

One-to-one coaching and coachee personality trait change

Article

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Abstract

Purpose

A specific area of interest in the coaching literature is focused on exploring the intersection of personality and coaching, however, research has yet to explore whether coaching exerts reciprocal effects on personality traits (i.e., if personality trait change can accompany coaching). Utilizing the explanatory theoretical framing of the DATA framework (Woods *et al.*, 2019), we propose that coaching may indirectly facilitate personality trait change by firstly enabling the coachee to reflect on their behaviors, secondly, implement desired behavioral changes which, consequently facilitate personality trait change.

Design/methodology/approach

A quasi-experiment was conducted to explore coaching and personality trait change. Students participating in a demanding, work-based team simulation ($N = 258$), were assigned to either an intervention group (and received one-to-one coaching) or a control group (who received no intervention). Personality traits were measured before and after coaching and positioned as the dependent variable.

Findings

Results indicate that participants in the coaching group exhibited significant changes in self-reported agreeableness, conscientiousness, extraversion and core self-evaluations, which all significantly decreased after coaching, however no change was observed for the control group.

Originality

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We provide the first exploration of coaching and personality trait change, contributing to both the coaching literature, by providing evidence regarding the efficacy of coaching to facilitate personality trait change in coachees, and the personality literature, by highlighting coaching as an important tool for those interested in personality trait change. Our research also has implications for other interventions such as mentoring, as we provide support for the notion that interventions can support personality trait change.

Key words: Coaching; personality; traits; personality trait change

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One-to-One Coaching and Coachee Personality Trait Change

Coaching is a learning and development tool with the goal of producing behavioral change (Jones, 2021). Coaches facilitate behavioral change by using a range of tools, techniques and approaches to enable coachee reflection, resulting in increased self-awareness (Jones, 2021), increasing accountability and supporting commitment to change (Whitmore, 2017). A wealth of literature has evidenced a wide range of positive outcomes from coaching including increased self-efficacy (Grant *et al.*, 2017), well-being (O'Connor & Cavanagh, 2013) and performance (Jones *et al.*, 2019).

A specific area of interest in the literature explores the intersection of personality and coaching, with a focus on coachee personality in relation to outcomes from coaching (de Haan *et al.*, 2019; Jones *et al.*, 2014; Jones *et al.*, 2021; Pandolfi, 2020; Stewart *et al.*, 2008; Terblanche & Heyns, 2020), coach-coachee personality matching (de Haan *et al.*, 2016) and coach personality (Passmore *et al.*, 2010). While attention on personality and coaching has increased, research has yet to explore whether coaching exerts reciprocal effects on personality traits (i.e., if personality trait development and change accompanies coaching).

Conventionally, personality traits have been viewed as relatively enduring (McCrae & Costa, 1994) with the assumption that personality is generally stable over the course of adulthood. However, evidence has been accumulating that has led to a re-evaluation of this view, with a series of studies suggesting that personality continues to change throughout adulthood (Roberts & Mroczek, 2008, Roberts *et al.*, 2006; Woods *et al.*, 2019). The questioning of the assumption that personality is stable throughout adult life is a move towards the development of a more integrated understanding of the complex pattern of how personality relates to behavior longer term (Woods *et al.*, 2013).

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In the context of personality trait change, an important concern is how to support individuals who seek personality trait change, with a recent review calling for more research to investigate the ‘usefulness and feasibility of targeted trait change interventions’ (Ritz *et al.*, 2023, p. 18). Using the explanatory theoretical framing of the DATA framework (Woods *et al.*, 2019), we position coaching as a useful intervention for those interested in changing their personality traits. Woods *et al.* (2019) present the Demands-Affordances TrAnsactional (DATA) model which outlines how personality-related behavior is activated by work and positions Person-Environment Fit as the mechanism for personality trait change. We apply the DATA framework to the context of coaching, and, argue that by raising awareness of current behaviors (and the trait affordance associated with these behaviors) and the gap between these current and desired behaviors, coachees are able to act with agency to take action to explore how to change their behaviors to achieve their goals. Coachees commit to targeted actions to complete outside of coaching to continue to develop in the direction of their desired change, increasing accountability towards achieving their goal. According to the DATA framework, these behavioral changes, facilitated by coaching, mean that traits may develop in ways that reflect new responses to deal with work demands, consequently altering personality traits over time. Therefore, personality trait change can be positioned as a potential outcome accompanying coaching.

To test this prediction, we conduct a quasi-experiment where personality traits (operationalized as the five factor model and core self-evaluations; CSE) are positioned as the dependent variable and measured before and after coaching. Results are compared with a control group who do not receive coaching. In doing so, we contribute to the coaching literature by providing evidence regarding the efficacy of personality trait change to accompany coaching and the personality literature by highlighting coaching as an important tool for those interested in personality trait change.

