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An exploration of reciprocal and co-developmental relationships of personality with personal accomplishment

Hannah Collis[a], Stephen A. Woods[b], Sara Alesayi[b] and Terry Ng-Knight[c]

[a]Management, University of Exeter Business School, University of Exeter, Exeter, UK; [b]Surrey Business School, University of Surrey, Guildford, UK; [c]School of Psychology, University of Surrey, Guildford, UK

ABSTRACT

A growing body of literature has established that the workplace is a key context for adulthood personality development, with empirical investigations from both trait research over decades and state research across hours and days supporting the existence of change. However, little is known about the development of personality across the medium term over weeks and months, and the related work factors involved in such development. Grounded in Whole Trait Theory, we describe personality *phases* as a concept and operationalization of personality between states and traits and examine personal accomplishment alongside the Big Five at both the factor and facet level across a three-month period in a sample of teachers. Using an exploratory analysis model, we analysed correlational, co-developmental, and directional growth relationships. Parallel process growth curve modelling found evidence of co-development between personal accomplishment, Extraversion, and Agreeableness facets. Directional growth relationships were also identified, with baseline productiveness (a facet of Conscientiousness) related to subsequent changes in personal accomplishment, while baseline personal accomplishment was associated with later changes in Conscientiousness, and the associated facet responsibility, as well as trust (a facet of Agreeableness). Implications for theory and practice are discussed.

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Whole trait theory; personality development; workplace; personal accomplishment; co-development

1. Introduction

Are changes in work-related constructs accompanied by changes in personality? Understanding the answer to this question could help to uncover potential mechanisms of personality development at work and contribute to theoretical models of longer-term change. A wide array of research literature has established key relationships between personality and work-related criteria (e.g., Barrick & Mount, 1991; Judge & Ilies, 2002). Although the past evidence base typically treated personality variables exclusively as predictors of criteria, more recent conceptualizations of personality at work have increasingly recognized that personality may also be treated as an outcome variable, with work-related factors contributing to personality change across both the entire lifespan (Roberts et al., 2017; Tasselli et al., 2018; Woods et al., 2013, 2019), and within momentary experiences across shorter periods of time (e.g., Sosnowska et al., 2020).

Despite growing acceptance that personality develops in response to work experiences, our understanding surrounding the mechanisms of development remains limited. Some models of personality development propose that change occurs through a process of activation and adjustment to work demands, characteristics, or feedback (e.g., Woods et al., 2019; Wrzus, 2021). These models draw upon evidence of personality change typically over periods of many years, highlighting the role of several work experiences, such as sustained workload, unemployment, and vocational demands, as key influences on trait development (e.g., Holman & Hughes, 2021; Wille & De Fruyt, 2014).

Yet studies show that personality development may also occur over shorter periods (e.g., Minbashian et al., 2010), raising the possibility that processes of longer-term adjustment may be the consequent outcome of shorter-term mechanisms of growth and change (Fleeson & Jayawickreme, 2015; Wrzus, 2021). Several investigations have already been conducted on psychological and/or social work-related constructs (e.g., Wu, 2016), adopting a "state" perspective to personality by examining these relationships across days or weeks. However, further studies examining these work-related constructs demonstrate variability over longer periods of time (such as burnout, e.g., Fernet et al., 2012), which may indicate that changes in one may correspond with the other. This form of ongoing and changeable relationship of work-related constructs with personality has

CONTACT Hannah Collis h.m.collis@exeter.ac.uk
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been less frequently examined in research to date, representing a gap in the developing research literature on personality change at work. Addressing this gap could have implications for how work and organizational psychologists understand stability and development at work from a personality perspective.

To address the need for greater understanding of how personality interacts with work in the short-medium term, in the present study we examine the co-development of personality with personal accomplishment (PA). Our study is grounded in Whole Trait Theory of personality (WTT; Fleeson & Jayawickreme, 2015) and the wider density distribution approach, positing that across days and weeks personality interacts meaningfully with work-related constructs, providing the trajectory for longer-term personality development. This study makes three contributions to the literature. Firstly, through analysing the co-development of PA with the Big Five personality factors and associated facets, we advance conceptual understanding of personality adjustment to work through the mechanism of reflection on work goals and performance (i.e., sense of PA). Second, we examine co-developmental associations over the short-medium term (in six waves over three months), enabling closer exploration of the interplay between personality and affective work factors compared to previous studies, with participants remaining in the same job, organization, and occupation. Our measurement strategy is therefore novel in representing a space between conventional state and trait operationalizations of personality, which we initially propose as personality "*phases*". Thirdly, by examining the development of personality at both the factor and facet level, we specifically test to see if co-developmental effects are differentiated across narrower personality constructs.

1.1. Personality development at work

Personality is defined as an "individual's characteristic pattern of thought, emotion, and behaviour together with the mechanisms – hidden or not – behind those patterns" (Funder, 2001, p. 198). The importance of personality in research in work and organizational settings is wide ranging (see Ritz et al., 2023, for a review). Studies in organizational research have most consistently framed theory around trait approaches to personality and measured personality based on the Big Five or Five Factor Model, comprising Extraversion, Agreeableness, Conscientiousness, Emotional Stability versus Neuroticism, and Openness (Goldberg, 1990), and subsequently examined the effects that personality has on work outcomes, such as performance (e.g., Barrick & Mount, 1991). The Big Five are higher-order personality constructs, under which are organized narrower facets of personality. These facets are found to have greater predictive validity for a range of personal outcomes (e.g., Mõttus et al., 2017; Ritz et al., 2023), and when examining facets in relation to work-outcomes, it has been identified that the factor level often obscures the effects and relationships present at the facet level, overlooking key relationships and masking nuances (e.g., Pletzer et al., 2020). As such, the present study examines personality at both factor (i.e., Big Five) and facet level.

Emerging research in personality at work has moved beyond conventional conceptualizations of traits and stability to examine personality more dynamically, subject to development and change over time (Ritz et al., 2023; Woods et al., 2013). Conceptualising personality as malleable and liable to periods of both stability and change raises new questions for work and organizational psychologists, for example, exploring how personality may be influenced and shaped by aspects of work.

Focusing on occupational characteristics, Wille and De Fruyt (2014) found that vocational demands (i.e., demands of occupational type) shaped personality trajectories across a 15-year period, providing evidence for significant changes across the Big Five personality factors in line with six types of vocation in which individuals worked. Vocational characteristics in working age have also been found to mediate the development of personality from childhood to adulthood (Woods et al., 2020). Holman and Hughes (2021) further highlighted the role of workload on personality development, with those who reported elevated levels of workload showing increases in Extraversion, Openness, and Agreeableness over a 20-year period. Additionally, a study by Wu et al. (2020) found that experiencing chronic job insecurity over a nine-year period had a negative impact on the factors of Agreeableness and Conscientiousness, while showing a significant increase in Neuroticism. Taken together, these findings add to the growing literature reporting significant and meaningful development of personality in response to work.

