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# How Does Authentic Leadership Boost Work Engagement? Exploring the Mediating Role of Work Meaningfulness and Work–Family Enrichment

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**Abstract:** Leadership is crucial in organizational life. Positive leadership is marked by transparent, trust-based leader–follower relationships that significantly boost employees' dedication and engagement. Work engagement stems from a positive bond between workers, their job, and their organization. Authentic leadership, in particular, has been found to enhance work engagement, but this relationship is quite complex. Prior studies have explored the psychological processes linking organizational context and work-related attitudes and provided intriguing insights, such as that employees consider work to be part of their identity and that positive work experiences enrich family life. This research more closely examined authentic leadership's impact on work engagement, including the mediating effect of meaningful work and work–family enrichment. A cross-sectional study was conducted with data from various organizations' employees (number = 292). Multiple regression analyses' results support the theoretical model, confirming a significant positive link between perceived authentic leadership and work engagement. These variables are directly and indirectly related through the proposed mediators. Implications for human resource management are discussed, especially strategies that increase work environments' positive impacts on work engagement.

**Keywords:** authentic leadership; work engagement; work meaningfulness; work–family enrichment



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## 1. Introduction

Leadership is a fundamental component of organizational life that plays a pivotal role in shaping the relationship between employees and their workplace. Effective leaders positively influence their subordinates, while ineffective leaders consistently prioritize their personal interests over their subordinates' well-being (Erickson et al. 2015). Gallup (2015) reports that poor management leads to unwanted outcomes including decreased productivity, absenteeism, and employees' desire to leave their jobs voluntarily. Prior research has similarly demonstrated that negative leadership styles are associated with decreased job performance, organizational citizenship behaviors, affective commitment, and job satisfaction, as well as increased work–family conflict and turnover intention (e.g., Carlson et al. 2011; Mackey et al. 2018; Tepper 2000).

Thus, the way leadership is exercised significantly affects employees' attitudes and behaviors, thus scholars have sought to establish how leaders can more effectively promote their followers' growth and motivation. Successful leaders show authenticity, transparency, and genuine concern about their subordinates' well-being, so authentic leadership (AL) theory has been increasingly used to explain how leaders can achieve better results (e.g., Chaudhary and Panda 2018; Ribeiro et al. 2020; Wirawan et al. 2020). AL is conceptualized as a process rooted in both leaders' psychological abilities and the organizational context

in which their leadership is practiced (Luthans and Avolio 2003). Walumbwa et al. (2008, p. 94) more specifically define AL as follows:

[AL is] a pattern of leader behavior that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, [thereby] fostering positive self-development.

Multiple studies (e.g., Duarte et al. 2021; Gardner et al. 2011; Gill and Caza 2018; Leroy et al. 2015; Ribeiro et al. 2018; Walumbwa et al. 2008; Wei et al. 2018) have found that AL is significantly linked to employees' greater workplace well-being, job satisfaction, individual performance, and commitment to work. The present research was especially interested in AL's favorable effect on work engagement (WE), which was confirmed by Azanza et al. (2013), Scheepers and Elstob (2016), Shu (2015), and Wang and Hsieh (2013). More specifically, AL appears to promote a strong sense of trust due to the high-quality relationships that workers establish with their leaders. This trust, in turn, encourages followers to put more effort into their work (Vermeulen and Scheepers 2020).

AL also appears to increase employees' attribution of meaning to work (Chaudhary 2021; Mansouri et al. 2022). Chaudhary (2022) demonstrated that AL fosters followers' development of personal resources and psychological capacities, which influence the way these individuals anticipate and formulate meaningful experiences at work. Concurrently, AL seems to enhance workers' ability to balance their professional and private lives (e.g., Braun and Nieberle 2017; Brummelhuis and Bakker 2012). In practical terms, authentic leaders serve as a valuable resource for achieving a work–life balance (Braun and Peus 2018). They are fundamentally driven by their values, assuming responsibility not only for their own well-being but also for the well-being of others. They create an environment where employees can experience a sense of balance between their professional and personal lives, enabling them to view themselves as effective in fulfilling their various life roles. Previous research also verified that a positive relationship exists between meaningful work (e.g., Demirtas et al. 2017; Ghadi et al. 2013; Lin et al. 2021), work–family enrichment (WFE) (Kashyap and Arora 2022; Qing and Zhou 2017), and WE (e.g., Koekemoer et al. 2020; Timms et al. 2015).

In line with prior studies (e.g., Ahmed 2023; Joo et al. 2016; Oh et al. 2018; Zhang et al. 2022), the present investigation argued that the AL–WE relationship is indirect because it is mediated by work meaningfulness and WFE. A review of the relevant literature found no research that has examined meaningful work and WFE's sequential mediation of the link between AL and WE. Researchers have found a strong association between all four variables (e.g., Ahmed 2023; Chaudhary 2021; Joo et al. 2016; Kashyap and Arora 2022; Koekemoer et al. 2020; Mansouri et al. 2022; Zhang et al. 2022), but these relationships have not previously been integrated into a single model.