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Coaching and Behavioral Change

Workplace or executive coaching is a one-to-one learning and development intervention that uses a collaborative, reflective, goal-focused relationship to achieve professional outcomes that are valued by the coachee (Smither, 2011). Jones *et al.* (2021) argue that coaching consists of four components: 1) coaching is led by the coachee, therefore coachees set the agenda regarding what they wish to work on in coaching; 2) coaching is goal focused, therefore the coach works with the coachee to formulate goals based on the coachees agenda; 3) coaches use a range of psychological and behavioral tools and techniques to facilitate change and goal achievement; 4) coaching enables behavioral change through raising awareness and reflection. Carden *et al.* (2021) propose that one-to-one coaching provides the space for individuals to reflect on all the components of self-awareness, and ‘shine a light’ on those which need further work. The role of coaching in relation to self-insight, reflection and behavioral change is also emphasised by Jones (2021) who suggests that coaches enable behavior change by facilitating reflection, for example, using open questioning to explore a change in perspective (zooming in or out or examining the experience from a different point of view) or by identifying patterns in behavior. These arguments are supported by evidence demonstrating that coaching can directly impact on coachee self-insight (Bozer *et al.*, 2014; Grant *et al.*, 2017).

Generating responsibility is also proposed as a key concept of coaching (Whitmore, 2017). The coachee is encouraged to take responsibility for their actions, increasing accountability and agency in their own role in achieving desired changes. Jones (2021) suggests that a strength of coaching is that it enables coachees to experience clarity about how they can follow through with changes, identifying how to transfer the learning from the coaching sessions back to their work, with evidence indicating that facilitating action

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planning in coaching has an important positive impact on outcomes (Smith & Brummel, 2013).

Personality Trait Change

Personality has been described as comprising individuals' characteristic pattern of thought, emotion and behavior together with the mechanisms behind those patterns (Funder, 2001; see also Ritz, Woods *et al.*, 2023 for a review of conceptualization of personality in organisational research). Personality traits have traditionally been described as internal dispositions that remain generally stable over time and are most commonly measured by self-report questionnaires (Woods & West, 2020). This conceptualization of personality assumes that personality traits are stable throughout life, however, evidence now consistently demonstrates that personality traits can and do change. For example, Roberts *et al.* (2006) meta-analyzed the literature on personality change over time. They suggest that their results indicate that individuals experience the highest level of personality trait change during young adulthood and that changes in traits are the impact of life experiences and life lessons, a finding also supported by McAdams and Olson (2010).

Research has suggested a range of mechanisms for personality trait change. Woods *et al.* (2019) propose the DATA (Demands, Affordances Transactional Model) framework to explain such mechanisms for trait change, highlighting the importance of work in shaping personality. In the framework, demands are the elements representing situational or work-related factors. Affordances represent individual personality attributes or traits that are required to respond to demands. The demand-affordance transaction is the process by which affordances (traits) are activated in response to demands and then adjusted towards attaining greater fit between traits and demands. Woods *et al.* (2019) also propose a motivational element in their model, whereby individuals may be motivated to proactively change

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personality traits to experience a greater fit between their personality and their work environment, consequently resulting in improved outcomes.

Research has further examined the role of intervention in personality trait development. Roberts *et al.* (2017) argued that meaningful change in personality traits can occur over the course of years rather than weeks, however, this natural development of personality could be accelerated by exposure to a therapeutic intervention, as such, they explored the extent of personality trait change as a result of intervention in their meta-analysis of 207 studies. Studies were coded as a clinical intervention (for example, cognitive-behavioral, supportive/humanistic, psychoanalytic etc.) or nonclinical intervention (for example, efforts to improve cognitive functioning). Roberts *et al.* (2017) report evidence of personality trait change for experimental groups but not control groups following both clinical and nonclinical interventions, with the data showing that both clinical and nonclinical populations demonstrated similar levels of personality trait change, post intervention. Roberts *et al.* (2017) note that when compared to patterns of change in the control groups, it appears that interventions cause changes in personality trait as opposed to participants simply rebounding from a low point in life.

Coaching and Personality Change

Building on the meta-analytic work of Roberts *et al.* (2017) who explored the role of interventions on personality trait change with a focus on clinical populations, we contribute to the calls from researchers who highlight the need for further research to understand how nonclinical interventions can impact on personality (Hudson *et al.*, 2019; Ritz *et al.*, 2023; Stieger *et al.*, 2018; Woods *et al.*, 2019). We position coaching as an intervention that may facilitate personality trait change, using the explanatory theoretical framing of the DATA framework (Woods *et al.*, 2019). Specifically, by considering the potential effects of coaching on demands, affordances and their transaction, the potential mechanisms of

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personality trait change associated with coaching can be expounded. We propose that coaching may support personality trait change by firstly enabling the coachee to raise awareness of and understand the *demands* being placed on them which may come from the job, vocational, team, group and/or organizational levels (Su *et al.*, 2015). For example, a coachee may bring to coaching the *demand* of dealing with a repeat underperformer in their team which they would like to focus on in the coaching conversation. Through the coaching conversation, the coachee may begin to understand this demand in greater detail and the skills and behaviors needed to deal with it.

