Original article

Trait authenticity as an "enzyme" for personal resources and work engagement: A study among teachers within the framework of the job demands-resources model

L'authenticité de trait en tant qu'« enzyme » pour les ressources personnelles et l'engagement au travail : une étude parmi les enseignants dans le cadre du modèle exigences-ressources au travail (itjob demands-resources)

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ABSTRACT

Introduction. – Trait authenticity has been defined as a dispositional individual difference, and it refers to people's experience of living in accordance with their true Self. Despite research conducted in working contexts has found that trait authenticity is related to people's work engagement, it is not clear if this association may be mediated by other variables.

Objective. – Framing trait authenticity within the job demands-resources model, we hypothesized that trait authenticity allows the release of human full potential in terms of personal resources that, in turn, promote work engagement, especially in highly challenging work settings, such as educational ones.

Method. – We administered a self-report questionnaire composed of several measurement scales to 446 teachers working in kindergartens, primary schools, and middle schools.

Results and conclusions. – A moderated mediation analysis revealed that trait authenticity can promote teachers' emergence of personal resources, which in turn enhances their work engagement. The study highlights that the role of trait authenticity and personal resources on work engagement acquires a particular salience when teachers face high (vs. low) challenge job demands (i.e., workload), that is when this reservoir of potential is needed the most.

RÉSUMÉ

Introduction. – L'authenticité de trait a été définie comme une différence individuelle dispositionnelle. Elle se réfère à l'expérience de vivre en accord avec le vrai Soi. Bien que les recherches aient montré que, dans les contextes de travail, l'authenticité des traits est liée à l'engagement des personnes au travail, mais il n'est pas clair si cette association peut être médiée par d'autres variables.

Objectif. – En encadrant l'authenticité des traits de caractère dans le modèle exigences professionnelles-ressources, nous avons émis l'hypothèse que l'authenticité des traits de caractère permet la libération du plein potentiel humain en termes de ressources personnelles qui, à leur tour, favorisent l'engagement au travail, en particulier dans les environnements de travail très exigeants, tels que les environnements éducatifs.

Méthodologie. – Les variables de l'étude ont été mesurées en administrant un questionnaire d'auto-évaluation à 446 enseignants de la maternelle, du primaire et du collège.

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Modèle exigences-ressources au travail
(*job demands-resources*)
Effets indirects
Ressources personnelles
Enseignants
Engagement au travail (*work engagement*)

Résultats et conclusions. – Une analyse de médiation modérée a révélé que l'authenticité de trait peut favoriser l'émergence de ressources personnelles chez les enseignants, et que les ressources personnelles peuvent favoriser l'engagement au travail. L'étude souligne que le rôle de l'authenticité de trait et des ressources personnelles sur l'engagement au travail acquiert une importance particulière lorsque les enseignants sont confrontés à des demandes professionnelles élevées, c'est à ce moment-là que ce réservoir de potentiel est le plus nécessaire.

1. Introduction

Since work engagement (Schaufeli et al., 2002) has been considered one of the most influential predictors of work-related well-being (e.g., Demerouti & Bakker, 2023; Moura et al., 2014), great interest has been devoted to studying its possible antecedents in terms of individual differences and dispositional personality traits (e.g., Akhtar et al., 2015; Langelaan et al., 2006). This is particularly evident in the case of specific professions at high risk for stress and burnout, such as policemen, firefighters, social workers, and teachers (e.g., Bakker et al., 2007; Hakanen et al., 2006; Lourel et al., 2008; Oginska-Bulik, 2005; Tesi et al., 2019; Travers & Cooper, 1996).

We paid specific attention to studying the role of authenticity as a dispositional individual difference (e.g., Barrett-Lennard, 1998; Kernis & Goldman, 2006; Wood et al., 2008) within the framework of the job demands-resources model (JD-R model; Bakker & Demerouti, 2017), supporting the notion that workers' inner experience of living authentically, in accordance with their true Self, could represent a sort of "enzyme" for helping the reaching and maintenance of a positive psychological state within the work environment (Metin et al., 2016). Indeed, the feeling of acting authentically with oneself can allow people to better express human potential, which is characterized by the rise of personal resources (Sutton, 2018). According to the JD-R model (Bakker et al., 2007; Bakker & Demerouti, 2017), personal resources (e.g., coping strategies, self-efficacy, organization-based self-esteem, and optimism; Aiello & Tesi, 2017; Tesi, 2021; Xanthopoulou et al., 2007) can, in turn, promote engagement at work, particularly when the environment is highly challenging in terms of job demands.

