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ORIGINAL PAPER

Does Being Authentic Promote Self-actualization at Work? Examining the Links Between Work-Related Resources, Authenticity at Work, and Occupational Self-actualization

Lucas Alexander Maunz[1] · **Jürgen Glaser**[1]

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Abstract
Authenticity at work (AAW) is an important work-related state. Little is known about how other work-related resources can promote AAW and the link between AAW and organizational self-actualization (OSA). In three studies, we drew on conservation of resource theory to determine whether AAW serves as a mediator between three distinct work-related resources (i.e., social support at work, job autonomy, authentic leadership) and OSA. Studies 1 and 2 used a cross-sectional design (*N*s = 209; 597), and study 3 used a two-wave longitudinal design (*N* = 143) to evaluate data from employees. While studies 1 and 2 supported a positive, indirect relation between job autonomy, social support at work, and OSA via AAW, study 3 and additional post hoc findings challenged these results. Alternatively, a reciprocal, cross-lagged effect of OSA on AAW is plausible. Lagged effects from work-related resources to AAW or OSA were not supported in study 3. Authentic leadership (AL) was not related to OSA via AAW. Instead, post hoc analysis suggested two serially mediated links between AL and OSA. All three studies confirmed the proposed factor structures of AAW and OSA. The findings extend both our knowledge regarding the concepts of AAW and OSA and the promotion of AAW and its relation to OSA. We discuss the dynamics of work-related resources, AAW, and OSA and conclude with implications for future research, organizations, leaders, and employees.

Keywords Authenticity at work · Occupational self-actualization · Autonomy · Social support · Authentic leadership

Introduction

Authenticity at work (AAW) refers to employees' feelings of alignment between their experience and perception of their genuine, "true" self (van den Bosch & Taris, 2014b). Recently, AAW has earned much interest due to its positive relation to job satisfaction (Biermeier-Hanson et al., 2020; Fletcher & Everly, 2021; Wayne et al., 2019), meaning in work (Kuntz & Abbott, 2017; Ménard & Brunet, 2011), and self-determined motivation (Ma et al., 2020; van den Bosch & Taris, 2018). However, prior research neglected the link between AAW and occupational self-actualization (OSA), which is defined as employees' feelings of completion, achieved by realizing their potentials (Brown & Gunderman, 2006). In addition, little is known about how AAW can be promoted (Cha et al., 2019). First evidence shows that work-related resources can promote AAW (Metin, Taris, Peeters, van Beek, & van den Bosch, 2016) and OSA (Glaser et al., 2019). Furthermore, it suggests that AAW transmits the effects of work-related resources to work engagement (Metin et al., 2016).

Currently, these effects are not sufficiently understood because we still know little about the underlying processes. To date, we know that job and personal resources can affect a broad range of positive work outcomes, like individuals' work engagement and well-being (Ilies et al., 2005; Lesener et al., 2019; Nielsen et al., 2017). In that regard, job autonomy, perceived social support at work, AL, and AAW might be especially useful. They are unique resources that emerge from distinct levels within organizations (Nielsen et al., 2017), and their positive effect on well-being outcomes is well documented (e.g., Cha et al., 2019; Ilies et al., 2005; Jolly et al., 2021; Lesener et al., 2019). To date, however, no study has investigated how these resources together affect

✉ Lucas Alexander Maunz
lucas.maunz@uibk.ac.at

[1] Department of Psychology, University of Innsbruck, Innrain 52, 6020 Innsbruck, Austria

AAW and OSA. By drawing on the conservation of resource (COR) theory, the present research aimed to advance our knowledge about these links (see Fig. 1). In doing so, we aim to contribute to the emerging literature on AAW in three distinct ways. First, we contribute to the understanding of AAW as a personal resource. Second, we contribute to the understanding of the underlying process of how AAW can be promoted by work-related resources. Finally, we advance our knowledge about the relation between AAW and OSA.

Authenticity at Work

A recent definition understands authenticity as consistency between three levels: (a) our (mostly unconscious) experiences of our true self, (b) our own symbolized (conscious) awareness, and (c) our externally perceivable behaviors and communication (Wood et al., 2008). Building on this definition, Wood et al. (2008) conceptualized authenticity with the dimensions of self-alienation, authentic living, and accepting external influence. *Authentic living* means the congruence between our behaviors and emotional expressions and our self-perceived physiological states and emotions. If we act and express ourselves according to our perceived states and emotions, we are "true" to ourselves and are authentic. *Self-alienation* means the perceived imbalance between the experience of the true self and the experience of physiological states, emotions, and beliefs. Thus, self-alienation describes the subjective experience of feeling alienated from our true self (van den Bosch & Taris, 2014b). The more we feel self-alienated, the less authentic we are. Previous literature argued that self-alienation and authentic living are influenced by the social environment (Schmid, 2005; Wood et al., 2008). Therefore, accepting external influence is the third dimension of the AAW construct. Accordingly, *acceptance of external influence* describes the influence others have on our views. For example, if others have a strong influence on us and we adopt their views instead of having our own, we are not authentic.

Authenticity at work, a context-dependent construct, builds on the authenticity definition by Wood et al. (2008) by keeping the original factor structure. But rather than viewing authenticity as a psychological trait, it is viewed as a state (van den Bosch & Taris, 2014b). Following the person-environment fit theory, employees feel authentic when they are in agreement with their work environment (Song, Wang, & Zhao, 2020; van den Bosch & Taris, 2018). Conversely, employees who work in an environment that does not fit their true self results in stress (Caplan, 1987). Generally, features of work environments can change over time. This change can affect the fit between employees and their work environments (van den Bosch & Taris, 2018). Thus, evaluating employees' felt authenticity as a state is beneficial.

Occupational Self-actualization

In the philosophical roots of reflections about a good life, Aristotle described happiness as being achieved by acting with virtue and by realizing our potentials. Later, Maslow (1943) defined self-actualization as a process of personality development to become the person that we can become. Moreover, Maslow (1962) posits the individual need to actualize own potentials, when lower-order needs are fulfilled. Building on Maslow, many definitions and concepts of self-actualization developed (e.g., Jones & Crandall, 1986; Kaufman, 2018; Maslow, 1950; Shostrom, 1964). However, there is no consensus on a definition or concept of self-actualization. In occupational settings, where employees often strive to develop their work-related potentials, research on occupational self-actualization (OSA) is lacking.

Similar to Maslow's understanding, *occupational self-actualization* refers to employees' feelings of completion, which is achieved by realizing their potential (Brown & Gunderman, 2006) or by engaging in tasks that contribute

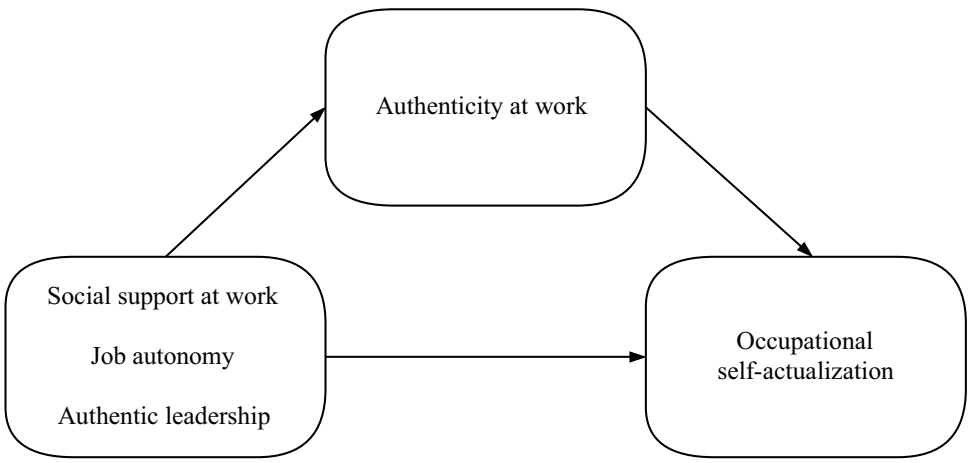

Fig. 1 Conceptual model

to personal growth and development (Glaser et al., 2019). We followed a recent conceptualization of OSA by Glaser et al. (2019). The construct has three components, which function as indicators for OSA. First, *intrinsic work motivation* describes the motivational component of OSA and refers to employees' engagement in work tasks that stem from the self (van den Bosch & Taris, 2018). Second, *meaning in work* describes the cognitive component of OSA and refers to experiences of meaningfulness in a particular work context (Schnell et al., 2013). Third, *occupational self-efficacy* describes the behavioral component of OSA that refers to employees' competence and ability to deal well with and engage in prospective work situations (Bandura, 1997; Rigotti et al., 2008). These three indicators of OSA are grounded in the self-determination theory (SDT), the meaning in work theory, and the social learning theory. A more detailed rationale is outlined below.