Secondly, coaching enables the coachee to raise awareness of and understand their *affordances* to these demands (Woods *et al.*, 2019); how are they dealing with demands behaviorally? How are their behaviors being triggered by specific demands? For example, when dealing with an underperforming member of staff (the demand), the leader may be called upon to remain open and curious to understanding the reasons behind underperformance (rather than making assumptions or inaccurate judgments on the reasons for poor performance). Coaching can facilitate the exploration of this through open questions delving into how the coachee has responded to the demand in the past. Such behaviors are in this case relevant to the personality trait Openness, conceptualized as the affordance in the DATA model.

Thirdly, coaching provides the opportunity for coachees to explore how their responses may *transact* with the perceived demands of their work environment (Woods *et al.*, 2019) leading to the current performance or way of responding to demands. Coaching enables the coachee to raise awareness of and understand their default mode of transacting and the desired or preferable way of transacting. For example, by responding to open questions from the coach, the coachee may explore how their typical approach is activated by the demand of dealing with an underperforming member of their team and leading them to make

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assumptions (which may be incorrect) behind the reasons for underperformance before exploring these openly with their team member. The coach may then use further questions to help the coachee to clarify an effective way of responding, therefore enabling the coachee to take a proactive stance in the adjustment of their behavior. The concept of work adjustment is noted as a key element of the DATA model (Woods *et al.*, 2019), describing how individuals may adjust behavior to be more demand consistent rather than trait consistent where the situation calls for it.

Fourthly, based on this heightened awareness and understanding of the adjustment required, coachees work with coaches to set behavior change goals and create action plans. To help them achieve this goal, the coach may then work with the coachee to formulate a number of actions that will enable them to achieve this goal, such as ensuring they meet with their team member and prior to meeting, role playing suitable questions they can ask with the coach, so as to fully understand the team member's current situation.

Examining the key steps of coaching around mechanisms described in the DATA model highlights how experience of coaching may facilitate exploration of key aspects of the mode, for example considering demands, behavioral responses, and working through strategies for potential adjustments. While the objective of coaching is generally not explicitly to change personality traits, by prompting these processes for the coachee, the effect may serve to alter traits over time. For example, the DATA model proposes that through adjustment, traits may develop in ways that reflect new responses deployed by a person to deal with work demands. In summary, although people may not directly approach coaching with the goal of developing their traits, the process of coaching may nevertheless result in trait change over time. Moreover, because coaching specifically prompts people to consider new behavioral approaches, the experience of being coached may be accompanied

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by trait change more consistently among coachees than would otherwise be experienced through reactive adjustments to demands. Therefore we hypothesize that:

H1: There will be a significant difference in personality traits between time one and time two for the coaching group but not for the control group who do not receive coaching.

Given that coaching is based on the individual needs of the coachee, we do not set specific hypotheses about specific traits for which change will be observed. We accordingly operationalize personality utilizing broad models that capture a range of characteristics and traits, namely the five factor model and core self-evaluations.

The five factor model of personality. The five factor model is the most widely accepted model of broad personality traits (Digman, 1990), and was derived from factor analysis of self-report and observer ratings of personality descriptors (McCrae & Costa, 1996). The five factor model describes personality in terms of five basic dimensions: Neuroticism versus Emotional Stability; Extraversion; Openness to Experience or Intellect; Agreeableness and Conscientiousness. Extraversion is most frequently associated with traits such as being sociable, gregarious, assertive, talkative and active (Barrick & Mount, 1991). Neuroticism generally consists of traits such as being anxious, depressed, angry, embarrassed, emotional, worried and insecure (Barrick & Mount, 1991). Agreeableness is most frequently associated with traits such as being courteous, flexible, trusting, good-natured, cooperative, forgiving, soft-hearted and tolerant (Barrick & Mount, 1991). Conscientiousness consists of traits such as being careful, thorough, responsible, organised, achievement-oriented, hardworking and persevering (Barrick & Mount, 1991). Finally, openness to experience is commonly described with traits such as being imaginative, cultured, curious, original, broad-minded, intelligent and artistically sensitive (Barrick & Mount, 1991).

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Core self-evaluations. Core self-evaluation refers to the fundamental appraisals an individual makes of their own self-worth (e.g., Judge *et al.*, 2000; Judge *et al.*, 1997; Chang *et al.*, 2012) and consists of four specific traits: self-esteem, generalized self-efficacy, locus of control and emotional stability. Research has shown that these four traits are highly correlated and load strongly onto one underlying factor.

Method

Research Design

A quasi-experimental design was used for this study. This design included two groups and two waves of measurement. In the first phase, both groups completed the pre-test (time one). The experimental group then received the coaching intervention while the second group acted as the control. At time two, both groups completed the post-test. The time lag between time one and time two was four months.

Study Setting

This research was conducted during a second-year undergraduate module within an international business school at a major British University. The module was compulsory for all second year students studying for a business degree. Students were required to work in teams throughout the duration of the module on a computer-based simulation of a virtual market, with companies operating in the car manufacturing industry.

