.58	
Learning work behaviour	Actively looking for education opportunities	0.71	
	Asking a colleague to teach you something new	0.61	

representing employees' perception on the innovative climate regarding personal experiences, team experiences and the overall organization. Table 1 displays the factor loadings for every item. This table also shows that reliability coefficients α for all scales were sufficient. Table 2 shows the latent zero-order correlations between factors. These correlations are in line with our hypotheses, which indicates the convergent construct validity of our measures. A more stringent test of our hypotheses will be reported in the results section.

Results

To test this study's hypotheses, several structural equation models were compared in terms of model fit. These comparisons are displayed in Table 3. For acceptable fit, CFI and TLI should approach 0.95, RMSEA should be close to 0.06 and SRMR should close to 0.08 (Hu and Bentler, 1999). Differences in model fit were tested through chi-square difference tests ($\Delta\chi^2$).

First, a full structural model was tested. This model included all possible direct and indirect effects of independent variables on dependent variables. This model is equivalent to the measurement model in terms of model fit and, hence, fitted the data well. Then, the model was trimmed to include increasingly fewer direct effects of independent variables on dependent variables. In the first "partial indirect model", the direct effects of IPT on entrepreneurial work behaviour and learning work behaviour were omitted. This model fitted well to the data, and $\Delta\chi^2$ was not significant. This indicated that the more parsimonious partial indirect model should be retained. Subsequently, a "semi-partial indirect" model was tested, from which the direct effect of innovative climate on learning goal orientation was omitted as well. The $\Delta\chi^2$ -test comparing this model to the previous one was significant. Therefore, this model could not be retained. Finally, a "complete indirect" model was tested, from which all direct effects were omitted. This model could not be retained, as it showed even worse fit compared to the semi-partial indirect model. As such, the partial indirect model showed the best fit to the data. This model is displayed in Figure 1.

Table 2. Latent zero-order correlations between innovative work climate, incremental implicit person theory, learning goal orientation, entrepreneurial work behaviour and learning work behaviour

Variables	1.	2.	3.	4.
1. Innovative work climate				
2. Incremental IPT	0.23***			
3. Learning goal orientation	0.39***	0.29***		
4. Entrepreneurial work behaviour	0.47***	0.18**	0.57***	
5. Learning work behaviour	0.45***	0.27***	0.62***	0.71***

Notes: ** $p < 0.01$; *** $p < 0.001$

Model tested	$\chi^2(df),p$	$\Delta\chi^2(df),p$	RMSEA	RMSEA 90% CI	CFI	TLI	SRMR	Pass?
Full structural	776.48(330), < 0.001		0.052	0.047; 0.057	0.917	0.905	0.052	Yes
Partial indirect	778.74(332), < 0.001	2.26(2), 0.068	0.052	0.047; 0.057	0.917	0.905	0.052	Yes
Semi-partial indirect	821.71(333), < 0.001	42.97(1), < 0.001	0.054	0.050; 0.059	0.910	0.897	0.068	No
Complete indirect	867.67(335), < 0.001	45.96(2), < 0.001	0.056	0.052; 0.061	0.901	0.889	0.091	No

Table 3. Model fit information of measurement model and structural models containing

To test the significance of all effects in this final model, we followed Preacher and Hayes's (2008) recommendations to bootstrap the indirect effects to account for potential non-normality in their sampling distributions. Five thousand bootstrap samples were drawn, from which the bias corrected 95% confidence intervals were reported in Table 4. In support of the significance of all direct and indirect effects in the semi-partial model, all confidence intervals contain their respective point estimates. This shows that innovative climate positively predicts holding an incremental IPT, which in turn positively predicts having a learning goal orientation, which in its turn positively predicts entrepreneurial work behaviour and learning work behaviour. This confirms the three hypotheses under study. Yet, the effects of innovative climate on entrepreneurial work behaviour and learning work behaviour, however, are not completely explained by holding an incremental IPT and a

Figure 1. Standardized direct and indirect effects of innovative climate on entrepreneurial work behaviour and learning work behaviour via incremental implicit person theory and learning goal orientation