We chose to conduct the present study among teachers as these professionals are particularly exposed to challenging environments (e.g., high challenge job demands) wherein their socioemotional competence and well-being are continuously stressed by relationships with students, parents, and colleagues (e.g., Bakker et al., 2007; Jennings & Greenberg, 2009; Travers & Cooper, 1996). Moreover, an in-depth understanding of how authenticity in teachers (e.g., Bialystok, 2015; Cranton & Carusetta, 2004) is related to their work engagement could have important consequences for teaching performance and commitment (Bakker & Bal, 2010; Hakanen et al., 2006). Studying possible correlates of teachers' well-being is crucial to understanding the factors that help them fulfill their pivotal educational mission (e.g., Kreber et al., 2007; Shoshani & Eldor, 2016).

1.1. Work engagement and the job demands-resources model

Work engagement has been defined as "a positive and fulfilling work-related state characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74). These three dimensions represent the energetic (i.e., the level of energy and mental resilience), affective (i.e., the level of enthusiasm), and cognitive (i.e., the level of concentration and absorption) facets of work engagement, respectively (Bakker et al., 2011).

The JD-R model posits that specific job and personal resources can foster work engagement through a motivational process (Bakker & Demerouti, 2007). Job resources are perceived as aspects of a job that are functional in attaining work goals, stimulating workers' personal growth, and reducing the impact of physiological and psychological work stressors. Examples of job resources are job autonomy, social support by leaders and coworkers, and organizational extrinsic and intrinsic rewards (e.g., Bakker & Demerouti, 2017; Giannetti & Tesi, 2016). Personal resources, on the other hand, are aspects of the human potential that are useful for gaining control of the environment, operating with success, and achieving goals. Examples of personal resources include coping strategies, optimism, self-efficacy, organizational-based self-esteem, and individuals' psychological well-being (e.g., Aiello & Tesi, 2017; Bakker & Demerouti, 2017; Desrumaux et al., 2015; Xanthopoulou et al., 2007). The JD-R model foresees that personal resources are not stable aspects of individuals but may be made salient under specific conditions.

A challenging work environment encourages workers to use their available job and personal resources. It was proposed that work engagement benefits more by job and personal resources when workers spend their resources facing job demands (Bakker et al., 2007; boosting assumption; Bakker & Demerouti, 2007, 2017). Job demands are defined as "physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological effort and are, therefore, associated with certain physiological and/or psychological costs" (Bakker & Demerouti, 2017, p. 274). Chronic job demands lessen individuals' cognitive, emotional, and behavioral resources (Demerouti & Bakker, 2023; Tesi, 2021; Tesi et al., 2019). However, a relevant distinction needs to be addressed concerning job demands. Indeed, scholars (e.g., Crawford et al., 2010; LePine et al., 2005) distinguished between challenge and hindrance job demands. Challenge job demands are those that require an investment of additional effort by workers, thus depleting their resources, but can however contribute to personal growth and be intrinsically or extrinsically rewarding for employees. Despite the additional expenditure of effort, challenge job demands keep people motivated and help them reach their full potential (Crawford et al., 2010). Examples of challenge job demands include moderate-to-high workload, time pressure, responsibility, and task complexity (e.g., Bakker & Demerouti, 2017; Crawford et al., 2010; LePine et al., 2005). On the contrary, hindrance job demands expose people to excessive or undesirable work constraints and inhibit people's ability to achieve valued goals; they depend on situational restraints (i.e., detrimental organizational issues and policies), block employees from achieving positive, meaningful outcomes, and cannot be easily overcome by employees with the investment of additional effort. Examples of hindrance job demands are role ambiguity, role conflict, hassles, low social support, and scarce quality of leadership (Crawford et al., 2010; LePine et al., 2005).

Based on this distinction, the JD-R model posits that especially challenge job demands have a motivational role in increasing the positive effect of job and personal resources on work

engagement (Bakker & Demerouti, 2017). Although the interaction between job resources and challenge job demands in promoting work engagement has been noteworthy confirmed in the literature, contradictory results emerged when the interaction between personal resources and challenge job demands was considered (Bakker & Demerouti, 2017; Tesi et al., 2019; Xanthopoulou et al., 2013). For instance, Xanthopoulou et al. (2013) found that self-efficacy – but not optimism – was positively associated with work engagement when emotional job demands were high (vs. low), while Bakker and Sanz-Vergel (2013) found that both self-efficacy and optimism were related to work engagement when job demands were high (vs. low). Our expectation was in line with one of the principal assumptions of the JD-R model, i.e., the boosting assumption. According to this evidence, we postulated that people would take advantage of their personal resources when this reservoir of potential is needed the most (i.e., high challenge job demands). To address this research gap, the present study tested whether personal resources were associated with work engagement when people were facing high (vs. low) challenge job demands.