Students were assigned to groups of between four and five students by the Business School administration. Groups were carefully assigned to ensure that there was as equal as possible split between genders and nationalities in groups. Once students were assigned to groups they formed a company board and remained within their team for the duration of the module, competing against the other teams in their tutor group in the computer-simulation. The module was highly demanding and to complete it successfully, students were required to meet outside of the taught sessions to discuss strategy and work on assignments.

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The conditions of the module closely mirrored the conditions of a project team in the workplace. Therefore it is highly likely that students working within these groups would experience many of the similar inter-and- intra-personal issues that employees in the workplace would experience. The student groups, like many groups in an organizational setting, work with an appointed leader on a series of common tasks for a fixed duration. The groups are also embedded in the wider organizational context where they have to interact with other groups and various people outside of their group (e.g., tutor; administrative staff). These factors make the groups largely comparable to groups working within an organizational context.

Study Sample

A total of 321 students were invited to participate. Students self-selected different executive board level roles within their group (i.e. Managing Director, Operations Director, Finance Director, Marketing Director, HR Director). Coaching was offered to the students who adopted the Managing Director role ($n = 72$) the remaining 249 participants formed the control group and did not receive coaching. All participants were invited to participate and complete the questionnaires online. For time one, 298 questionnaires were fully completed and for time two, 258 questionnaires were fully completed.

In total, there were 53 participants in both waves of data collection and the coaching intervention and 205 participants who completed surveys at time one and time two in the control group. Power analysis was conducted to test the difference between means at time one and time two using a two-tailed test, a medium effect size ($d = .50$), and an alpha of .05. Results showed that a total sample of 34 participants was required to achieve a power of .80 (AI Therapy Statistics, 2023).

The demographics of the sample (experimental and control group combined) were 50.5% female; the ethnicity was split between 38.6% white; 12.8% Chinese; 14.3% Indian;

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5.9% African; 5.6% Pakistani; 0.3% mixed – white and black African; 2.5% Caribbean; 1.6% mixed – white and Asian; 2.2% Bangladeshi; 0.9% Arab and 15.3% of participants did not state their ethnicity. The split between home and international students was 54.8% home and the mean age of participants was 20.09 ($SD = 1.88$).

Intervention

The coaching intervention consisted of one, hour long face-to-face session and a telephone follow-up session (ranging from 10-20 minutes in length), over a three-week period. The first author, who is a Chartered Psychologist and has a tertiary qualification in coaching psychology, provided the coaching to all participants. The underlying framework utilized to structure the coaching sessions was Whitmore’s GROW (i.e. Goals, Reality, Options, Will) model (2017). The GROW model provides a structured approach to the coaching conversation which allows the coachee to gain an increased awareness of their aspirations, a greater understanding of their current situation, understand the possibilities open to them and the actions they need to take in order to progress towards achieving their aspirations.

During the one-hour face-to-face session, the participants’ goal was explored and documented including agreement on how the participant could assess when they had achieved their goal. After setting a goal, using a combination of active listening, open questions, probing Socratic questioning (i.e. How do you know this? What do you mean by? What are you assuming?), and reflecting back, the goal was explored in detail including the participants’ current ‘reality’ in relation to the goal, barriers that may have hindered their goal achievement in the past and the ‘options’ available to them to aid goal achievement. The participant would then agree on next steps that they would implement to help them work towards achieving their goal following the coaching session.

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In the telephone follow-up session, the participant provided an update on their progress on the agreed action points. If action points had not been achieved then these would be explored in detail utilizing active listening, Socratic, open questioning and reflecting back. Finally, ongoing actions the participant would follow were confirmed.

There was no contact between the researcher and the experimental group participants between the coaching session and the telephone follow-up call. There was no contact between the researcher and the control group participants between the completion of the time one and time two measures.

Measures

Participants completed all measures online at time one and time two, apart from demographic measures which were collected at time one only.

The Big Five Aspect Scales.

The five factor model of personality was measured using DeYoung *et al.*'s (2007) big five aspect scales. The big five aspect scales consist of 100-items measuring: neuroticism ($\alpha = .86$); agreeableness ($\alpha = .86$); conscientiousness ($\alpha = .86$); extraversion ($\alpha = .86$) and openness/intellect ($\alpha = .79$). Responses are measured on a five-point Likert scale with responses ranging from 1 (very inaccurate) to 5 (very accurate). Example items from the scale are: 'am filled with doubts about things' (neuroticism); 'feel others' emotions' (agreeableness); 'like order' (conscientiousness); 'take charge' (extraversion) and 'am quick to understand things' (openness/intellect).

Core Self-Evaluation Scale (CSEs).

Judge *et al.*'s (2003) 12-item scale was used to measure CSEs which consists of four traits: self-esteem, generalized self-efficacy, locus of control and emotional stability. Participants used a five-point Likert scale to indicate their agreement with the items ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability coefficient was $\alpha = .84$.

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Example items include ‘I am confident I get the success I deserve in life’ and ‘sometimes I feel depressed’.