Yet, as a nascent research area, there are several significant gaps. Firstly, there are limitations in the scope of work-related factors that have been examined in the context of personality development. Research has tended towards examining features of work (e.g., demands, occupational environments) and affective reactions to job and work environments (e.g., job satisfaction; Wu & Griffin, 2012; job security; Wu et al., 2020). By contrast, research has not previously examined psychological appraisal of the effectiveness of a person's own activity at work, even though conceptually it is reasonable to propose that

individual responses to the experience of a positive or negative sense of accomplishment (e.g., in terms of behaviour, thinking, and emotions) could be shaped by such appraisals. In our study, we therefore focus on such a factor, in the form of PA.

A second general limitation of previous literature relates to the study period over which personality change is observed. For example, many studies examine trait change and development across years or even decades. In contrast, there is a growing literature assessing short-term change and variability in personality expressions. For example, work has demonstrated that levels of Conscientiousness can vary based on task characteristics (e.g., Minbashian et al., 2010), while engaging in specific behaviours, such as organizational citizenship behaviours, was further found to impact daily levels of personality states (Judge et al., 2014). Whole Trait Theory (Fleeson & Jayawickreme, 2015) suggests that these daily fluctuations in personality, when examined as trajectories, point to the developmental directions of personality traits.

Whole Trait Theory (WTT; Fleeson & Jayawickreme, 2015) conceptualizes personality as density distributions of state expressions, in that how we behave, think, and feel in response to specific events and experiences shapes our personality over time. Fleeson and Leicht (2006) define personality states as momentary and episodic fluctuations in personality expression typically measured within days, hours, or even shorter periods. In explaining how personality varies and fluctuates, the authors propose socio-cognitive factors as the key internal mechanism. Socio-cognitive factors are motivational constructs, sensitive to external cues, dynamic, and variable (Fleeson & Jayawickreme, 2015). Ultimately, these factors are the drivers for either the stability or variability of personality states within each moment or situation, and when this is aggregated over time, results in the "stable" personality trait. Stability of personality traits, therefore, represents to some degree the similarity of experienced situations and contexts (see also Woods et al., 2013).

While this theoretical perspective has sparked an emergence of studies at both the long-term and short-term level, there are considerably fewer studies examining how personality develops over short-medium term periods (i.e., weeks and months) in response to experiences of work. This is despite evidence looking at the effects of intervention studies on personality development, which show that trait change can be observed over such periods (e.g., Roberts et al., 2017). Moreover, the affective and cognitive constructs posited to correspond with personality variability are often examined in short-term contexts. For example, affective and cognitive factors have been demonstrated to vary substantially within daily (e.g., Benedetti et al., 2015; Miner, Glomb & Hulin, 2005; respectively), weekly (e.g., Madrid et al., 2013; Hogenelst et al., 2022; respectively), and longer time frames (e.g., Kampf et al., 2021; Weiss et al., 1999; respectively). We suggest that examining personality variability in relation to such factors could be more appropriately examined over short-medium terms. To address this gap, we examine personality development trajectories across 12 weeks.

Addressing this limitation raises further conceptual questions about the nature of personality traits and states, which are important to consider and clarify in the context of our study. We have drawn upon Funder's (2001) definition of personality, which captures the essence of personality as patterns or regularities in behaviour, thought, and emotion, adopting a perspective that describes general patterns or consistency in situational responses over time. This is consistent with Whole Trait Theory and the broader density distribution approach, whereby personality comprises the pattern of state expressions over time (e.g., Fleeson & Jayawickreme, 2015).

One implication of these contrasting but linked concepts of personality traits and states refers to the measurement frame relevant for each. To provide an exploratory investigation into personality dynamics, in the present study, we describe a measurement frame that sits between the state and trait temporal conceptualizations of personality as *personality phases*: neither momentary expressions nor long-term stable traits. We define *personality phases* as a medium-term (weekly, monthly) pattern of personality expression, which has yet to become established as a stable trait (i.e., the density distribution of state expressions is yet to be fully shifted but may represent a novel disruption or change over the focal period of time). This frame of reference aimed to capture the effects of medium-term events and experiences rather than momentary or daily demands, or longer-term stable contextual features such as vocational environment. Much like in the study of affect, conceptualized as trait, state, and mood (e.g., Rosenberg, 1998), our proposal of *personality phases* sits within the "mood" temporal positioning. We propose that the work experiences which extend beyond daily events can become significant influences on how individuals develop over time, providing insight into the density distribution approach to personality development. However, if these events become a more enduring feature at work, then this temporal framing could be able to capture these trends, providing an early indication of developmental trajectories in the underlying personality trait.

In the present study, we operationalize *personality phases* by adopting a novel measurement strategy by focusing on a 12-week overall timeframe, examining

development trajectories after an initial baseline measurement. We implement a two-week interval for measuring personality and the outcome in which people are asked to think about the previous two weeks as a frame of reference. Whilst this period of reference is specific and short, we contend that the approach is consistent with the core aspect of the above conceptual definitions that differentiates trait and state: that traits represent patterns of behaviour, thought, and emotion over time, not within a specific episodic experience. In this case, the time period over which people are prompted to reflect is clearly longer than the typical frame of reference for states (Fleeson & Leicht, 2006) and consistent with some trait-level intervention studies, such as Stieger et al. (2020).

By asking participants to reflect on the preceding two-week period, across 12 weeks, the measurement approach captures a continuous aspect of personality expression within the measurement interval, alongside changes to patterns of personality expression experienced between successive measurement intervals. Conceptually, ratings are positioned as representing the self-perceived *average* of personality states across the two-week period. When examined across each measurement point, the ratings are taken to indicate the growth, decline or stability trajectories of longer-term personality trait development. This is consistent with our conceptualization of *personality phases* as the medium-term trends in state expressions, which in turn might reflect cumulative trends in responses to situations (e.g., Wrzus, 2021), daily activity (Lindner et al., 2023) or patterns of experience (e.g., Hisler et al., 2025).

Accordingly, we position our theorizing and hypotheses around the development of these *personality phases*, rather than the dynamic fluctuation of personality states. To be clear, we adopt and draw upon the explanatory mechanisms of personality development in which variation in traits follows trajectories of personality state fluctuation (Fleeson & Jayawickreme, 2015), which may be prompted by work environment and experiences (Woods et al., 2019). Our measurement approach, we have argued, is between conventional trait and state operationalizations (i.e., which we have referred to as *personality phases*). We return to this issue of temporal framing in the discussion section. However, for clarity in our hypotheses of interest, when we refer to domains or facets of the Big Five, these are specified as representing the dimensions measured as either a baseline trait (i.e., at our first measurement point) or with reference to a short-medium term (i.e., two weeks) *personality phase*.

A final limitation of the current literature on the present phenomenon is that personality has been examined almost exclusively in the form of the Big Five factors of personality. By measuring personality only at this broad level, it is argued that within-factor variation in relation to other variables may be missed. There are multiple examples in the literature of the value of examining facet-level personality, namely being able to explain significantly more variance compared to personality factors alone (Ritz et al., 2023). Therefore, in the present study, we examine facet-level traits, as well as broader personality factors.