1.2. Trait authenticity, personal resources, and work engagement

We framed the JD-R model for studying the potential role of trait authenticity, considered as a personality trait that can indirectly support teachers' work engagement through association with their personal resources. According to the centered-person model (Rogers, 1965), authenticity can be defined as a deep congruence between "what is being experienced at the gut level, what is present in awareness, and what is expressed in the client" (Rogers, 1980, p. 116). In particular, Wood et al. (2008) defined authenticity as a trait balancing of three dimensions: self-alienation, authentic living, and acceptance of external influence. Self-alienation is defined as the mismatch between the actual experience and the conscious awareness of psychological states, emotions, and deep levels of cognition; high levels of self-alienation represent the experience of not knowing oneself or not being in touch with own true Self. Authentic living refers to the congruence between the conscious awareness of own psychological states, emotions, and cognitions and the expressed emotions and behaviors; in other words, living authentically implies a condition in which a person is true to oneself and behaves in a way that is consistent with own beliefs and values. Lastly, acceptance of external influence is defined as the extent to which people believe they should conform to others' expectations and accept their influence; the more people introject the views of others, the more their authenticity could be compromised (Wood et al., 2008).

In work contexts, high levels of authenticity can contribute to the development and the maintenance of clear boundaries between who one really is (i.e., the true Self) and one's awareness of the internal psychological states one experiences within the work role (e.g., Van den Bosch et al., 2019; Van den Bosch & Taris, 2014). According to Leroy et al. (2013), being authentic at work solicits people to attribute behaviors to internal states fostering self-determination and autonomous motivation. Moreover, being self-determined leads to more engagement in the course of actions at work, potentially speeding up energy, dedication, and absorption (Cha et al., 2019). To summarize, existing results suggest that due to the sense of meaningfulness released by high authenticity, people can unleash their potential at work resulting in increased engagement.

Although the positive relationship between authenticity and work engagement has been confirmed (Sutton, 2020), it is not yet clear whether this relationship can be mediated by a third variable that could help explain how authenticity enables the development of human potential (Cha et al., 2019). In the present study, we opted to fill this research gap by investigating the role of personal resources as a potential mediator in the association between authenticity and work engagement. According to Kahn (1990), engagement at work is sustained by the presence of personal resources. Indeed, a considerable corpus of research involving differentiated samples and different contexts showed that trait authenticity is positively associated with a series of personal resources that promote an individual's positive functioning, such as self-esteem, autonomy, environmental mastery, self-acceptance, and personal growth (Davis et al., 2015; Di Fabio, 2014; Wood et al., 2008). Authenticity was also found positively associated with personal and social self-efficacy (Satici et al., 2013; Stets & Burke, 2014), highlighting that authentic living can increase own beliefs about mastering specific tasks or domains (e.g., work tasks and the ability to start and maintain social relationships). In accordance with this literature, we hypothesized that individual differences regarding the level of trait authenticity serve as an "enzyme" for the release of the full potential of individuals in terms of personal resources tailored to be spent within the work environment. In turn, according to the JD-R model, we expected that the proactive function of personal resources contributes to promoting work engagement (Bakker & Demerouti, 2017).

We opted to focus our research on educational settings: school contexts are ideal for studying this model inasmuch they represent settings in which teachers are exposed to several challenging demands (e.g., workload; Bakker et al., 2007; Jennings & Greenberg, 2009; Travers & Cooper, 1996), so representing a suitable substratum for the expression of individual full potential in terms of personal resources. As far as the role of authenticity in school contexts, Bialystok (2015, p. 10) claimed that "whether that self is one we would want to see expressed in the classroom depends greatly on who the teacher is", addressing the need to conduct further studies on teachers' trait authenticity in relation with their engagement at school. For instance, Van Wingerden and Poell (2019) found positive associations between teachers' perceptions of conducting meaningful work (i.e., in accordance with their true Self) and their resilience, job crafting behaviors, and work engagement. Being authentic and acting authentically allows the expression of own's potential (Sutton, 2018); hence, high levels of trait authenticity would allow teachers to trigger their own personal resources suitable for fostering their work engagement at school (i.e., the motivational process of JD-R model; Bakker & Demerouti, 2007). Since the JD-R model posits that the boosting effect of personal resources on work engagement is particularly strong when job demands are high and act as a motivational factor, we expected that the mediation effect of personal resources between trait authenticity and work engagement was higher when teachers experienced high (vs. low) challenges at work. To fill this research gap, we framed trait authenticity within the boosting hypothesis of JD-R model.