Although the concept of self-actualization is not directly used within SDT, Deci et al. (2013) argue that "in SDT flourishing and actualization are seen as natural human potentials" (*p*. 110). Especially, the SDT's concept of intrinsic motivation has close theoretical links to self-actualization. Intrinsically motivated individuals follow their active nature to pursue activities for the sake of pursuing them. The understanding of individuals having an active nature is shared by the self-actualization theory (Deci et al., 2013; Maslow, 1962). Moreover, scholars generally regard self-actualization to be a universal human need that is deeply intrinsically motivated. Empirically, this is supported by Kasser and Ryan (1996), who found a relation between the importance and likelihood of attaining intrinsic aspirations and self-actualization.

OSA has close links to the meaning in work theory. In a recent review on meaningful work, Martela and Pessi (2018) argued that self-actualization is a facet of meaningful work that describes employees' intrinsic value of work. Moreover, employees derive meaning from work by realizing their potential, which occurs when employees' passions, strengths, and core values interact with work (Lieff, 2009; Martela & Pessi, 2018). This concept of meaningful work is similar to Maslow's understanding of self-actualization. The link between the concepts is especially noticeable in Roessler's (2012) argument that meaningful work is about realizing our talents and abilities.

The third indicator of self-actualization, occupational self-efficacy, refers to the domain-specific competence of employees to perform well in their work (Bandura, 1997; Rigotti et al., 2008). Self-efficient employees are confident because they are competent. They have mastered their work and actualized their potential. Moreover, a self-efficient attitude is important for developing optimistic thoughts about functioning and personal growth (Bandura, 1997) in occupational settings. The conceptual link between self-efficacy and self-actualization was already pointed out by Maslow (1971) and has been supported in subsequent research (e.g., Amani & Shabahang, 2017; Ryckman et al., 1985).

This narrow focus on *occupational* instead of domain-independent self-actualization appears necessary to assess self-actualization as a work outcome. Our social life consists of distinct social roles and aims that we can individually engage in and experience development, fulfillment, and growth (Deci et al., 2017; Krems et al., 2017; Ryff & Singer, 2008). Prior literature supported the focus on domain-specific evaluations of self-actualization, as life features—like work—contributed independently to self-actualization, and what people regarded as self-actualizing varied across the life span (Krems et al., 2017). In addition, domain-specific characteristics might affect self-actualization in respective life domains. For example, jobs that facilitated variety, autonomy, task identity, and feedback were associated with high motivation and job satisfaction (Hackman & Lawler, 1971).

The Relation Between Authenticity at Work and Occupational Self-actualization

Authentic employees are in agreement with their work environment (Song et al., 2020). They can act according to their ideas, goals, and talents and express themselves individually, as they truly are. They are not alienated from work but active in a self-determined way that stems from their authentic selves. Following Deci et al. (2017), this should allow authentic employees to engage in intrinsically motivated work behavior where they can realize their talents and experience self-actualization. The association between AAW and OSA has not yet been investigated. However, according to prior research, AAW was found to be positively related to well-being (Ariza-Monte et al., 2019; Ménard & Brunet, 2011; Sutton, 2020; van den Bosch & Taris, 2014a; Wessel et al., 2020), job and life satisfaction (Biermeier-Hanson et al., 2020; Fletcher & Everly, 2021; Wayne et al., 2019), meaning in work (Kuntz & Abbott, 2017; Ménard & Brunet, 2011), and self-determined motivation (Ma et al., 2020; van den Bosch & Taris, 2018).

A theoretical perspective for explaining the effect of AAW on OSA can be found in the conservation of resources theory (Hobfoll, 1989, 2002). The theory assumes that people strive to maintain, protect, and buildup resources. COR theory understands resources as entities that are valuable on their own or valuable for obtaining other resources (Hobfoll, 2002). Despite the difficulties in categorizing resources, we understand AAW as a deeply valued state that can act as a personal resource and be applied toward OSA.

The link between AAW and OSA can be explained by drawing on COR theory. Authentic employees need to disguise themselves less often. Thus, they spend fewer

resources on fake behavior like surface acting (Grandey, 2000) and on keeping silent (Knoll & van Dick, 2013). These resource savings that result from an authentic job climate can buffer against strain from emotional labor (Grandey et al., 2012). Using their conserved resources, authentic employees can adhere to their goals and experience hope for future success (Davis & Hicks, 2013).

Prior research demonstrated that authentic employees show a good fit between their selves and their job (van den Bosch et al., 2019). They are highly engaged in their work and perform better than others (Kristof-Brown et al., 2005; Kuntz & Abbott, 2017). They are proactive (Matsuo, 2020) and draw from enhanced psychological capital (Song et al., 2020). Moreover, due to the good fit between self and job, authentic employees experience high self-efficacy (Peng & Mao, 2015), which can affect their weekly intrinsic motivation (Çetin & Aşkun, 2018). Conserved resources of authentic employees, paired with their self-efficient job attitudes, job engagement, and proactive behavior could let them engage in challenging and fulfilling work tasks, where they can realize their talents and abilities.

In sum, authentic employees conserve resources, are proactive, have enhanced psychological capital, and are highly engaged in their jobs. Therefore, we propose that:

Hypothesis 1 Authenticity at work is positively related to occupational self-actualization.

Authenticity at Work as a Mediator of the Relation Between Social Support at Work, Job Autonomy, and Occupational Self-actualization

Following COR theory, control and social support are highly valuable resources (Hobfoll, 2002; Hobfoll et al., 1990; Jolly et al., 2021; Park, Jacob, Wagner, & Baiden, 2014). In our study, job autonomy represents the perceived control employees have over work-related goals, approaches, and execution (Glaser et al., 2020). Social support represents the perceived emotional and instrumental support employees receive from colleagues and supervisors (Caplan et al., 1975; Frese, 1989). Although previous categorizations of resources vary throughout the literature (Hobfoll, 2002), we view job autonomy as a resource that emerges from the organizational-level. In contrast, we view social support at work (i.e., social support from colleagues and supervisors) as a resource that emerges from the group and supervisor levels (Nielsen et al., 2017). As authenticity is dependent on balancing our autonomous individuality and interrelatedness (Schmid, 2005; Wood et al., 2008), job autonomy and social support at work might be especially relevant resources to affect employees' authenticity.

A premise of the COR theory is that resources are linked to other resources (Hobfoll, 2002). By understanding job autonomy, social support at work, and AAW as resources, it is plausible that they are related. Specifically, while a lack of job autonomy compels employees to behave in a certain way (Gagné & Deci, 2005), jobs featuring high autonomy can allow employees to behave authentically (Metin et al., 2016). For example, employees who have greater control over interactions with customers can do so in their authentic way. Moreover, work environments characterized by high job autonomy allow employees to define their work roles more flexibly (Morgeson et al., 2005). As a result, employees can engage in work roles where they can be authentic.

Following a recent review, social support at work may affect other valued personal resources (Jolly et al., 2021). As scholars view AAW as a valued personal resource (e.g., Song et al., 2020), it might be affected by social support at work. Generally, showing our authentic self at work makes us vulnerable because others can more easily hurt our feelings (Burak et al., 2020). In a supportive environment, individuals care for, trust, and respect others (Cohen & McKay, 1984; Jolly et al., 2021). This makes employees feel valued and help them to develop and improve quality relationships (Holland et al., 2017). Additionally, supportive environments contribute to psychological safety and facilitate employees' community embeddedness (Singh et al., 2018). Therefore, employees who perceive their social work setting as supportive (i.e., a setting that is trusting, valuing, and respecting) might more easily show their authentic selves.

In sum, job autonomy and social support at work can function as valuable work-related resources that might affect AAW. We argued in the proposed Hypothesis 1 that authentic employees experience more OSA. As a logical extension of our arguments, we propose that:

Hypothesis 2 There is a positive indirect effect of (2a) social support at work and (2b) job autonomy on occupational self-actualization via authenticity at work.

Authenticity at Work as a Mediator of the Relation Between Authentic Leadership and Occupational Self-actualization

Being an authentic leader means to be self-aware, to be open and transparent in relationships, to have an internalized moral perspective, and to engage in balanced processing of information (Walumbwa et al., 2008). S*elf-awareness* refers to leaders who know their strengths and weaknesses and derive meaning from the social world. *Relational transparency* refers to leaders who openly present their authentic self to others. *Internalized moral perspective* refers to leaders who achieve congruence between their values and actions. Finally, *balanced information processing* refers to leaders who objectively analyze all information before their decision process (Walumbwa et al., 2008).

Authentic leadership is considered an important social resource. While social support from colleagues resides more horizontally at the group level, AL resides more vertically at the leader level (Nielsen et al., 2017). Thus, AL acts as another distinct resource that can, according to COR theory, conserve and strengthen other resources. This is supported by prior literature. Accordingly, AL was previously related to personal resources, such as psychological capital (Adil & Kamal, 2020; Sri Ramalu & Janadari, 2022). In addition, prior literature demonstrated a close link between leadership and the personal resource authenticity. For example, leaders' authentic humility affected followers' felt authenticity (Burak et al., 2020). AL moderated the effect of AAW on psychological capital (Song et al., 2020) and supportive, transformational leadership affected employees' authenticity, which in turn affected employees' motivation (Ma et al., 2020). Still, the relation between AL and AAW has not been fully understood.