1.2. Personal accomplishment

Applying mechanisms and concepts of WTT, the present study identifies and examines the construct of personal accomplishment (PA) as a potential influence on trajectories of personality stability or variability within the work context. PA is defined as the evaluation of whether personal goals have been attained as a result of individually invested effort (Swider & Zimmerman, 2010), referring to feelings of competence and successful achievement of work (Maslach et al., 1996). As such, PA can be viewed as a motivational construct, with research demonstrating that higher previous reported feelings of PA are predictors of confidently repeating the associated behaviour (Bang & Reio, 2017). PA is linked to external cues, since personal work-related goals can often be associated with performance within the job role more broadly (e.g., Locke & Latham, 2019). As such, PA can be viewed as a dynamic construct (Dunford et al., 2012), influenced by feedback on performance and outcomes (however sourced), which may subsequently drive future behavioural intentions and actions. Therefore, we position PA as a motivational, dynamic, and externally derived construct that could explain aspects of personality variability.

Based on the above definition, PA can further be conceptualized as an appraisal of work. While PA as a distinct construct has yet to be examined in relation to personality variability, research in personality development has started to consider the role of work appraisals at both the trait and state levels. Holman and Hughes (2021) found that appraisals of workload shaped personality trait development over time, while Beckmann et al. (2021) found that momentary appraisals of work situations and demands had a significant impact on personality state expression, in line with the theoretical positioning of WTT.

Underlying these developmental influences, according to WTT, is a motivational process (Fleeson & Jayawickreme, 2015). Motivation serves a function to experiment and "try out" new behaviours and approaches (e.g., Hudson & Fraley, 2015). In response to perceptions of PA, it is possible that people adjust their behaviour depending on their personal objectives and their correspondence with current

experience. In summary, we propose that the construct of PA will act as a predictor *for personality phases*. We next consider the specific personality domain-related effects of PA and their potential directions.

Firstly, we can consider the wealth of cross-sectional literature on the relationship between personality and PA to provide the foundation for how these constructs may be related. Concerning the personality factor of Conscientiousness, which includes facets such as achievement striving, planning, productiveness, and organization (e.g., Costa & McCrae, 1995; Soto & John, 2017), it could be positioned that PA will be strongly and positively related with all dimensions on the basis that PA reflects individually directed effort into achieving work-related goals: higher levels of Conscientiousness would be associated with higher perceived PA (Swider & Zimmerman, 2010).

Feelings of competence, which arise from appraisals of PA (e.g., Maslach et al., 1996), may exhibit a positive association with Emotional Stability. Previous cross-sectional studies have reported positive correlations between Emotional Stability and PA across a range of populations (e.g., Swider & Zimmerman, 2010). Specifically, high Emotional Stability (vs. Neuroticism; Costa & McCrae, 1995) is associated with self-efficacy and broader self-esteem (Judge et al., 2002). Relatedly, Bang and Reio (2017) identified PA to be significantly related to self-efficacy, further supporting the existence of a positive relationship between the factor of Emotional Stability and associated facets, and PA.

Extraversion comprises facets such as gregariousness, positive emotions, and energy level (Costa & McCrae, 1995; Soto & John, 2017), each of which could be associated with higher levels of PA. Consistent with existing meta-analytic correlational findings (Swider & Zimmerman, 2010), it is argued that feelings of accomplishment and success will be linked with positive feelings and happiness, as well as renewed energy to repeat the behaviours (e.g., Bang & Reio, 2017). In summary, a positive relationship is hypothesized between PA and the personality factor of Extraversion, and related facets of gregariousness, positive emotions, and energy level.

Agreeableness incorporates facets such as trust, compliance, tenderness, and compassion (Costa & McCrae, 1995; Soto & John, 2017). Individuals higher in Agreeableness may typically hold more positive views towards their jobs and organization more widely, given their motivations to be supportive and garner positive relationships (e.g., Wilmot & Ones, 2022). Moreover, meta-analytic data show positive relations between Agreeableness with personal growth, self-acceptance, and happiness, all constructs which are closely related to PA (Swider & Zimmerman, 2010; Wilmot & Ones, 2022).

Therefore, consistent with the above empirical findings, we hypothesize positive relationships between Conscientiousness, Emotional Stability, Extraversion, and Agreeableness with PA, which will also be seen at the facet level. Concerning the factor of Openness, meta-analytic findings found weak and non-significant empirical evidence of associations between Openness and PA (e.g., Swider & Zimmerman, 2010). Therefore, we do not set any propositions regarding Openness.

> ***Hypothesis 1:*** PA will be correlated with baseline (trait) Conscientiousness, Extraversion, Agreeableness, and Emotional Stability (inclusive of facets)

As evident from the above discussion, there exists a body of cross-sectional and correlational literature which has established existing relationships between the Big Five personality factors and PA. Alongside the conceptual rationale we present, this evidence underpins our first hypothesis (Hypothesis 1). Yet, by extension, this evidence and discussion are also relevant for considering the *co-development* of personality phases with PA. The literature on these relationships has conventionally treated personality as a stable predictor variable. However, if associations between personality and PA are observed, and expressions of personality are assumed to vary dynamically in relation to changes in externally influenced motivational constructs (PA), then we posit that these constructs will *co-develop*. This logic does not afford primacy in the developmental relationship either to personality or PA. Rather, it simply describes the implication that to the extent that the two are conceptually and empirically associated: change in one should be observed alongside change in the other. This is the foundation of Hypothesis 2.

> ***Hypothesis 2:*** PA will be correlated over time (co-develop) with personality dimensions of Conscientiousness, Extraversion, Agreeableness, and Emotional Stability (inclusive of facets)

Higher perceptions of PA could be associated with several affect-based personality characteristics, such as greater levels of positivity (Extraversion, e.g., Bang & Reio, 2017) or a reduction in anxiety and stress perceptions (Emotional Stability). Additionally, PA may act as a motivator, encouraging self-directed behaviours to continue the feeling of PA and achieve more in the future (Conscientiousness). Furthermore, we may observe an individual become more trusting in their organization, generating stronger interpersonal

relationships in response to feeling accomplished (Agreeableness). In contrast, a low perception of PA could be related to higher burnout, stress, and self-perception (Emotional Stability), reduced effortful behaviours (Conscientiousness), withdrawal from social contact (Extraversion, Agreeableness), and a lack of trust in the judgement of colleagues and managers (Agreeableness). By this reasoning, PA represents a state that may trigger cognitive and affective responses that shape subsequent personality expression. Therefore, within the context of the present study, we position this as a predictor of subsequent *personality phases*, particularly those outlined above.

> ***Hypothesis 3:*** Baseline levels of PA will be positively associated with growth in personality dimensions of Conscientiousness, Extraversion, Agreeableness, and Emotional Stability (inclusive of facets) over time.

While WTT positions personality expression to be the result of internal motivational mechanisms, it is also important to acknowledge the role that personality can have on the environment. For example, it has been identified both theoretically and empirically that personality can influence the selection of environment (e.g., an individual higher in Extraversion is more likely to choose to attend a party than someone lower in Extraversion), which subsequently impacts the environmental information shaping state expressions. This is consistent with goal-setting literature, which has identified that personality can predict the goals one sets, either to "correct" a perceived weakness in a specific personality factor or facet, or to satisfy the trait level (e.g., express states aligned to the trait; Reisz et al., 2013). We propose that personality may play an influential role in changes in PA over time. Specifically, people higher on Conscientiousness typically display more achievement striving behaviours and experience higher motivational states to encourage performance (McCrae & Costa, 1987) and are therefore more likely to also experience higher levels of PA. Likewise, individuals higher in Extraversion typically display higher levels of job-related self-efficacy (Judge & Ilies, 2002), which would contribute to increased perceived PA.