Results

The correlation matrix for all variables at time one is shown in Table 1 and for time two in Table 2. Means and standard deviations at time one and time two for both the experimental and control groups are shown in Table 3.

TABLE ONE ABOUT HERE

TABLE TWO ABOUT HERE

To test the hypothesis, paired sample t tests were conducted to evaluate the impact of coaching on personality trait change. In line with recommendations for best practice provided by Bernerth and Aguinis (2016), we did not include any control variables in our analysis as we had no clear theoretical justification for including any other variables, such as participants demographic characteristics, as control variables.

TABLE THREE ABOUT HERE

For the experimental group, there was a statistically significant decrease in agreeableness from time one ($M = 3.89, SD = .44$) to time two ($M = 3.81, SD = .46$), $t(58) = 3.53, p < .001$ (two-tailed), a statistically significant decrease in conscientiousness from time one ($M = 3.63, SD = .53$) to time two ($M = 3.57, SD = .55$) $t(58) = 3.05, p = .00$ (two-tailed), a statistically significant decrease in extraversion from time one ($M = 3.87, SD = .44$) to time two ($M = 3.76, SD = .41$) $t(58) = 2.36, p = .02$ (two-tailed) and a statistically significant decrease in CSEs from time one ($M = 3.66, SD = .58$) to time two ($M = 3.50, SD = .57$) $t(58) = 2.25, p = .03$ (two-tailed). There were no statistically significant differences in neuroticism and openness for the experimental group between time one and time two. There was also no statistically significant differences in any of the personality traits for the control group. The results of the paired samples t tests are shown in Table 4.

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TABLE FOUR ABOUT HERE

Discussion

In this paper we sought to answer the question: can coachee personality trait change accompany one-to-one coaching? In answering this question, we contribute to both the coaching literature, by providing evidence regarding the efficacy of coaching to facilitate personality trait change in coachees, and, the personality literature, by highlighting coaching as an important tool for those interested in personality change. While research indicates that personality traits can change (Woods *et al.*, 2019), the efficacy of coaching to produce trait change has yet to be established. We proposed that the focus in coaching on raising awareness and planning for action are ideally placed to support coachees in changing behavior and the DATA framework explains how this behavior change can consequently lead to personality trait change. Our results indicate that participants in the coaching group exhibited significant changes in self-reported agreeableness, conscientiousness, extraversion, and CSEs, which all significantly decreased after coaching, however no change was observed for the control group.

The participants in this study were students undertaking a challenging computer-based simulation. The participants in the experimental group who received coaching were all Managing Directors who held usual leadership responsibilities such as organizing work, communicating goals, delegating tasks, leading by example, coaching team members, problem solving, managing conflict and making decisions. According to our theorizing, the DATA framework outlines how coaching may have provided participants with the forum to explore the challenges or demands they were facing in their role, reflect on current performance, explore their own behavior and consider any gaps between their existing behaviors and those needed to close the gap between current and desired performance. This in turn may result in changes to personality traits to be more consistent with demand-

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consistent behaviors (as explained in the DATA model). In the context of this study and our findings, coaching may have enabled the coachees to explore the need for a more directive style (lower agreeableness) (for example to support behaviors such as delegating tasks), greater flexibility (lower conscientiousness) (for example to support behaviors such as making decisions and problem solving) and improved listening (lower extraversion) (for example to support behaviors such as coaching team members).

A somewhat unexpected finding was the decrease in CSEs for the group who received coaching. Core self-evaluations are a basic, fundamental appraisal of one's worthiness, effectiveness and capability as a person. The decrease in CSE as a result of coaching suggests that following coaching, coachees experienced a decrease in their appraisal of their worthiness, effectiveness or capability. This finding may highlight the importance for coaches to work with coachees to reflect on problems or challenges that they encounter, using experience of failure as opportunities for development and learning. By positioning failure as a normal part of the human experience, coaches may be able to facilitate self-insight and awareness while preserving coachee CSE.

Theoretical Implications

In our research we have analyzed and observed personality trait change following coaching, conceptually consistent with the DATA framework (Woods *et al.*, 2019). Future research could build on our findings, testing the application of the DATA framework across different interventions, such as mentoring.

The DATA framework explains how personality trait change can result from the transaction between work demands and the affordances of these demands on personality traits. Our findings provide some support for the application of the DATA framework to the coaching context. This research can act as a foundation for future, theoretically grounded

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research to explore volitional personality trait change. For example, future research could seek to test the effect of coaching at facilitating volitional personality trait change in samples that share a personality change goal. This could be achieved via purposeful sampling to access populations of participants seeking the same personality trait change. For example, participants who all want to become more extraverted, or more conscientious or less neurotic. Testing the impact of coaching on volitional personality trait change in targeted samples would enable researchers to explore whether coaching is more or less effective at generating change in particular traits over others. Beyond this, researchers may also be able to develop targeted coaching interventions that are particularly efficacious for different trait changes.