Authentic leaders are supposed to have a positive influence on followers' values, beliefs, attitudes, identity, and behavior (Hannah et al., 2011). They empower followers and strengthen their influence due to the promotion of authenticity (Gill et al., 2018). Specifically, by promoting self-awareness, balanced processing, and relational transparency, authentic leaders support a positive work climate (i.e., one that is inclusive, ethical, caring, and strength-based) that provides resources to enhance authenticity, learning, and growth (Gardner et al., 2005). Moreover, authentic leaders provide followers with honest, task-related feedback, which is aimed at increasing their growth and need satisfaction (Gardner et al., 2005; Ilies et al., 2005). In the organizational context, giving adequate feedback is considered an important resource that can also influence other work-related resources (Ashford & Cummings, 1983; Gong et al., 2020). Therefore, we argue by drawing on COR theory that authentic leaders provide their followers with multiple resources that can conserve and strengthen other resources like AAW.

Hypothesis 1 argued that authentic employees can more easily engage in challenging and fulfilling tasks. Similarly, leaders can help employees to engage in challenging tasks (Preenen et al., 2014), which ultimately can lead to employees' development and growth (van Vianen et al., 2011). In sum, we argued that AL affects AAW and that AAW affects OSA. As a logical extension of our hypotheses, we propose that:

Hypothesis 3 There is a positive indirect effect of authentic leadership on occupational self-actualization via authenticity at work.

Overview of Studies

Prior research regarding AAW has mainly used cross-sectional study designs (Cha et al., 2019). We aimed to provide stronger evidence for our proposed links. Thus, we conducted three consecutive studies. Studies 1 and 2 used a cross-sectional study design, and study 3 used a two-wave longitudinal design. We aimed to achieve our research goals by testing a conceptual model, which investigated the direct link between AAW on OSA (studies 1–3) and the indirect links between social support, job autonomy (studies 1–3), and AL (studies 2–3) on OSA via AAW (see Fig. 1). In addition, we aimed to advance the knowledge about the concepts of AAW and OSA by translating and evaluating a German AAW measure (van den Bosch & Taris, 2014b) and by evaluating and discussing a recent concept of OSA (Glaser et al., 2019).

Study 1

Study 1 was conducted to evaluate the psychometric properties of a German translation of the Individual Authenticity Measure at Work (IAM Work; van den Bosch & Taris, 2014b) and to test the associations between AAW and OSA (Hypothesis 1) as well as the indirect effects of social support at work and job autonomy on OSA via AAW (Hypothesis 2).

Procedure and Sample

To achieve our research goals, we evaluated cross-sectional, self-report survey data of German-speaking employees. The data was gathered with an online questionnaire, which was posted on social media platforms.

We translated the IAM into German following recommended forward and backward translation procedures (Brislin, 1970). The original, target, and back-translated versions were compared and discussed. Analyses were performed with R software (R Core Team, 2020). The R scripts with results and datasets related to this article are available on the JBP open science repository (https://osf.io/nfrxy/). We started with confirmatory factor analysis (CFA) for each construct separately and then tested for construct validity. We assessed measurement reliability with Cronbach's alpha. We then tested our hypotheses by using structural equation modeling (SEM) with a bias-corrected bootstrapping procedure (5000 samples) and evaluated standardized estimates. For the assessment of CFAs and SEMs, recommended cutoff criteria were used (Hu & Bentler, 1999).

Overall, 209 employees completed the questionnaire. The sample was 42.6% male and 57.4% female and averaged 35.95 ($SD = 8.92$) working hours per week. A majority of

participants had no leadership position in their job (69.9%). On average, participants were 38.45 (*SD* = 11.75) years old. Participants worked in a wide range of industries including the production industry (23.9%), production-related services (12%), the healthcare sector (55.0%), and other industries (9.1%).

Measure

AAW was measured by our German version of the Individual Authenticity Measure at Work (van den Bosch & Taris, 2014b; 12 items total; 4 items per scale; 7-level Likert scale). The scale is available as supplementary material. The original, English measure already demonstrated good psychometric properties in several studies with good internal consistency (e.g., alpha coefficient of 0.82; van den Bosch & Taris, 2014b). The dimensions of the IAM Work are self-alienation (e.g., "At work, I feel alienated"), authentic living (e.g., "I am true to myself at work in most situations"), and acceptance of external influence (e.g., "I make my own choices at work").

OSA was measured with a motivational, cognitive, and behavioral indicator (Glaser et al., 2019; 9 items total; 3 items per scale; 5-level Likert scale). The measure already demonstrated good psychometric properties (e.g., alpha coefficients of the motivational dimension = 0.80, cognitive dimension = 0.87, behavioral dimension = 0.80; Glaser et al., 2019). The motivational dimension consists of items from the German version of the Intrinsic Work Motivation Measure (Warr et al., 1979; e.g., "I feel a sense of personal satisfaction when I do this job well"). The cognitive dimension of self-actualization consists of items from the German Meaning in Work Measure (Schnell et al., 2013; e.g., "My work fulfills me"). The behavioral dimension of self-actualization consists of items from the German version of the Occupational Self-Efficacy Measure (Schyns & Collani, 2002; e.g., "I feel up to most professional demands").

Job autonomy was measured using the respective scale of the German Screening for Work and Task Analysis (Glaser et al., 2020; 3 items; 5-level Likert scale; e.g., "I can determine for myself how to do my work"; reported alpha coefficient of 0.93).

Social support at work was measured with the Social Support at Work Scale (Frese, 1989), a German adaptation of the social support scale by Caplan et al. (1975). The scale measures the perceived emotional and instrumental support from colleagues and supervisors (6 items; 4-level Likert scale, e.g., "How much can you rely on your colleagues when things get difficult at work?"; "How much can you rely on your supervisor when things get difficult at work?"). The measure already demonstrated good psychometric properties (e.g., alpha coefficients in multiple samples between 0.80 and 0.90; Frese, 1989).

Results

Due to multivariate non-normal distributions in the data, we evaluated the model fit with maximum likelihood estimation (MLM) with a scaled test statistic (Satorra & Bentler, 2010). Table 1 presents means, standard deviations, intercorrelations, and Cronbach's alpha statistics of study 1.

Measurement Model

First, CFAs for AAW and OSA at work were tested separately. The fit indices for the tested models are presented in Table 2. The one-factor (12 items) AAW model did not fit the data well and demonstrated multidimensionality due to positive and negative item loadings. Lenton et al. (2016) argued that accepting external influence may not be essential to authenticity. Thus, we tested a two-factor AAW model, which fitted the data well. However, the three-factor model yielded a better model fit, which supported the tripartite structure of AAW.

Table 1 Means, standard deviations, intercorrelations, and alpha reliability among variables of study 1

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Gender	.57	.50	—							
2. Age	38.45	11.75	.14*	—						
3. Working hours (weekly)	35.95	8.92	−.36**	−.07	—					
4. Leadership position	.30	.46	.04	.29**	.03	—				
5. Social support at work	2.84	.63	.08	−.13	−.14*	.18*	(.86)			
6. Job autonomy	3.25	.97	−.03	.11	.07	.31**	.42**	(.84)		
7. AAW	5.26	1.16	−.05	.10	.00	.14*	.39**	.42**	(.89)	
8. OSA	3.99	.72	.03	.11	.02	.27**	.46**	.52**	.57**	(.87)

$N = 209$; gender: 0 = male, 1 = female; leadership 0 = no, 1 = yes; alpha reliability in parentheses

AAW authenticity at work, *OSA* occupational self-actualization, *M* mean, *SD* standard deviation

*$p < .05$; **$p < .01$

Table 2 Fit indices for CFAs of study 1

	χ^2	df	χ^2/df	CFI	RMSEA	SRMR
AAW: 1 factor — 12 items	367.43	54.00	6.80	.67	.17	.14
AAW: 2 factors — 8 items	35.92	19.00	1.89	.97	.07	.06
AAW: 3 factors — 12 items	71.14	50.00	1.42	.98	.04	.06
AAW: bifactor — 12 items	44.78	41.00	1.09	1.00	.02	.03
OSA: 1 factor — 9 items	224.53	27.00	8.32	.63	.19	.12
OSA: 3 factors — 9 items	30.30	24.00	1.26	.99	.04	.04
OSA: bifactor — 9 items	19.10	18.00	1.06	1.00	.02	.02
Full model	502.01	389.00	1.29	.96	.04	.07

Scaled Satorra-Bentler test statistics are reported

AAW authenticity at work, *OSA* occupational self-actualization, *CFI* comparative fit index, *RMSEA* root mean square error of approximation, *SRMR* standardized root mean square residual

Alternatively, we tested a bifactor CFA model of AAW aiming to evaluate the unique contributions of each individual factor (subdomain) of AAW. Bifactor models are a useful alternative to the more commonly used higher-order models (see Dunn & McCray, 2020 for a comprehensive comparison between these models). In a bifactor model, all observed items load directly on a general factor (e.g., AAW), but groups of items also load on specific subdomains (e.g., the facets of AAW: authentic living, self-alienation, and accepting external influence), which usually are orthogonal (uncorrelated) to the general factor. A benefit of bifactor models is the possibility for a deeper analysis of the plausibility of subdomains (Reise, Bonifay, & Haviland, 2018). In our case, the bifactor AAW model demonstrated a good model fit.