The current study, therefore, sought to extend prior research in this field and contribute to explaining how AL promotes WE through a sequence of underlying psychological mechanisms influenced by individuals' experiences at work. The results offer important insights that both advance the AL theory and add to the knowledge about WE, meaningful work, and WFE. These findings have especially significant implications for managers and organizations because they reveal the decisive role leaders can play in encouraging positive work behaviors among their followers.

## 2. Literature Review

### 2.1. Authentic Leadership

Leadership profoundly influences individuals' perceptions of their work and organization. An increasing number of leaders are being commended for their transparent alignment of values and actions in daily organizational life, which is a highly valued approach (Luthans and Avolio 2003). AL can be understood from different perspectives. From an intrapersonal standpoint, one major focus is leaders' past experiences, the significance

they attribute to those incidents, and the ways these elements are pivotal to authentic leaders' evolution (Shamir and Eilam 2005). Conversely, an interpersonal approach to AL posits that this style encourages reciprocity in leader–subordinate relationships (Eagly 2005). Leaders advocate for specific values and transparently communicate them to subordinates, who in turn recognize and endorse these principles as beneficial for their organization, team, or group.

Finally, the developmental perspective has been explored in research by Avolio and Gardner (2005), Gardner et al. (2021), and Walumbwa et al. (2008), who see AL as a trait to be fostered rather than as an inherent quality. The latter conceptualization considers AL to be a dynamic process generated by positive psychological capacities (e.g., resilience, hope, optimism, and confidence) and well-established organizational contexts (e.g., vision, strategy, and supportive culture). This theoretical framework emphasizes self-awareness and positive self-regulated behavior in both leaders and followers (Luthans and Avolio 2003). Walumbwa et al. (2008) further argue that AL is a behavioral pattern found in leaders that creates an ethical climate, amplifies positive psychological assets, and facilitates constructive self-development.

Various authors have proposed that AL should be divided into multiple dimensions. Gardner et al. (2005) highlight self-awareness and self-regulation as pivotal dimensions. Ilies et al. (2005) emphasize impartial processing, self-awareness, authentic relational orientation, and authentic behavior. In addition, AL comprises an archetype of leadership behavior encompassing self-awareness, balanced information processing, transparency in interpersonal relations, and an internalized moral perspective (Walumbwa et al. 2008). The latter conceptual approach provided the present study's framework.

AL shares some components with other positive leadership styles such as transformational, ethical, or servant leadership (Avolio and Gardner 2005; Walumbwa et al. 2008), but the latter styles have distinguishing features. In transformational leadership, leaders inspire personal growth and rise above their self-interest to embody higher values and morals (Schippers et al. 2008). Authenticity underlies transformational leadership to some extent. However, being authentic does not necessarily imply being transformational (Walumbwa et al. 2008).

Similarly, ethical leadership and AL both emphasize morality and integrity, yet AL encompasses self-awareness, balanced information processing, and interpersonal transparency, which are absent in ethical leadership (Walumbwa et al. 2008). Servant leadership is also different from AL because the former emphasizes followers' empowerment and development and features humility, interpersonal acceptance, and authenticity (van Dierendonck 2011). Both styles focus on self-awareness and authenticity, but AL uniquely integrates positive psychological capital, well-developed organizational contexts, and self-regulation (Walumbwa et al. 2008). Authentic leaders naturally transcend self-alignment (Braun and Nieberle 2017; Ilies et al. 2005; Walumbwa et al. 2008) as they have a clear awareness of all relevant actors' thoughts, feelings, desires, strengths, and weaknesses (Kernis 2003). These insights enable leaders to interact more transparently with followers while considering their beliefs and values (e.g., Avolio et al. 2004; Gardner et al. 2005; Walumbwa et al. 2008). Total authenticity in all actions is unachievable, so differing levels of genuineness are inevitable (Gardner et al. 2011).

## 2.2. Authentic Leadership and Work Engagement

Organizational success is largely a product of employees' initiative, commitment, and proactivity. According to Timms et al. (2015), individuals who find purpose in their work tend to be more engaged with their tasks. This enhanced engagement leads to greater effort, extra-role behaviors, and more positive work attitudes (Christian et al. 2011; Halbesleben 2010). WE thus consists of employees' heightened energy and profound connection with and positive mindset toward work tasks, which allows individuals to meet the challenges inherent in their workplace roles more effectively (Schaufeli et al. 2002, 2006).

WE comprises an affective-cognitive state that persists over time and transcends specific events, individuals, behaviors, or objects.