Our research demonstrated the unexpected finding that CSE decreased following coaching. We proposed that this may highlight the importance of exploring failure during the coaching process to preserve (or even enhance) coachees' CSE. Future research could explore this further with a targeted coaching intervention aimed at identify points of failure or challenge and working with these to reframe these experiences as opportunities for learning and development and a natural part of being human, rather than as evidence of inadequacy or lack of worth.

Our research also has theoretical implications in the context of the DATA framework (Woods *et al.*, 2019) which we proposed as the explanatory mechanism for coaching and personality change. We argued that coaching likely facilitates the steps detailed in the DATA framework via raising awareness of the coachee's demands, affordances and current mode of transacting and articulating actions to address desired change goals. Future research could explore this process in greater detail. For example, qualitative designs utilizing recorded coaching sessions for coachees seeking personality change, followed by in-depth discussions with coach and coachee to dissect and unpack key moments in the session, may help to map out what happens in a coaching conversation in the context of the DATA framework.

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Implications for Practice

While many coaches adopt a growth mindset (Dweck, 2006), believing that capability is malleable rather than fixed (Jones, 2021), this mindset may not extend to how coaches view personality, given that a popular assumption about personality is that it is fixed throughout our life. This assumption may lead coaches to perceive personality trait change as being out of bounds as a coaching outcome. Our findings provide initial evidence that this is not the case and that coaching may be an effective intervention that can be used to achieve trait change. As such, coaches may find it helpful to explicitly discuss this with their coachees during the goal-setting phase of coaching interventions.

Importantly, coaches should support their coachees in considering what actions they will take outside of the coaching session to continue to work on their objectives, implementing discussed behavior change. In practice, this means that coaches need to allow sufficient time in coaching sessions to discuss with their coachees the ‘what’s next’ or ‘way forward’ part of the coaching process. Effective planning involves detailed consideration of how and when changes will be implemented as well as considering what actions will be taken should barriers or challenges to plans arise, to ensure that the coachee is able to stay on track with their planned actions.

Relatedly, this consideration brings into focus the possibility that coachees may approach learning and development from coaching with a specific objective to develop personality traits. Such examples of volitional trait change are examined in the personality literature (see Hudson *et al.*, 2019). In these scenarios, people may have identified an aspect of their traits that they would like to develop. Coaching could be used to support this development, incorporating discussion of personality traits more directly through use of personality assessment tools. Hudson *et al.* (2019) demonstrated that undertaking

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development activities, in the context of a will or desire to change yielded developmental effects. The role of coaching in such development could be a logical focus of future research.

A broader interpretation of our findings might lead practitioners to question the utility of coaching given the possibility of lower elevation of traits that are typically valued socially (e.g. Extraversion, Conscientiousness, Agreeableness, CSEs) following coaching sessions. However, this would neglect the context of work effectiveness. While certain profiles of traits are more or less desirable socially, their suitability in the context of work performance is rather a function of fit to job demands. It does not therefore follow that higher scores on the Big Five are always beneficial in the context of work. In respect of CSEs though, the observations in our data do highlight an issue that coaches should be aware of (for example, that efficacy or self-esteem factors could be affected) which could be monitored in case of any associated reduction in motivation of coachees.

Methodological Implications

To evaluate the impact of interventions such as coaching and mentoring, experimental or quasi-experimental research is required (Oades *et al.*, 2019). However, quasi-experimental designs can also pose a number of challenges. In the case of our research, we were not able to control for other influences that participants may have experienced over the course of their normal lives in the four month period of the research. It is possible that other factors, such as the natural maturation process of the sample (given that they were university students) might have also resulted in personality trait change. However, as trait change was only significant for the experimental group and not the control group, in our view, this poses minimal risk to the validity of our results.

A further challenge resulting from the quasi-experimental design was the difference in the number of participants in the experimental versus the control group. As Bernerth and

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Aguinis (2016) note, conducting quasi-experimental research is practically difficult, often with a number of logistical issues. However, despite the limitations of the methodology, given the high level of ecological validity afforded by quasi-experimental designs, we suggest that the limitation such as difference in sample size is an acceptable limitation.

The focus of our study was to examine personality trait change accompanying one-to-one coaching, as such, we did not investigate any subsequent impact of trait change (or indeed coaching) on performance or other outcomes aside from trait change. There are a number of empirical studies that have built a comprehensive understanding of the impact of coaching on a variety of outcomes (e.g., Grant *et al.*, 2017; Jones *et al.*, 2019). It would be beneficial for future research to build on our findings, replicating whether coaching can change personality traits and exploring whether this trait change subsequently moderates the coaching-performance relationship established elsewhere.

A key consideration for future research is ensuring the relevance of the criterion variables selected. A central premise of psychological research is the ability to identify and isolate factors that explain and predict the phenomena of interest (Bernerth & Aguinis, 2016). In the context of exploring the relationship between coaching, personality trait change and performance, it is critical that future research identifies suitable outcome measures that are likely to be impacted by both coaching and participants personality trait change following coaching.