Next, we tested an OSA model with one factor (9 items), which did not fit the data. The item loadings showed a better fit to a multidimensional model. Accordingly, the tested OSA model with 3 factors demonstrated good model fit, which supports our proposed factor structure of the measurement model. The bifactor OSA model also demonstrated a good model fit.

Following Dunn and McCray (2020), bifactor models should not be seen as opposing latent structures but rather allow researchers to investigate causal models more thoroughly. Thus, looking more closely at the item loadings of the bifactor models of AAW and OSA, it became evident that all subdomains have associated items with meaningful item loadings (Tabachnick & Fidell, 2007). This demonstrated that, after taking the common variance of the general factors into account, each subdomain remains a unique contributor to the general concept (Chen et al., 2012).

Finally, we tested construct validity by evaluating a CFA of the full measurement model, including AAW, OSA, social support at work, and job autonomy in their proposed higher-order factor structure. The full model yielded a good model fit demonstrating discriminant validity. Cronbach's alpha indices of study variables showed acceptable reliability (see Table 1; Nunnally, 1978).

Hypothesis Tests

We transformed the CFA measurement model into a latent SEM and included the hypothesized pathways. Following prior recommendations (Becker et al., 2016), we carefully selected and included conceptually meaningful control variables in the model. Identical to subsequent studies 2 and 3, we added gender, age, weekly working hours, and leadership position as controls (i.e., as covariates of predictors and as predictors of AAW and OSA). Authenticity and self-actualization are about our *self* and therefore about our (social) identity (Cha et al., 2019; Schmader & Sedikides, 2018; Wessel et al., 2020). We included *gender* (0 = male, 1 = female) and *age* (continuous) as controls because they are essential aspects of our identity and because some prior studies found it correlated to authenticity (e.g., Simpson & Stroh, 2004; van den Bosch & Taris, 2018) and self-actualization (e.g., Schwepker et al., 2021; Zeng et al., 2021). Similarly, we included the amount of *weekly working hours* (continuous) and *leadership position* (0 = no, 1 = yes) as controls because they might also be important to our work identity (Greenhaus et al., 2012; Ng & Feldman, 2008; Wessel et al., 2020).

The structural model fit our data well ($\chi^2 = 646.84$, $df = 493$, $\chi^2/df = 1.31$, CFI = 0.95, RMSEA = 0.04, SRMR = 0.07). We found support for Hypothesis 1 (see Fig. 2). Employees who reported high AAW also tended to report relatively higher levels of OSA ($\beta = 0.47$, $p = 0.003$). We also found support for Hypotheses 2a and 2b. The indirect effect of social support on OSA through AAW was significant ($\beta = 0.13$, $p = 0.035$), as was the total effect ($\beta = 0.38$, $p < 0.001$) and the direct effect ($\beta = 0.25$, $p = 0.004$). The indirect effect of job autonomy on OSA through AAW

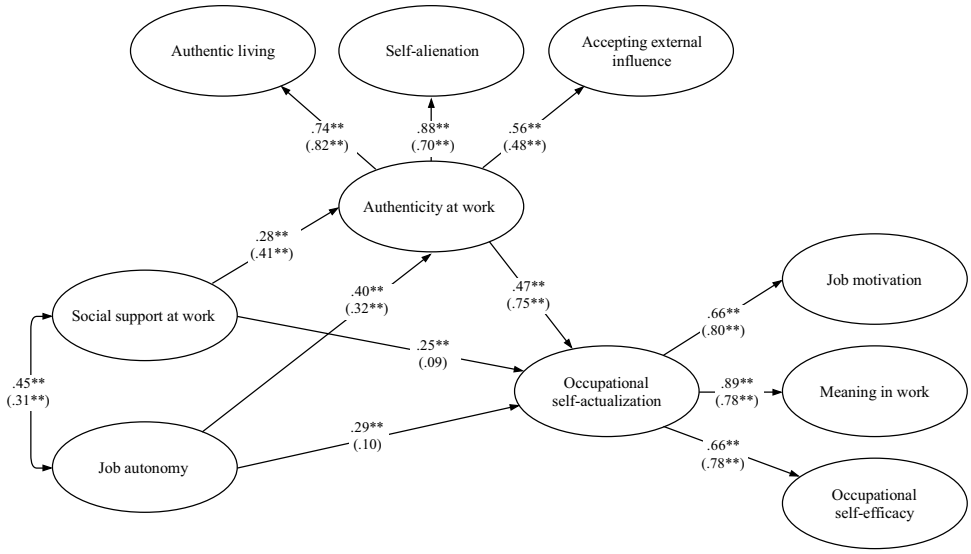

Fig. 2 Structural equation model. Results of studies 1 and 2 are displayed. Results of study 2 are presented in parentheses. $N_{Study1} = 209$, $N_{Study2} = 597$. $^{*}p < .05$, $^{**}p < .01$. Standardized coefficients are presented. For clarity, control variables (i.e., gender, age, weekly working hours, and leadership position), measurement items, and error variances are omitted

was significant ($\beta = 0.19$, $p = 0.040$), as was the total effect ($\beta = 0.48$, $p < 0.001$), and direct effect ($\beta = 0.29$, $p = 0.010$). The predictors' beta coefficients did not differ by more than 0.10 between two models in- and excluding the controls. Therefore, the effects of the control variables on our investigated relations can be seen as negligible (Becker et al., 2016).

Brief Discussion

Using confirmatory factor analysis, we found support for the previously proposed factor structures of AAW and OSA in a German-speaking sample of employees. In addition, the bifactor models of AAW and OSA showed that, next to the general factors, respective subdomains remain unique contributors themselves. Thus, future studies could usefully explore the effects of those factors in addition to the general factors of OSA and AAW.

For our main analysis, we chose the more commonly used higher-order models over the bifactor models. Due to some advantages of bifactor models in general (Chen et al., 2012; Reise et al., 2018) and the good fit of our models, the argument could be made to use those models instead. However, the better fit of bifactor models is usually expected as they are less restricted compared to higher-order models (Yang et al., 2017). Moreover, the model fit alone should not be the only criteria for deciding between these models (Dunn & McCray, 2020). Ultimately, both the bifactor and higher-order models of AAW and OSA are statistically justifiable in our sample. Thus, in this situation, we chose to proceed with the higher-order models because—as suggested by Dunn and McCray (2020)—we used the bifactor models primarily as a tool for deeper analysis of the factor structure. More importantly, balancing empirical fit considerations with substantive theory (Rijmen, 2010), we chose the higher-order models because they were proposed in prior literature and more thoroughly derived from theory.

The results of study 1 support our proposed hypotheses. AAW was positively related to OSA. Furthermore, social support at work and job autonomy were positively related to OSA. In addition, our analysis suggests that this link was partially mediated through AAW. We found first evidence for AAW being an important psychological state of employees that can act as a personal resource. Employees can draw from their AAW, job autonomy, and social support at work, which may benefit their perceived OSA.

Despite the insights of study 1, there are some open questions. First, in study 1, we did not examine the effect of leadership per se. Drawing on COR theory, we investigated the relations between three relevant work-related resources: social support at work, job autonomy, and AAW. Social support at work includes the support of supervisors, which can be seen as an aspect of a leader-level resource. However, we largely neglected the aspect of leadership style as an important example for leadership-level resources (Nielsen et al., 2017). Indeed, previous research emphasized the effect of leaders on their followers (Macey & Schneider, 2008; Schaufeli, 2015). Specifically, authentic leaders may affect followers' AAW (Gill et al., 2018). Second, we tested our hypotheses cross-sectionally and thus cannot conclude causal inferences. Although our arguments support our assumed direction of effects, we cannot confirm this structure. Finally, even if AAW was previously assessed in English samples, we were the first to use a German version of the IAM. Thus, further replication is needed to ensure the validity of the measurement and factor structure.

Study 2

In study 2, we addressed limitations of study 1. Thus, the first aim of study 2 was to provide a direct replication of study 1 in a larger, more diverse sample. This was meant to provide greater confidence in our results (Pashler & Harris, 2012). Hence, we re-tested Hypotheses 1, 2a, and 2b. Our second aim was to test the link between AL, AAW, and OSA. Finally, our third aim was to further evaluate the psychometric properties of the German IAM to gain greater confidence in its potential applicability as a measurement tool.