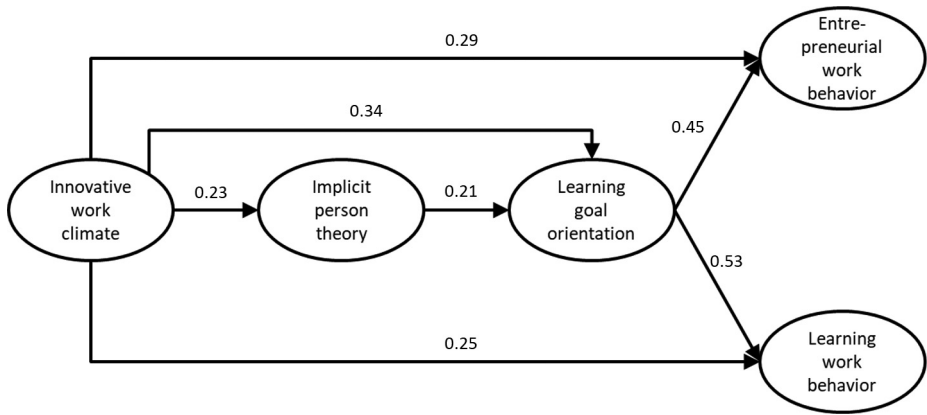


Table 4. Direct and indirect effects of innovative climate on entrepreneurial work behaviour and learning work behaviour via implicit person theory and learning goal orientation

Effects	Point estimate	SE	Z	Bias corrected bootstrapped 95% CI	
				Lower	Upper
<i>Direct effects</i>					
IC → EWB	0.22***	0.060	3.731	0.127	0.362
IC → LWB	0.18**	0.059	3.049	0.086	0.314
IC → LGO	0.38***	0.103	3.702	0.217	0.616
IC → IPT	0.25**	0.082	3.086	0.096	0.420
IPT → LGO	0.21**	0.073	2.891	0.072	0.360
LGO → EWB	0.31***	0.048	6.408	0.219	0.412
LGO → LWB	0.35***	0.042	8.337	0.278	0.443
<i>Indirect effects</i>					
IC → IPT → LGO	0.053*	0.024	2.207	0.017	0.116
IC → IPT → LGO → EWB	0.019*	0.009	2.181	0.006	0.042
IC → IPT → LGO → LWB	0.016*	0.008	2.159	0.006	0.038

Notes: IC = Innovative climate, IPT = Incremental implicit person theory, LGO = Learning goal orientation, EWB = Entrepreneurial work behaviour and LWB = Learning work behaviour. * $p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$

learning goal orientation. This indicates that other constructs are needed to fully account for this relationship.

Discussion

We adopted an IPT focus to explore how experiencing an innovative work climate relates to employees' learning goal orientation and entrepreneurial and learning work behaviour. In support of our conceptualization of IPT, this study confirmed that holding an incremental IPT is positively related to having a learning goal orientation at work. In line with our hypotheses, we first found that experiencing an innovative work climate is positively related to holding an incremental IPT. An incremental IPT thrives in an organization where employees have the feeling that they themselves can be creative and innovative, the team is open for new ideas and the organization allows innovations to happen. Second, the present study suggests that having an incremental IPT is a powerful asset in organizational settings, as it positively relates to entrepreneurial and learning work behaviour, mediated by learning goal orientation. Taken together, we contribute to the literature, as our study indicates that the psychological concept of implicit theories is a relevant underlying variable in stimulating learning and renewal at work.

Although Dweck's concepts of IPT and mindset (2006; 2008) are widely studied in educational settings, the role of IPT in relation to learning and entrepreneurial behaviour at work has so far hardly been studied empirically among employees working in organizations (Keating and Heslin, 2015; Han and Stieha, 2020). Moreover, the question concerning the role of organizational context in explaining differences in the implicit theories that employees hold is still an open one.

Our results add further to this research, emphasizing that people's mental models affect their behaviour in work contexts. We highlight three distinct areas in which this study adds to the literature.

First, we relied on a more general concept of IPT in comparison to the more often used concept of mindset. This implicit theory is neither domain-specific nor a theory of self but rather a belief about human nature in general. Our study confirms earlier research indicating that an incremental IPT positively relates to learning goal orientation (Dweck, 1998; VandeWalle *et al.*, 2019), offering important validation for this IPT conceptualization. Our study extends earlier work, as it highlights that this concept might be more relevant in organizational contexts where employees exhibit many talents and forms of intellect simultaneously in joint learning and renewal efforts with colleagues. Second, our finding that learning goal orientation is an important mediator to stimulate entrepreneurial and learning work behaviour complements earlier work on the importance of learning goal orientation (Vandewalle, 1997; VandeWalle *et al.*, 2019). This confirms the idea that mental models serve as reference points that people use to direct their goal orientation, which in turn influence their (proactive) behaviour. Third, we explored the role of an innovative work climate in relation to IPT, offering indications towards the idea that not only short-term interventions and exercises can impact the beliefs that people hold (Yeager and Dweck, 2020) but also an employees' perception of the broader organizational context potentially impacts their implicit theories.

Limitations and directions for future research

Although careful attention has been paid to the collection of the data, several limitations remain. First, we rely on self-report data which can be susceptible to common-method issues. The set-up of the questionnaire independent of a specific organizational context, however, limited the motivation to bias responses through socially desirability. Moreover,

the factor analyses revealed several clearly distinct factors, which is also an important indicator against common method bias (Podsakoff *et al.*, 2003). Yet, multi-method research approaches to measure climate, implicit theories and behaviour in organizational settings might be valuable.