1.3. The current research

Among teachers, we expected that trait authenticity can contribute to fulfilling a pool of personal resources at work (i.e., self-efficacy, organizational-based self-esteem, coping strategies, and optimism). Moreover, according to the boosting assumption of the JD-R model, we expected that these personal resources would be associated with higher work engagement when challenge job demands (i.e., workload) were high (vs. low), allowing the full expression of personal resources (Fig. 1).

Study hypothesis: trait authenticity is indirectly associated with work engagement mediated by personal resources, especially when challenge job demands are high (vs. low).
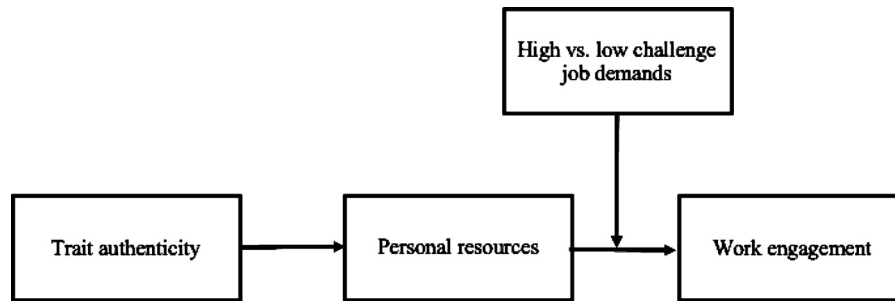
Fig. 1. Study's conceptual model.

2. Method

2.1. Participants and procedures

Our sample of teachers was recruited on a voluntary basis. We opted for a convenience sample. We initially contacted 27 comprehensive administrative institutions located in Central Italy. In the Italian educational system, the comprehensive administrative institutions usually include three school levels (kindergartens, primary schools and middle schools). Our aim was to study whether teachers' trait authenticity could contribute to their work engagement even considering (i.e., controlling for) the different school levels. Specifically, all the teachers of each contacted comprehensive administrative institution could be involved: after the presentation of the research in the context of school meetings or through official school channels, teachers could decide to take part in the study, without any economic benefit. The final sample for the present study comprised 446 teachers (mean teaching experience = 17.54 years, SD = 10.93 years), out of which 162 (36.32%) worked in public kindergartens, 189 (42.38%) in public primary schools, and 95 (21.30%) in public middle schools. As for their education level, 210 (47.09%) participants held a high school degree and 236 (52.91%) a university degree. A vast majority of the participants (n = 416, 93.27%) were females. The local scholastic institutions approved all the procedures, and informed consent was obtained from participants. Data collection was realized through an online self-report questionnaire within the context of a larger plan of research, which was focused on emotional competence and relational well-being within school contexts.

2.2. Measures

2.2.1. Trait authenticity

Trait authenticity was assessed using the Italian version of the Authenticity Scale (Di Fabio, 2014; Wood et al., 2008). The original version was a 12-item self-report scale to assess a context-free perception of dispositional authenticity following a tripartite perspective: self-alienation (four items; e.g., "I don't know how I really feel inside", "I feel as if I don't know myself very well"), authentic living (four items; e.g., "I am true to myself in most situations", "I live in accordance with my values and beliefs"), and accepting external influence (four items; e.g., "I am strongly influenced by the opinions of others", "I usually do what other people tell me to do"). In the present study, we asked teachers to rate each assertion with reference to their experience within the workplace using a 7-point Likert scale from 1 ("does not describe me at all") to 7 ("describes me very well"). Since we were interested in a global score of trait authenticity, we calculated the mean of the 12 items (after re-scoring the items from the self-alienation and accepting external influence subscales), in line with Wood et al. (2008). Hence, higher scores in this variable correspond to higher levels of trait authenticity (Cronbach's alpha = .82).