Procedure and Sample

To replicate our results, we followed the same procedure as in study 1. Specifically, we evaluated cross-sectional, self-report survey data of adults working in Germany and Austria. Participants were recruited by a German polling firm. Statistical analysis was performed with R software (R Core Team, 2020). Like in study 1, we tested our measurement model's validity with CFA and assessed measurement reliability with Cronbach's alpha. We then tested our hypotheses with structural equation modeling (SEM), using a bias-corrected bootstrapping procedure (5000 samples), and evaluated standardized estimates. For the assessment of CFAs and SEMs, typical cutoff criteria were used (Hu & Bentler, 1999).

Overall, 597 employees completed the questionnaire. The sample was 51.8% male and 48.2% female and averaged 35.97 ($SD = 8.15$) working hours per week. A majority of participants had no leadership position in their job (65.5%). On average, participants were 46.9 ($SD = 11.04$) years old. Participants worked in a wide range of industries, for example, in public administration services (14.6%), social services (13.7%), or business services (12.4%).

Measure

For study 2, we used the same questionnaires as for study 1, but we slightly changed the German translation of one item of the German IAW to make it easier to understand. Additionally, *AL* was evaluated with one marker item per dimension of the established German Authentic Leadership Inventory (Franke-Bartholdt et al., 2018; Neider & Schriesheim, 2011). The original measure already demonstrated good psychometric properties (e.g., alpha coefficients of 0.94 and 0.93; Franke-Bartholdt et al., 2018). We used the four highest loading items of each dimension, as reported by Franke-Bartholdt et al. (2018). Items were rated on a 5-level Likert scale (e.g., "My leader shows that he/she understands his/her strengths and weaknesses").

Results

Due to multivariate non-normal distributions in the data, we evaluated the model fit with maximum likelihood estimation (MLM) with scaled test statistics (Satorra & Bentler, 2010). Table 3 presents means, standard deviations, intercorrelations, and Cronbach's alpha statistics of study 2.

Measurement Model

We tested the proposed factor structures with CFA. The AAW model (i.e., 3 factors, 12 items) yielded good fit ($\chi^2 = 114.16$, $df = 50$, $\chi^2/df = 2.28$, CFI = 0.98, RMSEA = 0.05, SRMR = 0.05). The good model fit of the bifactor AAW model demonstrated plausibility of subscales ($\chi^2 = 52.71$, $df = 41$, $\chi^2/df = 1.29$, CFI = 1.00, RMSEA = 0.02, SRMR = 0.02). The proposed OSA model (i.e., 3 factors, 9 items) also yielded good fit ($\chi^2 = 67.17$, $df = 24$, $\chi^2/df = 2.80$, CFI = 0.98, RMSEA = 0.05, SRMR = 0.05), as did the alternative bifactor model ($\chi^2 = 37.06$, $df = 18$, $\chi^2/df = 2.06$,

Table 3 Means, standard deviations, intercorrelations, and alpha reliability among variables of study 2

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Gender	.48	.50	—								
2. Age	46.92	11.04	.01	—							
3. Working hours (weekly)	35.67	8.15	−.22**	−.14**	—						
4. Leadership position	.35	.48	−.09*	.07	.06	—					
5. Social support at work	2.95	.71	−.07	−.02	.06	.17**	(.92)				
6. Job autonomy	3.71	1.00	−.13**	.09*	−.07	.23**	.26**	(.91)			
7. AAW	5.39	1.00	−.03	.18**	−.05	.14**	.39**	.35**	(.90)		
8. AL	3.32	1.11	−.05	−.04	.01	.18**	.75**	.28**	.27**	(.92)	
9. OSA	4.03	.75	−.05	.15**	−.04	.23**	.46**	.44**	.57**	.41**	(.91)

$N = 597$; gender: 0 = male, 1 = female; leadership 0 = no, 1 = yes; alpha reliability in parentheses

AAW authenticity at work, *AL* authentic leadership, *OSA* occupational self-actualization, *M* mean, *SD* standard deviation

*$p < .05$; **$p < .01$

CFI = 0.99, RMSEA = 0.04, SRMR = 0.02). Construct validity was demonstrated by the acceptable fit of the full measurement model, which includes the latent study variables: AAW, OSA, AL, social support at work, and job autonomy ($\chi^2 = 1194.22$, $df = 509$, $\chi^2/df = 2.35$, CFI = 0.94, RMSEA = 0.05, SRMR = 0.07). Cronbach's alpha indices of study variables showed acceptable reliability (see Table 3; Nunnally, 1978).

Hypothesis Tests

First, we transformed the measurement model into an SEM to replicate study 1 (see Fig. 2). As in study 1, we included gender, age, weekly working hours, and leadership position as controls. The model yielded acceptable fit ($\chi^2 = 1186.13$, $df = 495$, $\chi^2/df = 2.40$, CFI = 0.93, RMSEA = 0.05, SRMR = 0.06). In our sample, AAW predicted OSA significantly ($\beta = 0.75$, $p < 0.001$), which supports Hypothesis 1. As in study 1, the impact of controls on the relations between our predictors and outcomes was negligible (Becker et al., 2016). This was demonstrated by the predictors' beta coefficients that did not differ by more than 0.10 between two models in- and excluding the controls.

Hypotheses 2a and 2b were both supported. The indirect effect of social support at work on OSA through AAW was significant ($\beta = 0.31$, $p < 0.001$), as was the total effect ($\beta = 0.40$, $p < 0.001$) but not the direct effect ($\beta = 0.09$, $p = 0.060$). Similarly, the indirect effect of job autonomy on OSA through AAW was significant ($\beta = 0.24$, $p < 0.001$), as was the total effect ($\beta = 0.34$, $p < 0.001$) but not the direct effect ($\beta = 0.10$, $p = 0.070$).

In addition to the replication of study 1, we tested Hypothesis 3 with an extended model, which also included authentic leadership. The model yielded acceptable model fit ($\chi^2 = 1391.44$, $df = 625$, $\chi^2/df = 2.23$, CFI = 0.94, RMSEA = 0.05, SRMR = 0.06). We did not find support for Hypothesis 3. The indirect effect of AL on OSA through AAW was not significant ($\beta = -0.17$, $p = 0.080$). Contrary to our assumption, AL did not significantly predict AAW ($\beta = -0.22$, $p = 0.064$). Therefore, we further investigated the effect. When we removed social support from the model, the effect of AL on AAW was significant ($\beta = 0.30$, $p < 0.001$). Furthermore, the indirect effect of AL on OSA through AAW was significant ($\beta = 0.22$, $p < 0.001$), as well as the total effect ($\beta = 0.34$, $p < 0.001$) and direct effect ($\beta = 0.12$, $p = 0.008$).

Post Hoc Serial Mediation Analysis

To date, it is not sufficiently understood how AL affects other work-related resources. We argued that AL affects the personal resource AAW. However, it is also possible that authentic leaders more directly affect the job climate, which is then perceived by employees as supportive. In addition, authentic leaders may use their normative influence on work design to promote job autonomy. To explore these possibilities, we rearranged our model to test two serial mediations (1) of AL on OSA through social support at work and AAW and (2) of AL on OSA through job autonomy and AAW.

The model yielded acceptable model fit ($\chi^2 = 1456.49$, $df = 638$, $\chi^2/df = 2.28$, CFI = 0.93, RMSEA = 0.05, SRMR = 0.07). Considering the path through social support at work and AAW, AL had a significant total effect on OSA ($\beta = 0.56$, $p < 0.001$). This serially mediated, indirect path was significant ($\beta = 0.40$, $p < 0.001$) and fully mediated with the direct effect being not significant ($\beta = 0.17$, $p = 0.142$). Also, the serial, indirect effect of AL on OSA through job autonomy and AAW was significant ($\beta = 0.09$, $p < 0.001$) and fully mediated, which is, again, demonstrated by the significant total effect ($\beta = 0.25$, $p = 0.033$) and the not significant direct effect ($\beta = 0.17$, $p = 0.142$).

Brief Discussion

In study 2, we further validated the factor structure of AAW by evaluating CFAs in a German-speaking sample of employees. The results provide further support for our proposed hypotheses. AAW was positively related to OSA, and social support at work and job autonomy were positively related to OSA via AAW. The only difference between the effects found in study 1 and their replication in study 2 is that the indirect effects were partially mediated in study 1, whereas they were fully mediated in study 2.

Hypothesis 3 was not supported. The link between AL and OSA via AAW was not significant. However, when we removed social support at work from the model, AL demonstrated a positive relation to AAW and a positive relation to OSA via AAW in a full mediation. The insignificant effect on AAW and OSA is likely due to the high correlation of AL and social support at work in our model. While our CFA showed that AL and social support at work are distinct latent constructs, the high correlation is not surprising because both concepts include leadership aspects. When such highly correlated variables are added together as predictors in a model, they compete for explaining the outcome variables. Our results suggest that, when considering both variables, social support at work is the stronger, more direct predictor of AAW and OSA.