Second, the SEM in this study provided evidence for the relationship between employees' perception of organizational climate, their underlying implicit theories, attitudes and behaviours. Yet, the data in this research were cross-sectional in nature, having used one instrument at one specific time. This type of data makes it difficult to adequately draw conclusions about cause and effect, as it can only offer exploratory insights into the potential direction of relationships. Therefore, we suggest that future researchers set up longitudinal studies or experimental field designs to determine the causal impact of setting up an innovative organizational climate on employees' IPT and their learning goal orientation and proactive behaviour. Also, more focussed studies zooming in on specific aspects of an innovative climate (e.g. leadership behaviour) and specific aspects of employee behaviour (e.g. idea sharing) through the lens of implicit theories might provide more in-depth insights into the underlying psychological processes explaining specific employee behaviour.

Third, while we offered various promising results towards the relevance of IPT in employee proactive behaviour at work, the concept of IPT itself and its relations with organizational climate and employee behaviour evidently need further empirical research to validate the findings. As such, because we wanted to explore a broad set of indicators, we built further on a combination of existing concepts with adapted measures for innovative work climate, implicit theories, entrepreneurial work behaviour and learning work behaviour. The validity analyses showed that the measurement instruments are high in quality, yet future researchers could use these and different scales to replicate our findings. What is more, while the concepts of IPT and mindset has become a topic of debate between scholars (Sisk *et al.*, 2018; Burgoyne *et al.*, 2020; Yeager and Dweck, 2020), the attractiveness and popularity of the idea among practitioners in education as well as management keeps growing. Also, several recent studies in work contexts point to the relevance of implicit theories for employees (Han and Stieha, 2020). The results in this study highlight that the concept of IPT is indeed relevant in work settings as our SEM found significant relations with all the relevant constructs under study. The fact that we used the concept of implicit theory rather than the more popular concept of mindset offers indication to further refine mindset and IPT concepts in the work context. It is important that researchers clearly define the operationalization of the IPT concept in line with the goals of their study. Future researchers could take a closer look at the conceptualization and operationalization of IPT in different work settings.

Practical implications

Employees who actively take initiative to develop their competences and to improve the organization are a vital asset for organizations today. This study points to the importance of stimulating an incremental IPT within an organizational setting, as it relates to this much needed proactive work behaviour. Given the intuitive appeal of mindset in organizational settings, interest among practitioners is growing. The finding that IPT is a mental model that relates to the work climate offers the opportunity for organizations to set up interventions or create an environment where employees can develop an IPT.

Practitioners specifically can apply this research in two ways. First, the concept of innovative work climate provides direction to organizations on how to build an organization that fosters positive initiative among their employees. This implies that for stimulating an incremental IPT, multiple actions can be set up. As a team leader for example, you can foster

your team members' belief in people's development potential in your one-on-one interactions as well as in your group-level interactions, by showing you are open to all ideas, giving constructive development-oriented feedback and being open to receiving feedback yourself. Also, on an organizational level, initiatives that are characteristic of an innovative work climate can be set up, for example, by installing a system that not only promotes innovative ideas but also makes sure that these innovative ideas can actually be put into action. Our study highlights that it is specifically important that the work environment gives people the opportunity to see that positive change is possible and, as such, nurture an incremental IPT.

Second, the IPT concept itself also has important learnings for practitioners and specifically managers. This study indicates that peoples' beliefs in relation to the development-potential of people in general significantly affects the goals that are put into action in the work context. As Goethe in the quote at the start of this paper referred to: The way you see people affects your behaviour towards those people. If you want people and organizations to grow, then it is important to first genuinely see their potential for growth.

Conclusion

In this rapidly changing world, it becomes more important for employees to stay ahead of their game and actively explore possibilities for learning and development. This research aimed to establish the relevance of the concept of IPT for entrepreneurial and learning behaviour at work. Moreover, we aimed to demonstrate the role of an innovative work climate in relation to how people think about the malleability of personal attributes. Our analyses showed how IPT is a relevant concept in the relationships between innovative work climate, learning goal orientation and entrepreneurial and learning work behaviour. As such, implicit theories of human nature appear to be valuable for researchers as well as organizations who want to use a positive people-centric approach for developing productive and sustainable organizations. After all, the positive and empowering view of human nature that lies behind the theory is inspiring to many organizations in the fields of education as well as management. This exploratory study highlights several important avenues for future research and practice, moving from intuitive appeal towards rigorous studies and evidence-based actions that demonstrate the value of an IPT.

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Further reading

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