Regarding Agreeableness, it is suggested that those higher in the personality factor are typically less critical of the workplace, are more adaptable to workplace changes, and are more compliant with workplace regulations (Swider & Zimmerman, 2010). If employees are more compliant, unquestioning, and less critical of what is required of them, holding the belief that the organization is providing a valuable service or output, then employees experience a greater sense of PA. Considering Emotional Stability, previous research has established that higher Emotional Stability (low Neuroticism) had a positive impact on PA in samples of teachers (e.g., Kokkinos, 2007). Negative emotionality is likely to reduce perceptions of accomplishment and success, with levels of these facets persisting over time. Based on this literature and on the grounding of the theoretical framework, it is hypothesized:

> ***Hypothesis 4:*** Baseline levels of Conscientiousness, Extraversion, Agreeableness, and Emotional Stability (and related facets) will be positively associated with growth in PA over time.

A graphical representation of these hypotheses is found in Figure 1.

2. Method

2.1. Study design

Within the present study, we examined our hypotheses in a specific occupational group – teachers in UK secondary education – to control for otherwise varying occupational or vocational demands and aligned personality factors in different fields (Woods et al., 2019). A quantitative "shortitudinal" design (Dormann & Griffin, 2015) was adopted for several reasons. Firstly, this approach allowed direct examination of this "medium" term period, utilizing longitudinal methods across shorter periods or weeks and months, whilst also not crossing into short-term methods, such as experience sampling or daily diary designs. This was most consistent with our concept of *personality phases*. Whilst there are only a small number of studies that have utilized this approach (e.g., Haun et al., 2023), the recent increase in popularity of the design further supports our interest and call for increased understanding of this time frame within the work context.

Secondly, given the focus on the teaching occupation, this time frame was highly appropriate, given that for teachers there is a natural period of focused work across a few months, in which the greatest work

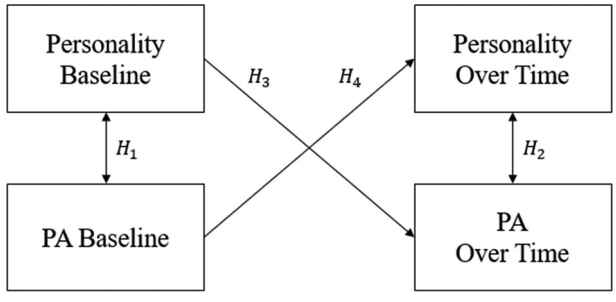

Figure 1. Hypothesized model.

demands and affective perceptions would occur. To avoid any effects of starting or ending the teaching period, we collected baseline data using a survey throughout the first month, asking participants to adopt an "in general" mindset when responding to items at this time only. Within this baseline survey, we also collected demographic information to avoid adding to the subsequent waves. The final questionnaire was issued three weeks before the end of the term. Each wave of data collection, which occurred after the baseline (waves 1–5), required participants to reflect on their experiences from the prior two weeks *only* when responding to all survey items. Therefore, this time frame and design were found to be most suitable for the sample and to investigate the present research questions, facilitating engagement and reducing attrition.

Finally, while personality variability in response to natural demands has not been measured across this time within the work context, intervention studies have demonstrated the existence of meaningful variation within personality factors when measured at the trait level during this time frame (e.g., Stieger et al., 2020), providing some evidence that effects could be observable. Similar time frames have also been employed when examining related affective and cognitive work-related constructs (e.g., perceived performance, Lopper et al., 2023; job crafting; Haun et al., 2023).

2.2. Sample and procedure

Six waves of data were collected across 3 months from September to December (term 1 for UK schools). Within this design, the first wave of baseline data was collected throughout September, with surveys then issued at fortnightly intervals. Each survey was open for a week, apart from one (wave 3), which was open for two weeks since it occurred over a week-long school holiday, the dates of which varied across the UK. To maximize power for the analysis, the study sought to sample as many teachers as possible, with a minimum of 100 in line with guidance from Diallo et al. (2014) for studies of 6 measurement points. Using the UK Government's Secondary School Database, 500 schools were randomly selected and contacted to request the distribution of the baseline survey to their teaching staff. A total of 175 teachers registered their interest in the study by completing the baseline measure. After removing 47 participants for duplications or missing data, we received usable data from 127 participants. Compared to a maximum number of 762 observations (127 × 6), we were provided with 441 observations (58% response rate). Of the final sample, 69.3% were female with a mean age of 42.61 (range 22–65, $SD = 10.45$), and 1.6% of the sample reported belonging to an ethnic minority. Regarding tenure, the sample ranged from those in their first qualified teaching year to those with 30+ years' experience, with 22.7% falling between 0 and 5 years of experience, 13.4% with 6–10 years, 19.7% with 10–15 years, 15% with 15–20 years, 22% with 20–30 years and 7.1% with more than 30 years' experience of teaching. All data were collected using the online survey platform Qualtrics.

2.3. Measures

Demographic data (age, gender, ethnicity, tenure, taught subject, and additional responsibilities) were collected within the first survey only. All other measures were repeated at all waves, including baseline. All measures were scored from 1 (strongly disagree) to 5 (strongly agree). Cronbach's reliability alphas are presented in Table 1.

2.3.1. Personality

The domains of Extraversion, Conscientiousness, Agreeableness, Emotional Stability, and Openness, along with related facets, were measured using the Big Five Inventory v2 (BFI-2; Soto & John, 2017). Given the present adoption of a "shortitudinal" approach (Dormann & Griffin, 2015), and to operationalize *personality phases*, participants were asked to respond to the prefix "*Thinking of the last two weeks, I am someone who* . . . ," and record agreement with the statements, such as "is outgoing, sociable". This scale was selected as a widely used, validated scale which includes three clear and distinct facets per factor. Facets are comprised of four items, while the overarching factors are the sum of the 12 items used for the related three facets. Within the present study, personality is measured in the form of traits, rather than states, for several reasons. Firstly, as this timeframe for capturing dynamic personality (in the form of *phases*) at work is novel, the more established measurement of trait personality was selected, rather than the adapted scales to measure states, which have faced recent criticisms (Horstmann & Ziegler, 2020), to ensure internal validity within the study design. Secondly, by adopting a trait-based measurement approach, we seek to assess how an individual views themselves in general across a fixed, medium-term time frame, rather than allowing for general self-reports (e.g., yearly reflections) or contextual momentary reports (e.g., states). In taking such an approach, this also accounts for the impact of daily or momentary experiences on reporting.

Confirmatory factor analyses (CFA) were conducted to confirm the within-factor facet structure over time. Due to the sample size, the calculation of a global measurement across all waves of data was not possible, and so, following

Table 1. Means, standard deviations and correlations between Big Five personality traits, and PA at each measurement wave.