Limitations

While our participants were engaged in a complex computer simulation that replicated a project work environment, our participants were undergraduate students rather than full-time working professionals. While we believe that the unique context of this study provides a

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comparable experience, nevertheless, future research should seek to replicate our results with working samples.

It is also important to note that the participants in our study adopted different roles within the simulation (i.e. Managing Director, Operations Director, Finance Director, Marketing Director, HR Director) and the participants in the coaching group were all in the Managing Director role. We believe that any impact of these different role functions on results was minimal as all participants were role playing senior board members, with associated responsibilities and duties and the main difference between the Managing Director (i.e. experimental group role) and other roles was an administrative one, for example, acting as a connection point between the team and module tutors.

Our study included a four month time lag between time one and time two. As no further data was collected, we are unable to confirm whether the changes in personality traits we observed were temporary or were maintained over a longer period. Future research should adopt longitudinal designs, collecting data over an extended time period to track longer term patterns and changes in personality as a result of coaching.

Conclusion

In this study, we sought to explore whether personality trait change can accompany one-to-one coaching. While there is a growing body of research on the combined topics of personality and coaching, as yet, personality trait change has not been investigated as an outcome of coaching. This is despite calls from personality scholars to investigate interventions that may effectively support trait change. We utilized the explanatory theoretical framing of the DATA framework (Woods *et al.*, 2019) and argued that coaching facilitates personality trait change by supporting execution of behavior change goals which consequently impact on trait change. We found that coaching resulted in significant changes

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in agreeableness, conscientiousness, extraversion and CSEs for participants who were coached while no changes in personality traits were observed for participants who did not receive coaching. Our study provides some initial evidence that trait change is associated with the experience of coaching, providing a foundation and highlighting directions for future research and practice.

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Tables

Table 1: Descriptive statistics for all variables collected at time one (pre-intervention)

Variable	Mean	S.D	1	2	3	4	5	6	7	8
1. Neuroticism	2.64	.60								
2. Agreeableness	3.73	.52	-.21**							
3. Conscientiousness	3.55	.51	-.36**	.24**						
4. Extraversion	3.61	.51	-.40**	.24**	.37**					
5. Openness	3.52	.45	-.36**	.20**	.43**	.57**				
6. Core Self-Evaluations	3.49	.58	-.66**	.06	.42**	.47**	.40**			
7. Age	20.09	1.88	.03	.05	-.03	-.10	.06	-.09		
8. Gender	-	-	.25**	.27**	.14*	.09	-.01	-.22**	-.01	
9. Home/International	-	-	-.01	-.15**	-.08	-.18**	.04	-.03	.10	.04

Note: $N = 297$, ** $p < 0.01$. Gender is coded as 0 = male, 1 = female. Home/International is coded as 0 = home, 1 = international.

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Table 2: Descriptive statistics for all variables collected at time two (post-intervention)

Variable	Mean	S.D	1	2	3	4	5	6	7	8
1. Neuroticism	2.66	.54								
2. Agreeableness	3.68	.46	-.24**							
3. Conscientiousness	3.51	.49	-.32**	.29**						
4 Extraversion	3.56	.48	-.37**	.38**	.37**					
5. Openness	3.51	.42	-.38**	.31**	.40**	.62**				
6. Core Self-Evaluations	3.43	.53	-.66**	.09	.35**	.48**	.44**			
7. Age	-	-	0.84	-.09	-.08	-.17**	-.04	-.08		
8. Gender	-	-	.23**	.29**	.20**	.15-	.05	-.01		
9. Home/International	-	-	.002	-.12	-.10	-.13-	.05	.10	.04	

Note: $N = 270$, ** $p < 0.01$. Gender is coded as 0 = male, 1 = female. Home/International is coded as 0 = home, 1 = international.

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Table 3: Means and standard deviations split by time and group

Variable	Control Group				Experimental Group			
	Time One		Time Two		Time One		Time Two	
	Mean	<i>S.D</i>	Mean	<i>S.D</i>	Mean	<i>S.D</i>	Mean	<i>S.D</i>
Neuroticism	2.68	.60	2.67	.54	2.51	.59	2.63	.55
Agreeableness	3.67	.54	3.64	.46	3.89	.44	3.81	.46
Conscientiousness	3.52	.51	3.50	.47	3.63	.53	3.57	.55
Extraversion	3.52	.50	3.51	.49	3.87	.44	3.76	.41
Openness	3.47	.44	3.46	.42	3.67	.43	3.65	.38
Core Self-Evaluations	3.44	.57	3.41	.52	3.66	.58	3.50	.57

Note: control group $n = 205$; experimental group $n = 53$.