2.2.2. Personal resources

Personal resources were investigated using an adapted version of the Integrated Organizational Well-being Assessment Tool (Tesi & Aiello, 2021), a self-report instrument composed of various scales devoted to assessing various aspects pertaining to organizational well-being. The personal resources scale is made up of five items focused on levels of optimism, self-efficacy, organizational-based self-esteem and self-confidence in relation to the personal abilities to face challenges in work environments (e.g., problem-focused and emotion-focused coping strategies; e.g., "I trust myself when I face unexpected events"). Participants responded to these items on a 7-point Likert scale ranging from 0 ("totally disagree") to 6 ("totally agree"). Using IBM Amos v.21, we ran a confirmatory factor analysis (CFA) in order to confirm the factorial structure of the scale. After recognition of modification indexes, we added a theoretically plausible path of correlation between the residual term of the items "problem-focused" and "emotion-focused coping strategies" (see, Lazarus, 1993). The CFA revealed that the scale has a good fit to the data [χ^2(4) = 9.63, p > .05; comparative fit index (CFI) = .99; root mean square error of approximation (RMSEA) = .05; standardized root mean square residual (SRMR) = .02]. Standardized loadings of the items on the affective factors ranged from .37 to .90 (loading mean = .61). Cronbach's alpha in the present sample = .74.

2.2.3. Challenge job demands

The challenge job demands were measured using two items of the Integrated Organizational Well-being Assessment Tool (Tesi & Aiello, 2021), respectively measuring tasks (e.g., "In my work, I have to deal with many things") and emotional workload (e.g., "Here the emotional workload is particularly high"). Participants responded to these items on a 7-point Likert scale ranging from 0 ("totally disagree") to 6 ("totally agree"). In the present study, the two items were moderately correlated (r = .54, p < .001) highlighting a satisfactory internal consistency.

2.2.4. Work engagement

Work engagement was assessed using the Italian version of the Utrecht Work Engagement Scale (UWES-9; Simbula et al., 2013). The items are focused on the level of energy and mental resilience in the workplace, such as the vigor component ("At my job, I feel strong and vigorous"), the affective aspects of work, such as the dedication facet ("I am enthusiastic about my job"), and the level of concentration and absorption ("I am immersed in my work"). Teachers were asked to rate each item using a 6-point Likert-type scale, from 1 ("never") to 6 ("always"). A global score was calculated (Cronbach's alpha = .91). Higher scores in these variables correspond to higher levels of work engagement.

2.3. Data analysis

Statistical analyses were carried out using IBM SPSS v. 26. Descriptive statistics and Pearson's correlations were performed. The

Table 1

Descriptive statistics and correlations among variables (*n* = 446).

Variable	Mean (SD)	Skewness	Kurtosis	1	2	3
1. Trait authenticity	5.60 (.88)	−.60	−.15			
2. Personal resources	4.49 (.91)	−.67	.37	.50*		
3. Challenge job demands	3.17 (1.59)	−.18	−.69	−.31*	−.29*	
4. Work engagement	4.91 (.75)	−1.55	3.25	.29*	.61*	−.20*

*** *p* < .001.

Table 2

Multiple regression analyses for testing the moderated-mediation hypothesis (*n* = 446).

Predictor	Outcome			
	Personal resources		Work engagement	
	b	95% CI	b	95% CI
Trait authenticity	.52***,a	.43 to .60	−.02	−.09 to .05
Personal resources	–	–	.49***,b	.42 to .56
Challenge job demands	–	–	−.02	−.06 to .02
Personal resources × challenge job demands	–	–	.05*	.01 to .09

*** *p* < .001.

* *p* < .05.

a Path a.

b Path b.

conceptual model (Fig. 1) was tested using moderated mediation analysis. The moderated mediation analysis tests the indirect conditional effect that is if an indirect effect (e.g., authenticity on work engagement through personal resources) would be conditional at different levels of a moderator (e.g., challenge job demands) (Preacher et al., 2007). According to Rucker et al. (2011), to conclude that a mediated effect exists, one must establish the existence of path "a", a direct path between the predictor and the supposed mediator, and path "b", an association between the mediator and the outcome when the predictor is included in the model. We also tested the significance of the direct effect between predictor and outcome even that is not required for testing a mediation effect (Rucker et al., 2011; see also Holmbeck, 1997). To test the conditionality of the indirect effect, we checked whether the association between the mediator and the outcome variable (path "b") was conditionally different based on the different levels of a moderator variable by checking whether the association between the interaction term (mediator × moderator variable) and the outcome variable was statistically significant.

We ran a moderated mediation model using SPSS Process v. 3.3 Macro (Model 14; Hayes, 2018) with 5000 bootstrap samples. All predictors were mean-centered to reduce multicollinearity. In bootstrap samples, we do not assume a normal distribution of sampling. Thus, bootstrapping tests are preferred over other mediation methods (Preacher & Hayes, 2008). We then ran a simple slope analysis (Aiken et al., 1991) to deepen the conditional effect of the association between personal resources and work engagement (path "b") on the basis of the teachers' challenge job demands levels (+1.00 and −1.00 SD of challenge job demands score). We used the moderated mediation index to inferentially test for a non-zero weight of the moderator in the indirect effect (Hayes, 2015). Hence, we tested if the indirect effect of trait authenticity on work engagement through personal resources differs at different levels of challenge job demands.