	M(SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Age	42.61 (10.45)	–																					
2. Gender	1.69 (0.46)	-.03	–																				
3. Extraversion 1	43.84 (8.12)	.02	-.11	(.84)																			
4. Extraversion 2	42.21 (8.78)	.09	-.08	.93**	(.87)																		
5. Extraversion 3	41.79 (9.27)	.11	-.02	.92**	.94**	(.88)																	
6. Extraversion 4	42.47 (8.14)	.11	-.09	.90**	.89**	.93**	(.85)																
7. Extraversion 5	43.72 (8.29)	.01	-.09	.87**	.90**	.93**	.92**	(.85)															
8. Extraversion 6	41.54 (8.72)	.08	.02	.81**	.84**	.90**	.91**	.88**	(.88)														
9. Agreeableness 1	48.76 (6.15)	.08	.04	.17	.26*	.23	.14	.22	.19	(.74)													
10. Agreeableness 2	49.31 (7.17)	.08	.07	.20	.29*	.32*	.23	.38**	.32*	.82**	(.83)												
11. Agreeableness 3	49.44 (6.71)	.20	.09	.32**	.40**	.37**	.30*	.40**	.34*	.85**	.83**	(.79)											
12. Agreeableness 4	49.16 (6.75)	.25	.07	.21	.31*	.29*	.27*	.29	.26	.88**	.84**	.87**	(.82)										
13. Agreeableness 5	49.10 (7.52)	.23	.27*	.16	.28	.28	.17	.28	.32*	.85**	.76**	.83**	.89**	(.84)									
14. Agreeableness 6	49.41 (6.58)	.19	.30*	.29*	.45**	.43**	.34*	.42**	.42**	.75**	.85**	.85**	.87**	.86**	(.83)								
15. Conscientiousness 1	47.84 (7.52)	.06	.15	.16	.28*	.28*	.34**	.25	.37**	.28**	.19	.28*	.27*	.27*	.19	(.82)							
16. Conscientiousness 2	48.94 (6.84)	.18	.22	.22	.22	.29*	.35*	.18	.30*	.11	.16	.22	.19	.35*	.20	.83**	(.82)						
17. Conscientiousness 3	48.40 (7.32)	.17	.06	.26*	.31*	.28*	.35*	.26	.33*	.12	.05	.22	.09	.15	.06	.86**	.90**	(.85)					
18. Conscientiousness 4	48.40 (7.35)	.31*	.04	.20	.21	.18	.35**	.22	.33*	.20	.13	.24	.31*	.30*	.24	.86**	.88**	.85**	(.86)				
19. Conscientiousness 5	49.21 (6.77)	.14	.22	.23	.30*	.30*	.39**	.30*	.46**	.28*	.18	.31*	.30*	.36**	.22	.77**	.89**	.87**	.92**	(.82)			
20. Conscientiousness 6	49.33 (7.24)	.17	.17	.33*	.31*	.33*	.42**	.30*	.49**	.11	.28	.28	.28	.38**	.32*	.84**	.85**	.81**	.86**	.78**	(.87)		
21. Emotional Stability 1	37.46 (10.77)	.54	-.30**	.46**	.44**	.49**	.43**	.49**	.53**	.37**	.35**	.35**	.38**	.25	.36**	.25**	.03	.11	.30*	.09	.30*	(.92)	
22. Emotional Stability 2	38.57 (11.41)	.12	-.29**	.51**	.55**	.50**	.54**	.58**	.59**	.35**	.41**	.36**	.52**	.42**	.55**	.21	.11	.10	.38**	.24	.40**	.90**	(.93)
23. Emotional Stability 3	37.76 (10.96)	.22	-.28*	.59**	.54**	.55**	.54**	.57**	.64**	.33**	.43**	.33**	.46**	.35*	.43**	.15	.13	.11	.30	.24	.40**	.88**	.94**
24. Emotional Stability 4	37.30 (10.60)	.23	-.29*	.49**	.52**	.53**	.53**	.59**	.66**	.29*	.39**	.28	.42**	.36*	.42**	.47**	.31*	.27	.45**	.40**	.46**	.88**	.90**
25. Emotional Stability 5	37.40 (10.39)	.09	-.25	.56**	.57**	.58**	.58**	.59**	.67**	.17	.35*	.31*	.41**	.29*	.46**	.35**	.23	.23	.33*	.24	.41**	.89**	.91**
26. Emotional Stability 6	36.81 (10.74)	.08	-.12	.52**	.55**	.58**	.60**	.57**	.66**	.32*	.42**	.32*	.47**	.45**	.46**	.34*	.25	.20	.27	.27	.37**	.79**	.85**
27. Openness 1	47.50 (7.67)	.22*	.12	.13	.10	-.01	.19*	.13	.06	.17	.15	.17	.36**	.20	.15	.06	.00	-.08	.14	.03	.13	-.06	.04
28. Openness 2	47.44 (8.10)	.26*	.02	.12	.12	.04	.26	.17	.12	.24*	.23*	.21	.39**	.20	.17	.04	-.02	-.04	.13	.00	.15	.11	.14
29. Openness 3	47.59 (7.94)	.21	.07	.03	.14	.05	.26	.20	.14	.32**	.29*	.25*	.38**	.20	.23	.06	.01	-.05	.13	.02	.06	.07	.12
30. Openness 4	46.88 (9.45)	.23	-.02	.09	.19	.11	.27*	.18	.14	.34**	.33*	.25	.40**	.28	.24	.24	.08	.02	.25	.16	.23	.17	.26
31. Openness 5	47.12 (9.75)	.10	.02	.11	.20	.12	.28	.23	.19	.22	.16	.10	.27	.20	.13	.21	.07	.09	.23	.14	.27	.04	.15
32. Openness 6	46.52 (9.43)	.19	-.01	.07	.17	.11	.28	.21	.19	.20	.19	.13	.29	.24	.23	.15	.09	-.02	.25	.17	.19	.12	.22
33. Personal Accomp 1	3.90 (0.51)	-.05	-.05	.48**	.59**	.58**	.63**	.57**	.52**	.29**	.33**	.48**	.46**	.41**	.48**	.10	.18	.14	.17	.31*	.23	.22*	.45**
34. Personal Accomp 2	3.81 (0.60)	.02	-.12	.46**	.54**	.53**	.59**	.54**	.44**	.27*	.30**	.38**	.38**	.35*	.43**	.14	.13	.11	.08	.16	.13	.26*	.39**

(*Continued*)

Table 1. (Continued).