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Table 4: Paired samples t test

		95% Confidence Interval of the Difference							
Group		Mean	S.D	Std. Error Mean	Lower	Upper	t	df	Sig. (2- tailed)
Control	Neuroticism	-.01	.43	.03	-.07	.05	-.25	189	.80
	Agreeableness	.04	.41	.03	-.02	.09	1.21	189	.23
	Conscientiousness	.02	.37	.03	-.03	.08	.90	189	.37
	Extraversion	.01	.37	.03	-.04	.06	.32	187	.75
	Openness	.00	.31	.02	-.05	.04	-.19	189	.85
	Core self-evaluations	.04	.42	.03	-.02	.11	1.47	188	.14
Experimental	Neuroticism	-.10	.43	.06	-.21	.01	-1.84	58	.07
	Agreeableness	.13	.28	.04	.06	.20	3.53	58	<.001*
	Conscientiousness	.10	.24	.03	.03	.16	3.05	58	.00*
	Extraversion	.09	.29	.04	.01	.16	2.36	58	.02*
	Openness	.03	.34	.04	-.06	.12	.68	58	.50
	Core self-evaluations	.14	.49	.06	.02	.27	2.25	58	.03*

Note: * $p < 0.05$

Response to editor and reviewer comments

Dear Editor and Reviewer,

Thank you for the constructive review on our work and the opportunity to improve our paper. We were delighted to receive the minor revision decision and were grateful for the time taken to consider our revised manuscript. We have carefully considered your comments and have further revised our paper accordingly. In this document, you will find the summary of how we have addressed each of the comments. As in the previous revision, we feel that responding to the reviewer comments has helped to improve our manuscript.

Kind regards,

Authors

Reviewer(s)' Comments to Author:

Reviewer: 1

Comments:

Thank you for the opportunity to review the revision to your manuscript. I am pleased to see that the authors heeded my suggestions in the first round to improve their manuscript. I have a few additional comments to help solidify this manuscript; these are listed below, in no particular order.

Thank you for taking the time to review our paper again and thank you for the additional feedback.

1. Theory. Thank you for mentioning the DATA framework earlier in your introduction. I would like to see a brief subsection of the DATA framework that comes shortly after the introduction. This section can include the definition of the DATA framework, how it's been used, and how it applies to the current study. The pieces of the DATA framework that are mentioned in several areas of the paper are slightly confusing to the reader and it would help to have all of this information in one central location in the paper.

Thank you for this suggestion. Given that the special issue is focused on coaching and mentoring (rather than personality) we feel that it is important that we define the literature on coaching first before moving into the personality literature. Therefore we have kept that section of the literature review at the beginning of the section. However, we do agree that the reader may have found the fact that the DATA framework was referred to in multiple areas confusing, therefore we have consolidated the explanation into a single section and moved this earlier and more prominently in the section on personality development and change (except for mention of the DATA framework early on in the introduction, as previously requested in an earlier review). We feel that this is an effective presentation of the literature, and remain open to further feedback from the editor.

2. On p. 10 beginning at line 11, the authors have a paragraph that describes their quasi-experiment. This paragraph is out of place – the quasi-experiment aspect was mentioned in the introduction, and either should be omitted or placed in the methods section.

Thank you for this observation, we agree and have now removed this section.

3. Following the presentation of H1, please include a header that discusses the personality traits that are explored.

We appreciated this recommendation and have now added the sub-headings 'Five factor model of personality' and 'Core-self evaluations' to this section.

4. In the methods section (p. 11 around line 49/50), which variables were collected when? In Table 1, it states that the personality traits were all collected at Time 1. If these traits were also captured at Time 2, then I'd expect to see another correlation table for Time 2. Additionally, the mean and standard deviation are missing in Table 1. The authors could also include some demographic information here (i.e., age, gender, ethnicity, etc.) into their correlation table to see if any of these variables would be correlated to these personality traits.

We have added the detail at the start of the measures section to specify that the measures were collected at time one and time two apart from demographic measures which were collected at time one only.

We have added a second correlation table for the variables at time 2 as requested and also added the demographic information (age, gender and home/international student) into both correlation tables. Although we understand the logic of the suggestion, please note that we have not included ethnicity in the correlation tables because we are cautious to present analyses classified in this way without some underlying conceptual rationale for expecting there to be differences in the variables under study. In short, we do not find it appropriate to examine ethnicity differences in the context of our study. We do remain open to further advice from the editor on this point.

5. One question that came to mind in the discussion portion: If coaching causes a decrease in what is viewed as positive personality traits (agreeableness, conscientiousness, extraversion, and CSEs), should we be coaching? Is it worth it? I recognize that the authors were unable to test follow-up personality traits to see if this change was more stable, but the question still remains based on the results of this study.

Thank you for raising this point, which is one that readers may be curious about. We do agree that our findings highlight interesting implications for the utility of coaching, but feel that the context of work is important. In the context of work effectiveness and performance, the 'desirability' or 'suitability' of traits of the Big Five is a function of job demands rather than trait elevation (e.g. in respect of Agreeableness, some jobs require direct critical communication styles, others compassionate warm styles; respectively associated with lower or higher Agreeableness). We highlight this now in the discussion of practical implications, and further comment on the result around CSE, suggesting that coaches be mindful of this potential affect (see page 20). Again we appreciate this constructive comment.

Best wishes as you continue your work on this study!

Thank you!