To further investigate this finding, we examined the alternative hypothesis that AL has serially mediated, indirect effect on OSA via social support or job autonomy, and AAW in a post hoc analysis. The results showed that AL was individually related to social support at work and to job autonomy, which together were related to OSA via AAW. These findings suggest that, while AL may have an indirect effect on AAW and OSA via social support at work and job

autonomy, the joint support from colleagues and supervisors and employees' job autonomy may have a more direct effect on employees' experiences of AAW and OSA.

Although we have greater confidence in the relations between social support at work, job autonomy, AAW, and OSA, due to limitations of cross-sectional study designs, we cannot confirm the direction of these links.

Study 3

In study 3, we addressed the limitations of studies 1 and 2 by evaluating the direction of our proposed hypotheses with a longitudinal study design. To do so, we assessed a sample of German-speaking employees at two time points, two months apart. Then, we tested our measurement model using CFA and our proposed direction of hypotheses using cross-lagged panel models (CLPM).

Sample and Procedure

This two-wave study utilized survey data from German-speaking employees. Students distributed the online surveys as part of a university seminar. In the first study phase (T1), 232 employees returned the questionnaire. The follow-up (T2) questionnaire was only sent to participants at T1. This resulted in 143 complete datasets (61.6% retention rate), which were used for the analyses. Statistical analyses were performed with R software (R Core Team, 2020). We evaluated our measurement model's validity using CFA and assessed measurement reliability with Cronbach's alpha. For the assessment of CFAs, typical cutoff criteria were used (Hu & Bentler, 1999). Given the complexity of models, we used a path analytic approach to test CLPMs. Identical to studies 1 and 2, we added gender, age, weekly working hours, and leadership position as control variables in our analysis. Hypotheses were tested with a bias-corrected bootstrapping procedure (5000 samples) and evaluated by interpreting standardized estimates.

Of the 143 participants, 56.6% were female and 43.4% male, and on average participants were 39.73 ($SD = 13.77$) years old. At T1, participants worked on average 34.35 h per week and 64.3% had no leadership position. Participants worked in a wide range of industries, such as the healthcare sector (21.0%), education sector (16.1%), business sector (15.4%), public administration (14.7%).

Measure

We used the same questionnaires as in study 2. However, instead of assessing AL with 4 marker items, we used the full 16 items of the German Authentic Leadership Inventory (Franke-Bartholdt et al., 2018; Neider & Schriesheim, 2011). Another change to study 2 regarded the evaluation of social support at work. We used three items that reflect the perceived support from colleagues, rather than the six items that reflected the perceived support from colleagues and supervisors.

Results

The data was multivariate non-normally distributed. Thus, we evaluated model fit with maximum likelihood estimation (MLM) with scaled test statistics (Satorra & Bentler, 2010). Table 4 presents means, standard deviations, intercorrelations, and Cronbach's alpha statistics of study 3.

Measurement Model

Like in studies 1 and 2, we evaluated the validity of our measurement model with CFA. The fit indices for the tested models are presented in Table 5. The proposed AAW model at T1 and T2 yielded a good model fit. The OSA model at T1 yielded good and at T2 acceptable model fit. To test for discriminant validity, we calculated a full CFA model with the latent variables: AAW, OSA, AL, social support of colleagues, and job autonomy, which yielded acceptable model fits for both T1 and T2. Cronbach's alpha indices of study variables showed acceptable reliability (see Table 4; Nunnally, 1978).

Hypothesis Tests

To further test Hypothesis 1, we evaluated a CLPM (see Fig. 3). The autoregressive paths of AAW ($\beta = 0.54$) and OSA ($\beta = 0.82$) were both significant ($p < 0.001$). This finding demonstrated that employee AAW and especially OSA were quite stable over two months. The assumed cross-lagged path from AAW T1 to OSA T2 was not significant ($\beta = -0.11$, $p = 0.086$). However, the cross-lagged path from OSA T1 to AAW T2 was significant ($\beta = 0.23$, $p < 0.001$). Thus, we did not confirm the direction of the effect proposed in Hypothesis 1. In fact, we found the opposite direction to be significant. Like in studies 1 and 2, the impact of controls on the investigated relations was negligible (Becker et al., 2016). This was demonstrated by the predictors' beta coefficients that did not differ by more than 0.10 between two models in- and excluding the controls.

To test Hypotheses 2 and 3, we followed the procedure for mediation-testing with two-time points, proposed by Newsom (2015). We estimated the paths from social support from colleagues, job autonomy, and AL at T1 to AAW at T2 (a-paths), and we estimated the paths from AAW at T1 to OSA at T2 (b-path). The autoregressive paths of AAW ($\beta = 0.54$) and OSA ($\beta = 0.76$) were both significant ($p < 0.001$). The data did not support Hypotheses 2a and 2b.

Table 4 Means, standard deviations, intercorrelations, and alpha reliability among variables of study 3

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	.57	.50	—													
2. Age	39.73	13.77	− .00	—												
3. Working hours (weekly)	34.35	9.45	− .21*	− .02	—											
4. Leadership position	.36	.48	− .17*	.29**	.14	—										
5. Social support T1 (colleagues)	3.19	.64	.05	− .25**	.02	− .06	(.88)									
6. Job autonomy T1	3.67	.84	− .07	.06	− .03	.13	.16	(.77)								
7. AAW T1	5.39	.90	.04	.21*	− .09	.13	.03	.20*	(.85)							
8. AL T1	3.43	.71	.05	− .14	− .13	.04	.42**	.22**	.04	(.93)						
9. OSA T1	4.06	.63	.14	.22**	− .05	.12	.05	.25**	.53**	.14	(.83)					
10. Social support T2 (colleagues)	3.09	.63	.01	− .13	− .03	.08	**.71****	.20*	− .03	.38**	.14	(.87)				
11. Job autonomy T2	3.70	.83	− .17*	.12	− .01	.26**	.14	**.64****	.24**	.18*	.32**	.27**	(.82)			
12. AAW T2	5.32	.97	.06	.22**	− .13	.14	.09	.20*	**.67****	− .00	.51**	.10	.27**	(.88)		
13. AL T2	3.42	.72	.07	− .09	− .09	.12	.42**	.13	.00	**.78****	.20*	.47**	.17	− .04	(.94)	
14. OSA T2	4.02	.63	.15	.24**	− .01	.23**	.02	.23**	.34**	.07	**.81****	.12	.41**	.48**	.20*	(.85)

$N = 143$; gender 0 = male, 1 = female; leadership 0 = no, 1 = yes; alpha reliability in parentheses; test–retest correlations are presented in bold

AAW authenticity at work, *AL* authentic leadership, *OSA* occupational self-actualization, *M* mean, *SD* standard deviation

*$p < .05$; **$p < .01$

Table 5 Fit indices for CFAs of study 3

	χ^2	*df*	χ^2/df	CFI	RMSEA	SRMR
T1 AAW: 3 factors — 12 items	73.51	49.00	1.50	.96	.06	.06
T2 AAW: 3 factors — 12 items	51.26	49.00	1.05	1.00	.02	.07
T1 OSA: 3 factors — 9 items	18.90	24.00	.79	1.00	.00	.06
T2 OSA: 3 factors — 9 items	48.65	24.00	2.03	.93	.08	.06
T1 full model	1098.42	838.00	1.31	.90	.05	.09
T2 full model	1082.11	838.00	1.29	.90	.05	.10

Scaled Satorra-Bentler test statistics are reported

AAW authenticity at work, *OSA* occupational self-actualization, *CFI* comparative fit index, *RMSEA* root mean square error of approximation, *SRMR* standardized root mean square residual

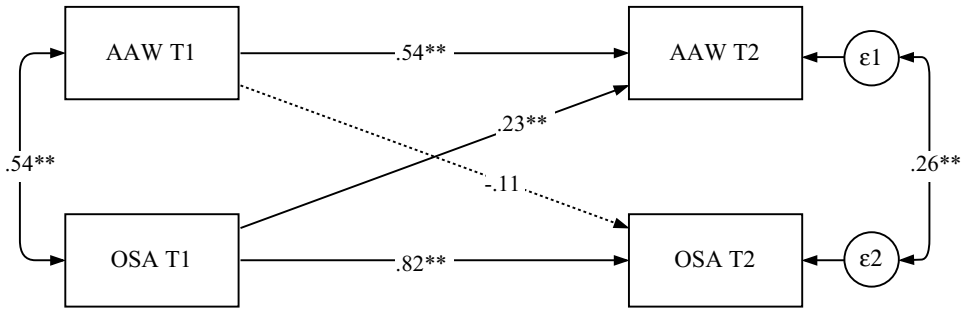

Fig. 3 Cross-lagged panel model of authenticity at work (AAW) on occupational self-actualization (OSA). Results of study 3 are presented. Standardized coefficients are presented. For clarity, control variables (i.e., gender, age, weekly working hours, and leadership position) are omitted. Solid lines = significant paths; dotted line = nonsignificant paths. *$p < .05$, **$p < .01$

Social support from colleagues at T1 ($\beta = -0.00$, $p = 0.779$) and job autonomy ($\beta = 0.01$, $p = 0.696$) had no lagged indirect effect on OSA via AAW. In addition, social support from colleagues ($\beta = 0.03$, $p = 0.745$) and job autonomy ($\beta = -0.05$, $p = 0.642$) at T1 did not affect AAW at T2. Hypothesis 3 was also not supported. The lagged indirect effect of AL on OSA via AAW was not significant ($\beta = 0.00$, $p = 0.712$). Authentic leadership at T1 had no effect on AAW at T2 ($\beta = -0.03$, $p = 0.725$), either. There were no significant lagged direct paths from social support from colleagues ($\beta = 0.06$, $p = 0.396$), job autonomy ($\beta = -0.05$, $p = 0.559$), and AL ($\beta = -0.10$ $p = 0.264$) to OSA. The reciprocal lagged paths from AAW to social support from colleagues ($\beta = -0.05$, $p = 0.430$), job autonomy ($\beta = 0.13$, $p = 0.071$), and AL ($\beta = -0.01$, $p = 0.928$) were not significant.