	M(SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
35. Personal Accomp 3	3.80 (0.57)	.03	-.09	.58**	.66**	.60**	.71**	.77**	.64**	.37**	.38**	.40**	.49**	.47**	.47**	.21	.24	.21	.22	.35*	.30*	.29*	.44**
36. Personal Accomp 4	3.71 (0.58)	.18	-.10	.51**	.60**	.53**	.64**	.57**	.56**	.33*	.39**	.44**	.47**	.44**	.60**	.27*	.22	.21	.32*	.35*	.46**	.30*	.51**
37. Personal Accomp 5	3.66 (0.60)	.04	.03	.39**	.60**	.63**	.64**	.58**	.55**	.30*	.47**	.42**	.48**	.44**	.56**	.17	.11	-.06	.19	.20	.29*	.24	.48**
38. Personal Accomp 6	3.58 (0.71)	.19	-.07	.40**	.58**	.53**	.63*	.53**	.58**	.32*	.49**	.49**	.60**	.47**	.59**	.29*	.27	.16	.40**	.33*	.45**	.35**	.57**

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
23. Emotional Stability 3	(.93)															
24. Emotional Stability 4	.92**	(.91)														
25. Emotional Stability 5	.94**	.91**	(.92)													
26. Emotional Stability 6	.91**	.93**	.91**	(.93)												
27. Openness 1	-.01	.18	.02	.05	(.82)											
28. Openness 2	.14	.30*	.11	.21	.89**	(.84)										
29. Openness 3	.09	.25	.07	.17	.90**	.93**	(.86)									
30. Openness 4	.18	.31*	.07	.13	.88**	.92**	.90**	(.90)								
31. Openness 5	.09	.21	.05	.15	.88**	.90**	.91**	.93**	(.91)							
32. Openness 6	.13	.28	.12	.20	.87**	.93**	.93**	.94**	.94**	(.90)						
33. Personal Accomp 1	.38**	.34**	.38**	.49**	.19*	.18	.18	.19	.18	.25	(.82)					
34. Personal Accomp 2	.35**	.35*	.41**	.47**	.22	.28*	.27*	.35*	.33*	.34*	.77**	(.79)				
35. Personal Accomp 3	.43**	.50**	.50**	.53**	.38*	.24	.28*	.36*	.39**	.33*	.76**	.74**	(.83)			
36. Personal Accomp 4	.45**	.43**	.52**	.55**	.42**	.42**	.39**	.47**	.46**	.50**	.71**	.79**	.80**	(.83)		
37. Personal Accomp 5	.37*	.48**	.45**	.48**	.36**	.39**	.35*	.50**	.41**	.44**	.74**	.77**	.82**	.75**	(.86)	
38. Personal Accomp 6	.49**	.55**	.59**	.57**	.37**	.42**	.37**	.46**	.45**	.47**	.69**	.68**	.77**	.86**	.82**	(.87)

Note. Reliability alphas are presented in parenthesis on the diagonal. *$p < .05$, **$p < .01$.

the work by Flaxman and colleagues (Flaxman et al., 2023), we tested a single factor (e.g., Extraversion) and three factor (e.g., sociability, energy level, assertiveness) model at each time point. Across all waves, the CFA supported a three-factor model for the personality facets (see Table 1, Supplementary Materials). Given the widely recognized difficulty of converging the Big Five model of personality in a CFA (e.g., Gignac et al., 2007), this was not conducted within the present study due to the greater focus on facet relationships with PA.

2.3.2 Personal accomplishment

The PA subscale of the Maslach Burnout Inventory – Educators Survey (MBI-ES; Maslach & Jackson, 1981) was used to measure this construct in a sample of secondary teachers. Using the same statement prefix of *"thinking of the last two weeks"* to encourage reflection over the same period, participants were asked to record agreement with statements such as "I have accomplished many things in this job". Internal reliability for the subscale ranges from .69 – .82 (Blanch & Garcia, 2005). Participant scores were calculated so that higher scores reflected greater perceptions of PA.

2.4. Analysis

SPSS was used to assess initial correlational relationships within the data. Parallel process growth curve modelling was then conducted using Mplus to test each of the hypothesized pathways. This analytical approach was selected based on guidance by Nestler et al. (2015), and follows similar studies interested in identifying bi-directional relationships (e.g., Laceulle et al., 2023). By default, Mplus uses full information maximum likelihood (FIML) to specify models with missing data for the predictors within the dataset. Therefore, the full sample is included with the final models. Linear growth models showed a good fit to all personality dimensions and PA. Curvilinear models were also tested for all variables; however, these models did not result in notable improvements to the models, and so the linear models were used in all subsequent analyses. Within this modelling, the intercept of PA was initially correlated with the intercept of the personality factor and related facets, reassessing H1 within the model. The facets of each personality factor are as follows: Extraversion facets were assertiveness, sociability, and energy level; Conscientiousness facets were responsibility, organization, and productiveness; Agreeableness facets were trust, respect, and compassion; and facets of Emotional Stability were anxiety, depression, and emotional volatility. To analyse co-development over time (H2), the slope of PA was correlated with those of the hypothesized personality factor and related facets, with significant results indicating co-development, in that the variables changed in similar patterns over the observed period.

To assess temporal precedence and the predictive hypotheses of PA at baseline predicting subsequent changes in personality factors (H3), and the inverse whereby personality influences development within PA (H4), further parallel process longitudinal growth curve models were conducted in Mplus with the baseline scores (intercept) of PA entered as a predictor on the subsequent change (slope) in personality factor. As advised by Wu et al. (2009), model fit was measured using the Comparative Fit Index (CFI) and Tucker Lewis Index (TLI), with scores > .95 indicating excellent fit, >.90 indicating acceptable fit, and <.90 indicating a poor fit. The Root Mean Square Error of Approximation (RMSEA) fit evaluation was also used here, whereby scores < .05 indicate excellent fit, <.08 indicate good fit, <.10 indicate acceptable fit, and those above .10 reflect poor fit (Browne & Cudeck, 1993).

Composite reliabilities for the Big Five personality factors and facets can be found in the Supplementary Materials (Table 2). Both McDonald's Ω and Cronbach's α were above acceptable levels for each factor and facet, apart from the facet of compassion (McDonald's Ω = 0.45, average Cronbach's $\alpha = 0.45$). We have retained this variable for completeness of reporting, but advise caution when interpreting results. Intraclass correlation coefficients (ICC1) can also be found in this table, with scores predominantly >0.7, indicating around two-thirds of the variance is between individuals, rather than within individuals, which is as anticipated.

3. Results

The descriptive data for the personality factors and PA are displayed in Table 1.[1] An extended table of the descriptive statistics for the personality facets can be found in the Online Supplementary Materials (Table 3). Individual growth curve models of the examined variables are presented in Table 2.

Firstly, hypothesis 1, that PA will be correlated at baseline with specific personality factors, was partially supported. Significant correlations at time one were identified between PA and Extraversion ($r = .48$, $p = <.001$), Agreeableness ($r = .29$, $p = .001$), Emotional Stability ($r = .22$, $p = .014$), and Openness ($r = .19$, $p = .040$). When positioned within the larger growth curve models, these relationships remained at the factor level for Extraversion ($B = 1.83$, SE = .366, $p < .001$), Agreeableness ($B = 0.79$, SE = .271, $p = .004$), Emotional Stability ($B = 1.17$, SE = .436, $p = .007$), and Openness ($B = 0.68$, SE = .322, $p = .036$). At the facet level, support was

Table 2. Parameter estimates from the parallel process growth models.