In our preliminary analysis, we ran a model controlling for variance in sex, teaching experience, and level of school. Since none of the aforementioned covariates showed significant effects on the outcome, we decided not to include the covariates in our final model so as to present a model as parsimonious as possible.

3. Results

The descriptive statistics and Pearson's *r* correlations are presented in Table 1. For each sample, the common method bias was preliminarily addressed performing Harman's single-factor test (Podsakoff et al., 2003). We ran a principal component analysis with a non-rotated factor solution including all scales' items. The first component extracted explained the 26.90% of observed variables' total variance. The results showed that the observed variables in their totality shared less than 50% of the total variance, suggesting that the study was not exposed to the common method bias issue (Rodríguez-Ardura & Meseguer-Artola, 2020).

The results of moderated mediation analysis are presented in Table 2. Overall, the model explained the 38% of work engagement total variance (R^2 = .38). There was a positive association between trait authenticity and personal resources (path a: *b* = .52, *p* < .001, 95% CI: .43, .60) and between personal resources and work engagement (path b, *b* = .49, *p* < .001, 95% CI: .42, .56). We found a positive association between the interaction term (i.e., personal resources × challenge job demands) and work engagement (*b* = .05, *p* < .01, 95% CI: .01, .09) as well, indicating a moderation effect of challenge job demands between personal resources and work engagement. Using simple slope analysis, in Fig. 2, we graphically represented the conditional effect of personal resources on work engagement for high (+1.00 *SD*; *b* = .58, *p* < .001; 95% CI: .49, .66) and low (−1.00 *SD*; *b* = .41, *p* < .001; 95% CI: .30, .51) levels of challenge job demands.

The total effect of trait authenticity on work engagement was positive and significant (*b* = .25, *p* < .001, 95% CI: .18, .32). After including the mediator, moderator, and interaction term in the model, no direct effect was found between trait authenticity and work engagement (*b* = −.02, *p* < .001, 95% CI: −.09, .05). Since a direct effect between predictor and outcome is not necessary for configuring a mediational model (Rucker et al., 2011), we proceeded according with MacKinnon (2008) and Holmbeck (1997) by testing for an indirect conditional effect of trait authenticity on work engagement through personal resources, moderated by challenge job demands.

The moderated mediation index (Hayes, 2015) of PROCESS macro (*index* = .03; 95% CI: .01, .05) supported the indirect
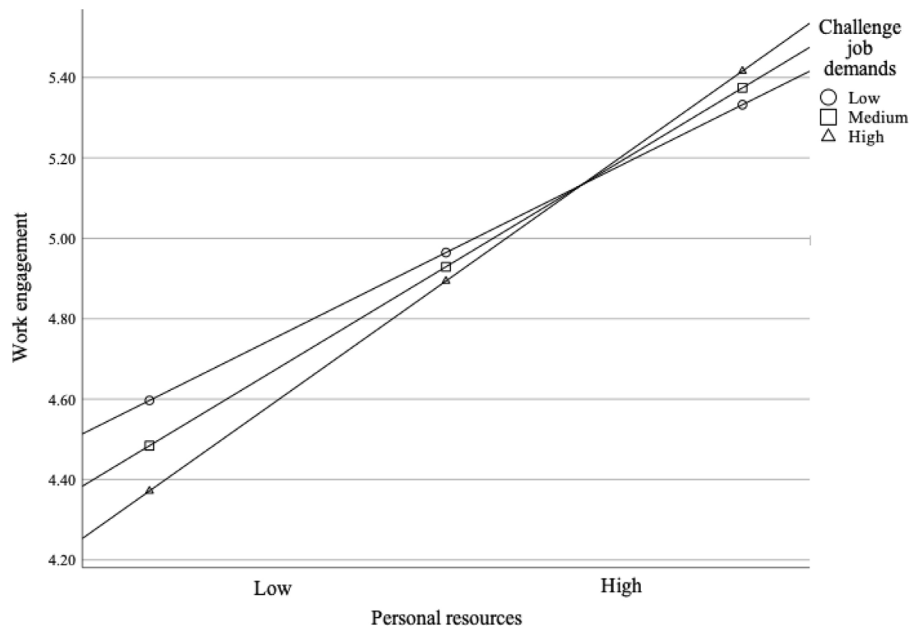
Fig. 2. Association between personal resources and work engagement at different levels of challenge job demands.

conditional effect. Aligning with our hypothesis, the indirect effect index of the process macro showed that the indirect effect of trait authenticity on work engagement, mediated by personal resources, was stronger for high (+1.00 SD; $b = .30$; 95% CI: .22, .39) than low challenge job demands (−1.00 SD; $b = .21$; 95% CI: .14, .29).