Brief Discussion

The aim of study 3 was to investigate the cross-lagged relations between AAW and OSA and the lagged indirect effects of social support from colleagues, job autonomy, and AL on OSA via AAW. The sample was composed of German-speaking employees and was assessed at two time points, two months apart.

The results did not confirm our hypothesized effect of AAW predicting OSA over time. Rather, the results contradict our arguments and suggest a reciprocal effect from OSA to AAW over time. In CLPMs, the direction of influence is indicated when a variable at T1 significantly affects another variable at T2 while the cross-lagged path is zero (Kearney, 2017). Our findings support that OSA affects AAW later, instead of AAW affecting OSA. Our results did neither support Hypotheses 2 nor 3. The indirect lagged effects of social support from colleagues, job autonomy, and AL on OSA via AAW were not significant. We found no lagged direct effects from social support from colleagues, job autonomy, and AL on OSA. And there were no cross-lagged effects of social support from colleagues, job autonomy, and AL on AAW.

In CLPM, autoregression describes the stability of constructs over time (Kearney, 2017). Our data support that AAW was stable over two months, even though it is defined as a state. Similarly, social support from colleagues, job autonomy, and OSA were all stable over two months. This demonstrated that, even though work settings and characteristics can change over time, they were quite stable in our study.

General Discussion

In three consecutive studies, two cross-sectional and a longitudinal study, we examined the associations between social support at work, job autonomy, authentic leadership, authenticity at work, and OSA in German-speaking employees working in different occupational fields and settings.

Our results support an association between AAW and OSA. With this, we contribute to a more general understanding of authenticity being closely related to psychological well-being (Ariza-Monte et al., 2019; Ménard & Brunet, 2011; Sutton, 2020; van den Bosch & Taris, 2014a; Wessel et al., 2020). The positive relations between AAW and OSA in studies 1 and 2 suggest that being authentic at work is closely related to employees' experience of OSA. This may be due to authentic employees conserving psychological resources, which let them engage in challenging and fulfilling work tasks. This finding is in line with previous literature, which supports similar links between AAW and autonomous motivation (Ma et al., 2020; van den Bosch & Taris, 2018) and job engagement (Metin et al., 2016). However, we went a step further by testing the link between AAW and OSA across time, which challenges these interpretations.

The results of study 3 suggest that our proposed model (depicted in Figs. 1 and 2) is not correct as it contradicts the temporal assumptions of our hypotheses. Therefore, we adjusted our models post hoc and retested them with paths from OSA to AAW. The results of these cross-sectional, post hoc analyses are presented in the appendix. They suggest that the paths from OSA to AAW are equally likely as their reversed paths. Thus, the direction of the association between OSA and AAW may indeed be as found in study 3.

A recent review discussed the possibility that well-being might affect AAW instead of the more established argument that AAW affects well-being (Cha et al., 2019). Accordingly, happy individuals are simply more likely to express themselves authentically. As happiness or psychological well-being is closely related to self-actualization (see Ryff, 2018), our results provide first support for this direction of the effect. By interpreting the relation between OSA and AAW within the COR framework, OSA itself might act as a valuable resource. A similar argument can be made about the role of well-being. Although well-being is typically regarded as an outcome of having and conserving own resources (Hobfoll, 2002), well-being itself might act as a resource (Wright & Hobfoll, 2004). Accordingly, recent meta-analytic findings support direct and reciprocal lagged effects from work-related resources to well-being (Lesener et al., 2019). Self-initiated actions and gain spirals might explain these effects. Deci et al., (2013, *p*. 111) argued that autonomously motivated behavior is important for self-actualization. It is possible that self-actualized employees, who engage in autonomously motivated behavior, can engage more actively in work where they can behave authentically. Similar to a gain spiral where motivation affects job crafting, which in turn affects motivation (Bakker & Demerouti, 2017), a lagged gain spiral might occur where OSA affects AAW, which in turn affects OSA.

Another theoretical perspective that might help to explain the links between OSA and AAW is the self-perception theory. Accordingly, individuals recognize their internal states by inferring them from observations of their behavior and/or the circumstances in which that behavior occurs (Bem, 1972). As employees engage in work behavior, they might more easily perceive themselves as happy or self-actualized than authentic. By further reflecting on what makes them feel self-actualized, they recognize that they can actualize their *authentic* talents and abilities. This means that employees could learn who they are authentically by reflecting on their work behavior, which gives them a sense of self-actualization.

Generally, we found conflicting results regarding the promotion of AAW and OSA due to work-related resources. The results of studies 1 and 2 support the association between socially supporting work environments and employees' authenticity. This might be because supportive work environments establish a climate of trust and let employees feel safe, which makes it easier for them to be authentic. In addition, job autonomy was related to AAW in studies 1 and 2, which might be due to employees being able to engage in work roles where they can be authentic. Together, job autonomy and social support at work might help employees to find a balance between their needs for autonomy and interrelatedness, which is essential for being authentic (Schmid, 2005). Furthermore, results from studies 1 and 2 suggest that jobs featuring social support and autonomy are indirectly related to OSA via AAW. This result is in line with prior cross-sectional research that identified work-related resources to be related to AAW (Metin et al., 2016) and OSA (Glaser et al., 2019). However, the results from our post hoc analysis (see Appendix) also support the alternative hypothesis that work-related resources are related to AAW, while being mediated by OSA. This emphasizes the limits of cross-sectional analysis regarding the test of causal interferences and the directiveness of hypotheses.

We found first evidence that authentic leadership is positively related to social support and job autonomy, which in turn are related to employee authenticity. In contrast to a previous study where supportive, transformational leadership affected AAW (Ma et al., 2020), the results of study 2 suggest that AL has no effect on AAW and no effect on OSA

via AAW when also considering social support at work. Additional post hoc analyses of study 2 suggest that AL is related to job autonomy and to social support at work, which in turn are related to AAW and OSA. This finding is in line with prior research that demonstrated that AL is related to a positive organizational climate (Walumbwa et al., 2008) and the support from employees (Gardner et al., 2005; Ilies et al., 2005). However, given the absence of a significant time-lagged link between AL and OSA or AAW in study 3 and the complexity of this model, this finding should be treated with caution. Further research is needed to draw this conclusion with confidence.

Furthermore, the results of study 3 limit more of our interpretations. Contrary to a large body of literature that emphasizes the importance of job autonomy, social support at work, and leadership for positive work outcomes (Lesener et al., 2019; Nielsen et al., 2017), in study 3, they showed no indirect lagged effect on OSA via AAW and no direct lagged effect on AAW or OSA. While limitations of CLPMs could be responsible for the absence of the lagged effects (see limitations and future research directions), these results demonstrate that the mechanism in promoting AAW and OSA across time is still not sufficiently understood.

A possible explanation for the absence of lagged effects of work-related resources on AAW and OSA may be attributed to potential negative effects of those resources. According to COR theory, resources can have such negative effects (Hobfoll, 2002). Especially, social support might induce stress, which may occur as a result of incongruence between the source of the stressor and support (Hobfoll, 1989; Jolly et al., 2021). For example, supervisors might actively create situations where employees cannot be authentic but then provide support for those situations. Similarly, having high levels of job autonomy might act as a double-edged sword as it was previously linked to job satisfaction and unethical behavior (Lu et al., 2017). Living authentically, however, centers on individuals who live in accordance with their own values and beliefs (Wood et al., 2008). Thus, job autonomy might promote AAW in some circumstances, but too much might be counterproductive.

Finally, the evaluation of the German IAM in three consecutive studies supported that it is a reliable and valid instrument for assessing AAW in German samples. In all three studies the German IAM, which is a translated version of the English IAM (van den Bosch & Taris, 2014b), demonstrated good psychometric properties. Using CFA, the data supported the tripartite factor structure of AAW with its factors: authentic living, self-alienation, and accepting external influence. By comparing the model with competing models, the tripartite model showed superior model fit over the one- and two-factor models, and the bifactor model demonstrated that subdomains are unique contributors to the concept.