	PA			
Personality	H_1	H_2	H_3	H_4
Extraversion	1.83†	0.03**	0.25	0.00
Sociability	0.59†	0.02**	0.00	0.06
Energy	0.65†	0.01*	0.00	0.05
Assertiveness	0.61†	0.01	0.00	0.08
Conscientiousness	0.32	0.01	0.51*	0.00
Responsibility	−0.02	0.00	0.34**	0.01
Productiveness	0.23*	0.00	0.09	0.01**
Organization	0.11	0.01	0.07	0.00
Agreeableness	0.79**	0.02*	0.39	0.00
Trust	0.31*	0.00	0.27*	0.00
Respect	0.22	0.01*	0.00	0.05
Compassion	0.20*	0.01	0.03	0.00
Emotional Stability	1.17**	0.02	0.69	0.00
Anxiety	0.32*	0.00	0.18	0.00
Depression	0.57†	0.01	0.23	0.00
Emotional Volatility	0.29	0.01	0.32*	0.01
Openness	0.68*	0.02*	0.22	0.00
Intellectual Curiosity	0.18	0.00	0.01	0.01
Aesthetic Sensitivity	0.03	0.01*	0.03	0.00
Creative Imagination	0.44†	0.01*	0.18	0.00

Note. $N = 127$ (full information maximum likelihood). H_1 = correlation between initial personality trait and initial scores of PA; H_2 = correlations between changes in personality traits and PA (i.e., co-development); H_3 = initial PA predicting slope of personality trait (i.e., PA shaping personality); H_4 = initial personality trait predicting slope of PA (i.e., personality shaping PA). Facets of Emotional Stability are the reverse of variable name, with high scores on "anxiety" facet indicating lower levels of trait anxiety, for example. $^{\dagger}p < .001$. $^{**}p < .01$. $^{*}p < .05$.

found within the Extraversion-related facets of sociability ($B = 0.59$, SE = .162, $p < .001$), energy level ($B = 0.65$, SE = .129, $p < .001$), and assertiveness ($B = 0.61$, SE = .151, $p < .001$), the Agreeableness facets of trust ($B = 0.31$, SE = .130, $p = .017$) and compassion ($B = 0.20$, SE = .095, $p = .035$), two facets of Emotional Stability: anxiety ($B = 0.32$, SE = .157, $p = .042$) and depression ($B = 0.57$, SE = .162, $p < .001$); and creative imagination, a facet of Openness ($B = 0.44$, SE = .123, $p < .001$). Whilst the correlational ($r = 0.10$, $p = .294$) and model baseline relationship ($B = 0.32$, SE = .303, $p = .299$) between PA and Conscientiousness was not significant, there was evidence for a relationship between PA and the facet of productiveness ($B = 0.23$, SE = .111, $p = .039$).

In relation to hypothesis 2, that PA and personality factors would co-develop over time, support was found for this within the factor of Extraversion ($B = 0.30$, SE = .012, $p = .009$) the associated facets of sociability ($B = 0.02$, SE = .006, $p = .011$), and energy level ($B = 0.01$, SE = .005, $p = .022$). Further support was identified for the factor of Agreeableness ($B = 0.02$, SE = .009, $p = .013$) and the related facet of respect ($B = 0.01$, SE = .005, $p = .042$). Finally, a significant co-developmental relationship was found for Openness ($B = 0.02$, SE = .011, $p = .048$), and the facets of creative imagination ($B = 0.01$, SE = .005, $p = .046$) and aesthetic sensitivity ($B = 0.01$, SE = .005, $p = .034$). There was no support for PA co-developing with Conscientiousness, Emotional Stability or related facets.

The third hypothesis proposed that PA at baseline would predict the subsequent trajectories in personality factors over time. Support for this hypothesis was found within Conscientiousness ($B = 0.51$, SE = .232, $p = .030$), the related facet of responsibility ($B = 0.34$, SE = .113, $p = .003$), the Agreeableness facet of trust ($B = 0.27$, SE = .112, $p = .015$), and the Emotional Stability facet of emotional volatility ($B = 0.32$, SE = .128, $p = .014$). No other significant relationships were identified.

Finally, there was partial support for the final hypothesis, whereby personality predicts change in PA, as no significant relationship was identified for the main factors of Agreeableness ($B = 0.00$, SE = .002, $p = .647$), Extraversion ($B = 0.00$, SE = .001, $p = .848$), Conscientiousness ($B = 0.00$, SE = .002, $p = .116$), Emotional Stability ($B = 0.00$, SE = .001, $p = .056$), or Openness ($B = 0.00$, SE = .001, $p = .193$). However, there was evidence to support the pathway between the facet of productiveness (Conscientiousness) and PA ($B = 0.01$, SE = .005, $p = .007$).

4. Discussion

Personality development within the workplace is a growing area of research interest, challenging previous assumptions of static personality and broader preconceptions of human behaviour in adulthood. The current study built upon existing empirical investigations at both state and trait levels of personality in three ways. Firstly, we have found that personal accomplishment (PA), indicative of an explicit reflective process, plays a key role in the expression and development of personality. Adopting an exploratory

analytical model, we established a range of dynamic growth trajectories, identifying both expected and unexpected relationships between personality factors and PA over time. Secondly, by identifying small but significant change trajectories in personality, this study underlines the importance of considering this medium-term time frame of months, which we term *phases*, in the broad study of personality dynamics at work. Finally, we extend the literature by assessing personality at both the factor and facet levels, highlighting complex and nuanced relationships. Further implications for theory and practice are discussed.

4.1. Co-developmental and predictive relationships

Overall, the findings here lend support to the argument that personality both adjusts and is adjusted by self-evaluations in relation to work. While most correlational relationships between the Big Five and PA as previously identified in the literature (e.g., Swider & Zimmerman, 2010) were replicated, unexpectedly, we did not observe equivalent co-developmental relationships across all personality domains. It was only for personality dimensions of Extraversion, Agreeableness, and Openness, and several related sub-facets, where significant co-developmental trajectories with PA, in line with the hypothesized proposition that the constructs may be conceptually and empirically aligned.

Where co-developmental relationships were not present, we instead identified predictive relationships between the baseline level of either PA or personality and subsequent changes in the growth trajectories. Providing a novel contribution towards our understanding of the relationship between personality and work, PA was found to significantly predict the trajectories of Conscientiousness, responsibility (Conscientiousness), trust (Agreeableness), and emotional volatility (Emotional Stability). With PA having previously only been positioned as an outcome within existing literature (e.g., Swider & Zimmerman, 2010), this finding directly contradicts those results and highlights the variability of personality in response to PA within the short-medium time interval we examine in our study. However, these results are in line with the theoretical positioning of WTT and broader personality dynamics perspectives (e.g., TESSERA, Wrzus, 2021; DATA Model; Woods et al., 2019), and as such, we contribute to the growing literature establishing work as an important influence on personality variability, but with the new construct of PA.

Considering the inverse predictive pathway, the personality facet of productiveness (Conscientiousness) was found to significantly predict the trajectory of PA. This underlines the importance of considering bi-directional and circular models of personality and work-related factors since PA subsequently predicted factor level Conscientiousness and facet responsibility. Whilst this relationship pattern may seem contradictory, it is in line with broader dynamic developmental perspectives (Woods et al., 2013), suggesting work and personality enact reciprocal influences on each other, representing the complexities of daily life. In summary, the directional results here highlight a nuanced relationship between personality and PA, suggesting they continually influence each other over time.