4. Discussion

The present study was conducted to examine the role of trait authenticity within the JD-R model, with a focus on school settings. Consistent with previous research emphasizing that trait authenticity can foster personal resources in different contexts and work environments (Di Fabio, 2014; Wood et al., 2008), we found evidence that trait authenticity promotes work engagement through the triggering of personal resources, particularly when job challenges of work environments are high (vs. low). This is in line with Cha et al. (2019), which posited that the relationship between trait authenticity and work engagement would be mediated by a third variable (i.e., energy and personal strengths). Trait authenticity seems to make available a pool of personal resources useful to improve workplace engagement. People who act authentically with their true Self are more likely to attribute their behaviors to internal states, resulting in more autonomous motivation (Leroy et al., 2013), potentially activating the gain spiral of internal personal resources. Acting authentically in the role that one occupies in the workplace can allow for the full expression of one's human potential (e.g., Van den Bosch et al., 2019; Van den Bosch & Taris, 2014). This is in line with several studies highlighting that trait authenticity in community samples was associated with a series of individual differences related to the development of human potential (e.g., Davis et al., 2015; Di Fabio, 2014; Satici et al., 2013; Schlegel & Hicks, 2011; Wood et al., 2008).

Further, in line with the JD-R model, our results showed that the positive association between personal resources and work engagement was particularly salient under the presence of high (vs. low) challenge job demands (Bakker & Demerouti, 2017; Demerouti & Bakker, 2023). Challenge job demands are aspects of the job that require a high effort expenditure, having the potential to be meaningful and rewarding for workers contributing to their personal growth (Crawford et al., 2010). Challenge job demands help workers achieve valuable goals, acting as a contextual

motivational factor that boosts the positive effect of personal resources on work engagement (Crawford et al., 2010; LePine et al., 2005). This evidence contributes to strengthening the boosting hypothesis of the JD-R model (Bakker et al., 2007), filling the research gap concerning the testing of the fostering effect of the interaction between personal resources and challenge job demands in promoting work engagement (Bakker & Demerouti, 2017; Xanthopoulou et al., 2013). The present study is aligned with the JD-R model assumption, which provides that the presence of resources (including personal resources – and thus not only the job-related ones), sustains engagement at work when their use is needed more (challenging environment; Bakker & Sanz-Vergel, 2013).

The present study also aimed to contribute to the debate on the role of authenticity in effective teaching (e.g., Bialystok, 2015). Teachers who are able to act in accordance with their true Self (i.e., high trait authenticity) may carry this sense of meaningfulness into their (challenging) work activities at school, resulting in greater availability of personal resources and thus potentially developing engagement at work (Van den Bosch et al., 2019). In terms of practical implications, our study emphasizes the importance for scholastic institutions to focus on adequate personnel management in school and to develop specific training courses, paying attention to the care of teachers' intra-personal variables (i.e., trait authenticity) as key antecedents of work engagement and organizational well-being, and more generally paying attention to the strict continuity between teachers' personal characteristics and their professional role (Baroncelli et al., 2022; Jennings & Greenberg, 2009). The attention to the personal characteristics of teachers – alongside the professional ones – is not a new issue. For instance, presenting their "Prosocial Classroom Model", Jennings and Greenberg (2009) stressed the importance of investing in teachers' personal functioning; teachers who are emotionally competent and experience high levels of well-being can rely on personal resources to spend in the workplace. With regard to trait authenticity, we are aware that having access to such an intra-personal trait dimension in the context of teacher training is by no means trivial; however, considering its potential role in activating work engagement, an attempt in this direction represents an effort that should be considered. In this regard, laboratory activities and training opportunities focused on dramatization and role-taking could allow teachers to express their anxieties and difficulties in everyday

life (i.e., with reference to both occupational and non-occupational situations); such an approach would allow teachers to be more aware of their true Self, permitting to develop a conscious representation of themselves as people able to express their resources and talents. In so doing, the tripartition of the authenticity proposed by Wood et al. (2008; i.e., self-alienation, authentic living, and acceptance of external influence) could constitute a theoretical framework to develop a specific training approach.