Limitations and Future Research Directions

Despite the benefits of our multi-study approach, each study has its limitations. Study 1 and study 2 are limited by their cross-sectional nature. We compensated for this weakness by replicating our hypotheses in studies 2 and 3 and by using panel data in study 3. However, a common limitation of all three studies is the use of self-report data, which can introduce method bias (Podsakoff & Organ, 2016). While individuals appear to be well suited to judge their own authenticity (Davis & Hicks, 2013), future research should still consider incorporating self- and other ratings. For example, dyadic data could be used to look more closely at the relation between AL and AAW. First research that used dyadic data to investigate the association between supervisor-rated AL and AAW is promising but focused more on work performance than on the promotion of authenticity (i.e., Leroy et al., 2015).

Our study was among the first to investigate how AAW can be promoted and how it is related to OSA. The results of study 3 demonstrated that there are still limited answers about the effects across time. An explanation for the absence of lagged effects in study 3 could be found in the limitations of longitudinal research design. Future research may build on our research by specifically combating these limitations. Previous panel studies used varying time lags. For example, while AAW was related to job satisfaction and engagement after two months (Song et al., 2020), other studies showed that authenticity was related to indicators of well-being after six months (Reinecke & Trepte, 2014) and work-related resources affected work engagement after thirty months (Dicke et al., 2018). Thus, following Dormann and Griffin (2015), we recommend specifying time lags more carefully, as our chosen lag of two months may have been not optimal to evaluate the promotion of OSA.

We encourage future research to replicate our findings with three waves of data, instead of two. Although mediation testing with two waves of data is still superior to mediation testing cross-sectionally, three waves are generally preferred (Cole & Maxwell, 2003; Newsom, 2015). Other benefits in using three waves of data are the investigation of potential gain or loss spirals in terms of AAW and OSA over time and the evaluation of more advanced CLPMs, which can consider individual differences (Hamaker et al., 2015). Rather than focusing on such differences, we focused on predictors for AAW and OSA. Nevertheless, future research could usefully explore how individual differences affect AAW and OSA. This might be a fruitful extension of our study because traits like humility of supervisors previously were linked to follower authenticity (Burak et al., 2020).

As we drew on a large, random sample of employees, we did not incorporate a theory of change in our study. This is reflected by the stability of study variables in our data.

Further research could specifically look at interesting points of change in employees' careers. For example, newcomers who are inherently faced with change may be appropriate study participants to provide important insights into the development of AAW and OSA. In addition, we encourage further research to use experimental study designs as they also introduce a mechanism of change. This could be a promising advancement of our research as prior literature that studied newcomers demonstrated associations between work-related resources and work engagement (Dicke et al., 2018), and an intervention study demonstrated that mindfulness can promote AL (Nübold et al., 2020).

Finally, future research could more carefully look at the conceptualization of OSA. Overall, Maslow's definition of self-actualization is quite vague and subject to critique in prior literature (e.g., Buss, 1979; Geller, 1982, 1984; Shaw & Colimore, 1988). Apart from Maslow's definition of self-actualization, many related concepts exist, for example, thriving at work (Porath et al., 2012), eudaimonic workplace well-being (Bartels et al., 2019), the concept of flow (Csikszentmihalyi, 1990), and concepts related to SDT, namely, intrinsic motivation and need fulfillment (Deci et al., 2013). In the present study, we used a three-dimensional approach to assess OSA with the use of motivational, cognitive, and behavioral indicators. While our measurement model of OSA demonstrated good psychometric properties in all three studies, we encourage future research to look at the concept more closely and establish a recommendation for the assessment of OSA in future research.

Practical Implications

The present research has implications for organizations, leaders, and employees. First, organizations that value authenticity and endorse authentic behavior can benefit from authentic employees who also feel self-actualized. This is highly beneficial for organizations as authentic employees are proactive (Matsuo, 2020), draw from high psychological capital (Song et al., 2020), and perform better than others (Kuntz & Abbott, 2017). Moreover, self-actualized employees are highly motivated and competent (Deci et al., 2013, 2017). Second, social support and job autonomy are beneficial work-related resources for employees, which are related to beneficial individual outcomes (Lesener et al., 2019; Nielsen et al., 2017) and might be related to AAW and OSA. Generally, all employees can contribute to a good work climate, but specifically, organizations and leaders have a normative role in work design. Thus, they can create space for employees to interact meaningfully and endorse a climate of support. Similarly, when designing workplaces, organizations and leaders should ensure that employees have the needed job autonomy. Third, AL can not only act as a work-related resource that affects many important organizational outcomes (Banks et al., 2016) but also might affect other work-related resources that are related to AAW and OSA.

In sum, we recommend that organizations promote social support, job autonomy, authentic leadership, and AAW and recommend for employees and leaders to behave authentically and support others at work.

Conclusion

Drawing on COR theory, the present research investigated the relations between the personal resource AAW, OSA, and three other prominent work-related resources, which all emerge from different levels of work (Nielsen et al., 2017). While studies 1 and 2 supported a positive, indirect relation between job autonomy, social support at work, and OSA via AAW, study 3 and additional post hoc findings supported a reciprocal link between AAW on OSA. Adding to the recently discussed possibility that well-being affects AAW (Cha et al., 2019), our results provide first support for such a reciprocal effect. Furthermore, by understanding AAW as a personal resource, we add to a growing body of literature that suggests reciprocal effects between work-related resources and positive individual outcomes (e.g., Lesener et al., 2019). Following a recent call to investigate ancestors for AAW more carefully (Cha et al., 2019), the present research is among the first to investigate how AAW can be promoted. Although effects across time are still unclear, studies 1 and 2 show that social support at work and job autonomy are related to AAW and OSA. Furthermore, study 2 suggests that AL is a valuable resource that might be useful to promote other work-related resources, which in turn are related to AAW and OSA. The failure to replicate the effects of work-related resources on AAW or OSA across time, however, supports the literature that raises the question of potential negative effects of job autonomy and social support in addition to their positive effects (e.g., Hobfoll, 1989, 2002; Lu et al., 2017). In general, our findings advance our knowledge about AAW and OSA and provide useful insights for future research, organizations, leaders, and employees.

Appendix

Additional analyses

Study 3 challenged the findings of studies 1 and 2. Considering the significant effect OSA had on AAW over time, we adjusted the models of studies 1 and 2 accordingly post hoc. Although we did not find effects of job autonomy, social support at work on AAW or OSA over

time, we decided to keep them in our cross-sectional models as predictors of OSA and AAW. This seemed reasonable because substantial literature has demonstrated links between these resources and outcomes like psychological well-being (Lesener et al., 2019). Study 2 supported a serial mediation between AL and OSA. Thus, we decided not to include AL in this post hoc analysis. This allowed us to replicate adjusted models from samples of studies 1 and 2. In doing so, this post hoc analysis focused more on the associations between work-related resources, OSA, and AAW.

First, we retested the sample from study 1. The post hoc model demonstrated acceptable model fit ($\chi^2 = 646.84$, $df = 493$, $\chi^2/df = 1.31$, CFI = 0.95, RMSEA = 0.04, SRMR = 0.07). OSA was positively related to AAW ($\beta = 0.75$, $p = 0.016$). Social support at work was positively related to OSA ($\beta = 0.38$, $p < 0.001$) and indirectly related to AAW ($\beta = 0.28$, $p = 0.041$). The total effect of social support at work on AAW was significant ($\beta = 0.28$, $p = 0.011$), but the direct effect was not ($\beta = -0.00$, $p = 0.982$). Similarly, job autonomy was significantly related to OSA ($\beta = 0.48$, $p < 0.001$). The indirect effect of job autonomy on AAW through OSA was significant ($\beta = 0.36$, $p = 0.041$), as was the total effect ($\beta = 0.40$, $p = 0.007$) but not the direct effect ($\beta = 0.05$, $p = 0.785$).

Second, we retested the sample from study 2 post hoc. The model demonstrated acceptable model fit ($\chi^2 = 1186.13$, df = 495, $\chi^2/\text{df} = 2.40$, CFI = 0.93, RMSEA = 0.05, SRMR = 0.06). OSA was positively related to AAW ($\beta = 0.78$, $p < 0.001$). The indirect effect of social support at work on AAW through OSA was significant ($\beta = 0.31$, $p < 0.001$), as was the total effect ($\beta = 0.41$, $p < 0.001$) but not the direct effect ($\beta = 0.10$, $p = 0.083$). Similarly, the indirect effect of job autonomy on OSA through AAW was significant ($\beta = 0.26$, $p < 0.001$), as was the total effect ($\beta = 0.32$, $p < 0.001$) but not the direct effect ($\beta = 0.06$, $p = 0.285$).

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Data Availability The R script with results and datasets related to this article are available on the JBP open science repository (https://osf.io/nfrxy/). The German IAM is available as supplementary online material.

Declarations

Ethics This study received ethical approval from the review board of the University of Innsbruck.

Conflict of Interest The authors declare no competing interests.

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