4.2. Theoretical implications

Our study presents several theoretical contributions regarding personality dynamics within the workplace. Firstly, by drawing upon WTT, we proposed and subsequently empirically assessed the ways in which personality and PA interact over the medium term, aiming to explore development and change in personality in a way that fits between conventional state expressions and trait development within WTT (i.e., which we term *personality phases*). Our data did lead us to observe such development, predicted by earlier PA, supporting this proposition. However, some of the established baseline correlational relationships were not related over time, while the development of *personality phases* was not observed for all personality dimensions within this period of study. These findings shed light on the complexities of the relationship between personality and work, but several questions remain, providing a foundation for future work to continue this study and make urgently needed contributions to knowledge.

Theoretically, personality change is proposed to be the result of consistent shifts in momentary personality expressions (e.g., behaviours, thoughts, and attitudes) as a result of environmental variation and cognitive processing, which determines the overall trait over time (WTT, Fleeson & Jayawickreme, 2015). These nuances are key in developing our understanding of personality as a dynamic construct.

Our examination of personality as *phases* represents a novel contribution to dynamic theoretical perspectives on personality. Our approach to operationalizing personality measurement across two-week intervals, with associated frame-of-reference prompts to participants of the previous two weeks, is helpful to return to in this discussion. In conceptualizing personality as phases in our theorizing, hypotheses, and measurement, we drew on a perspective that differentiated from traits and states. We argued that whilst traits represent coherent patterns in behaviour, cognition, and affect over time, states are transient and momentary. Yet, there has been no prior conceptualization of this medium-term period, connecting states and traits. Therefore, while we proposed that ratings of general expressions of personality over a two-

week period are more consistent with the trait concept, we position *phases* as a different concept, not previously defined within the literature. Based on the stability of traits (notwithstanding the capacity for development), the frame of reference we applied aims to reflect average state expressions across two weeks, identifying both enduring continuity in patterns of trait expression (i.e., drawing on the stability in traits that extends beyond the boundary of the reference frame) as well as emergent changes with it. Our contribution in this study could prompt further critical reflection and investigation by researchers on the conceptualization and measurement of personality as traits, states, or phases, in developing the literature on personality dynamics and development.

Our study also brings into focus the importance of investigations into personality dynamics at the facet level to assist in the identification of smaller but meaningful changes at narrower personality conceptualizations. Consistent with previous studies assessing the predictive validity and use of facet scales (e.g., Speer et al., 2022), we echo the calls for future research to use facets and narrow factor conceptualizations, especially when dealing with complex, dynamic relationships (Ritz et al., 2023). Additionally, by utilizing an exploratory analytical model, we were able to reveal a range of correlational, co-developmental, and predictive relationships, not all congruent with existing literature or hypotheses, highlighting the need to consider a range of dynamic and reciprocal interactions of personality and work variables (Woods et al., 2013).

Finally, the positioning of PA as a meaningful predictor of *personality phases* raises implications for both theory and practice. PA as a construct incorporates both the reflection of goal attainment, but also the reflection on the success of the goal-directed effort (Swider & Zimmerman, 2010). The alignment of personality to goal-directed effort is not novel, but existing work has rather focused on the behaviours of attaining a goal, at both the state (e.g., Heller et al., 2007) and trait (e.g., Hudson & Fraley, 2015) level of investigation. Indeed, intervention work by Hudson and colleagues (Hudson et al., 2019) within student samples revealed that the attainment of goals relating to change was key in promoting further trait development.

Whilst our work does not include specific interventions, the findings raise the possibility that goals more broadly in day-to-day life may be influential in personality variability, including across *personality phases*. This in turn gives rise to considerations about boundary conditions or underlying contexts that might determine when, how and in what ways goals, and reflections on accomplishment alter personality expression, and trends in *personality phases*. For example, the meaningfulness of goals or commitment to accomplishment might be relevant to consider, or alternatively, the contextual nesting of reflection and appraisal in work or home domains might result in different effects on *personality phases*. In organizational settings, research designs that prompt or encourage individuals to repeatedly reflect on goals in some capacity over time examine the influence of routine performance appraisals or developmental approaches such as coaching, and might start to elaborate such effects. As such, we encourage future studies to examine the limits of our emergent findings around the relationships of PA and *personality phases*, including building a fuller picture incorporating states and traits, and broader contextual and motivational variables.

4.3. Practical implications

Considering practical implications, our findings could be applied in management practices through promoting beneficial co-development cycles. For example, the facet of productiveness was associated with increases in levels of PA. By reducing distractions, providing clear direction, and feedback to facilitate productive activity, managers help develop this personality dimension, which in turn encourages employees to feel more accomplished in their work. This could affect outcomes such as daily affect, creative job involvement (Bang & Reio, 2017), and job satisfaction (Skaalvik & Skaalvik, 2009), all positive developmental changes at work. More widely, the present findings add to the growing evidence and recognition of the development of personality at work, with implications for personality measurement.

4.4. Limitations and future directions

There are several limitations to note in considering our findings. Firstly, while the present study focused on the role of the explicit process of reflection, operationalized as PA, as important in the personality-work interplay, there are many other theoretically proposed mechanisms which may shed further light on the relationship. For example, the role of feedback and social contexts have a significant impact on both evaluations of resources and, subsequently, personality (e.g., WTT, Fleeson & Jayawickreme, 2015).

Secondly, the present sample only focused on one occupation. While there are benefits to this, allowing us to control for different occupational pressures (Woods et al., 2019), other demands at the organizational or team level were not controlled for, which may also have an influence on personality development. Relatedly, the current sample size presents some limitations to the complexity of analyses, as while we

had enough power to conduct our main analysis, the inclusion of further control variables was underpowered. While the sample mirrors other papers of similar study designs (e.g., Gevers et al., 2020), future work could broaden the sampling to increase the generalizability of the present findings and power of analysis.

Finally, despite our attempts to design a study to understand how personality dynamically interacts with work within this middle "phase", to truly understand how personality and work interact over time, researchers need to employ a mixture of short-, medium-, and long-term temporal methods. Such a design would capture both the longer-term dynamic changes and shorter-term state fluctuations and would integrate many of the existing models of personality dynamics more broadly. Our data contributes much-needed examination of the short-medium term reciprocal and co-development of personality and work factors.

5. Conclusion

To contribute to the literature on personality development and change at work, the current study examined how personality dynamically interacts with the construct of PA. Evidence was found for co-development between PA and personality, with predictive relationships identified between PA and Conscientiousness, as well as the facets of productiveness, responsibility, trust, and emotional volatility, highlighting the presence of continuous, dynamic relationships. This is the first study to investigate a dynamic, co-developmental model over the short-medium term within the work context and without an intervention, demonstrating the complex interplay between personality and work-related factors. We propose *personality phases* as a potential concept to bridge the space between states and traits, enabling examination of development in this time frame. The results of the study have implications for future research and areas in practice, specifically concerning the management and development of employees.

Note

1. Correlational analysis was conducted with (categorical) participant tenure in relation to all personality constructs and PA, however no consistent relationships were observed across measurement points and so this was removed from further analysis.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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