Furthermore, the present study stressed the importance of in-depth consideration of the role of professional challenges. Teachers have to deal with a number of job challenges pertaining to organizational and relational aspects (e.g., task and emotional workload; e.g., Bakker et al., 2007; Jennings & Greenberg, 2009; Travers & Cooper, 1996). Certain challenging environments such as schools (e.g., characterized by high challenge job demands) further motivate teachers to better express and develop their pool of personal resources (Sutton, 2018), which, in turn, can promote engagement at school. In this regard, we suggest that school managers pay particular attention to managing teachers' jobs, assuring them an environment characterized by the presence of adequate challenging demands (e.g., sustained workload), which can "empower" the positive effects of personal resources on work engagement.

Some limitations of the present study should be considered. First of all, convenience sampling represents a potential source of bias. Several contextual factors (e.g., the level of educational demands, the organizational climate, and the efforts put in by the school deans and their staff to promote the research within school institutions) may have played a role in enabling teachers' participation; at the same time, teachers who are more sensitive to the issues of the present study, or those most motivated towards their work, could be over-represented in this sample. In this regard, future studies could consider specific sampling techniques to control for one or more of the above biases. While probability sampling techniques are the best choice for reducing sampling bias and representing the broader population, the costs associated with this option may outweigh the possibilities of school contexts. Purposive sampling (Etikan et al., 2016) can be a valid non-probability sampling technique that allows to select and balance of participants with specific characteristics that the researcher assumes should be kept under control for the purposes of the study. For example, with regard to contextual factors related to the school environment, school institutions could be selected for participation on the basis of specific indicators that can be a priori identified, such as the degree of socio-cultural deprivation of the area in which they are located or the number of extracurricular activities proposed; with regard to contextual factors related to teachers, the number of students in charge or the number of extra-didactic tasks carried out within the school could be considered. Furthermore, the cross-sectional nature of the analyses does not allow for drawing conclusions regarding causality. In this regard, the direction of the association between trait authenticity and personal resources can be theoretically supported by the notion that a rather stable trait dimension of individuals (authenticity as defined in the model of Wood et al., 2008) can influence personal resources, which, differently, are more susceptible to variation according to personal initiatives or environmental changes due to job crafting processes (Bakker et al., 2011; Bakker & Demerouti, 2017). However, longitudinal studies are needed in order to sustain our findings. Moreover, the results of the present study cannot be generalized to other environments and work contexts. We chose to test our hypothesis with a sample of teachers as they are particularly exposed to high challenge job demands (Bakker et al., 2007). In particular, we chose to study workload as one of the most recognized challenge job demands (Crawford et al., 2010; LePine et al., 2005). However, further studies can investigate in-depth which specific kind

of job demands in teaching can operate as hindrance or challenge job demands (Bakker & Sanz-Vergel, 2013) and be disruptive or promotional, respectively, for teachers' work engagement. Similarly, we chose to examine a pool of the most influential personal resources predictive of work engagement, focusing specifically on measures of self-confidence and optimism (Bakker & Demerouti, 2017; Xanthopoulou et al., 2013). However, the heuristic power of the JD-R model allowed scholars to test the role of a variety of personal resources in predicting positive job outcomes such as hope, resilience (Schaufeli & Taris, 2014), and eudaemonic psychological well-being (Aiello & Tesi, 2017; Tesi et al., 2019). Future studies can test whether authenticity can trigger other typologies of personal resources, also deepening how they interact with job challenges characterizing different organizational and educational contexts. Finally, the study sample was not balanced for sex, presenting a predominance of women than men. Nonetheless, this is the typical employment condition in Italian schools, and future studies can address this limitation.

5. Conclusion

Notwithstanding the above-mentioned limitations, the present study provides new insight into the role of trait authenticity within the JD-R model. This finding leads us to expand the debate on the role of authenticity in effective teaching (Bialystok, 2015), advancing the notion that trait authenticity acts as a kind of "enzyme" for teachers; trait authenticity can indirectly sustain work engagement by fostering personal resources, especially in demanding work environments characterized by higher workloads (Demerouti & Bakker, 2023). As a result, we emphasize the importance for school institutions to focus on teachers' levels of trait authenticity as a key correlate of organizational well-being: paying attention to teachers' personal and professional development trajectories could be a key point for directly improving their engagement in school, as well as indirectly promoting students' well-being and performance.

Disclosure of interest

The authors declare that they have no competing interest.

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