This concept has three core components: absorption, vigor, and dedication (Schaufeli et al. 2002, 2006). Employees exhibiting engagement become deeply absorbed in their work, maintain unwavering focus, and lose track of time. They also display high levels of energy, mental resilience, motivation, and perseverance when facing obstacles. This greater dedication generates enthusiasm, pride, inspiration, and the attribution of positive meaning to work tasks.

An essential determinant of WE is employees' relationship with leadership. In this context, workers are influenced by implicit norms of reciprocity (i.e., social exchange theory; Blau 1964) and the interplay between life dimensions (i.e., professional and personal), which mutually influence each other (i.e., job demands-resources model; Bakker and Demerouti 2007). This process relies heavily on attributes such as loyalty, commitment, and mutual trust (Cropanzano and Mitchell 2005). Overall, WE is likely to increase when leaders furnish resources that workers value (Cropanzano and Mitchell 2005; Menguc et al. 2013).

Avolio et al. (2004) observe that authentic leaders can bolster employees' positive work-related attitudes, thereby strengthening their productive behavior. AL correlates with heightened WE (Chaudhary 2021; Hsieh and Wang 2015; Walumbwa et al. 2011) as AL emphasizes leaders' traits such as self-regulation, information sharing, and ethical decision making. These attributes significantly affect motivation and WE (Jiang and Men 2017). Prior research has verified that leaders' authenticity positively influences their followers' WE. This effect is clear especially when subordinates exhibit perceived self-awareness, balanced information processing, transparent interpersonal interactions, and internalized moral perspectives (e.g., Bamford et al. 2013; Başaran and Kiral 2022; Giallonardo et al. 2010; Oh et al. 2018; Walumbwa et al. 2008, 2011; Wong and Cummings 2009).

In summary, perceived AL has been found to have a positive impact on WE levels. The present study's first hypothesis reflects the above arguments:

**H1.** *Authentic leadership is positively related to work engagement.*

### 2.3. Authentic Leadership, Meaningful Work, and Work Engagement

Work can be a source of fulfillment and personal growth, among other things (Lips-Wiersma et al. 2016). Hackman and Oldham (1976) were the first to suggest that individuals find meaning in their work, perceiving it as valuable, worthwhile, and commendable. Their subjective experience interlinks with work tasks to impart significance, purpose, and identity (Lips-Wiersma et al. 2016; Wrzesniewski et al. 2003). This pattern is produced by employees' integration of personal values and principles into their work (Bragger et al. 2019), which transcend purely financial and survival-oriented aspects of holding down a job (Chalofsky 2003).

The notion of meaningful work has been examined from various perspectives. Hackman and Oldham (1976) identified three psychological states (i.e., task variety, task identity, and task significance) that contribute to employees' attribution of varying degrees of meaning to their job. More recent studies have underscored the multiple subjective experiences each worker has in his or her workplace (e.g., Lips-Wiersma et al. 2016; Steger et al. 2012). This perspective highlights a sense of unity within work groups and the entire organization in which individuals' contributions meld into the totality of the work achieved and personal and professional development are enhanced.

Researchers have emphasized meaningful work's pivotal role both as a precursor to work-related attitudes and behaviors and as an outcome influenced by organizational factors. For instance, meaningful work positively correlates with productivity, organizational loyalty (Geldenhuis et al. 2014), WE (Chaudhary and Panda 2018), and WFE (Bragger et al. 2019). More specifically, a sense of doing significant work is connected with higher levels of autonomy, commitment, and work satisfaction (Geldenhuis et al. 2014).



Positive leadership styles also have a clear relationship with meaningful work (Chaudhary 2021). Authentic leaders encourage a closer alignment with personal values, so AL appears to foster more meaningfulness associated with work (Avolio et al. 2004). Employees' perception of their leaders' authenticity is a key mechanism in followers' integration of moral values into their professional self-concept, which facilitates the attribution of meaning to work (Zhu et al. 2016). Thus, positive leader–follower interactions increase work tasks' value (Chaudhary 2021).

More studies are still needed to clarify the nexus between AL and meaningful work, but the available evidence confirms that a favorable relationship exists between AL and a sense of doing significant work (e.g., Chaudhary 2021; Rahman 2015). More specifically, leaders' authenticity is an external determinant of their strong trust-based connections with followers that increase the latter's perception of their work as worthwhile.

Meaningful work in turn boosts WE (Kaur and Mittal 2020). Individuals who feel a profound subjective connection with their work naturally tend to display greater well-being and a deeper emotional commitment to their organization (Geldenhuis et al. 2014), which translate into heightened energy and dedication. Fairlie (2011) argues that organizational environments that foster both a sense of significant work and AL reinforce WE while reducing burnout and turnover intentions.

As previously mentioned, AL has been shown to exert a positive influence on WE (e.g., Bamford et al. 2013; Chaudhary 2021; Wong and Cummings 2009). However, meaningful work's part in this relationship's dynamics remains less explored. Chaudhary and Panda (2018) have been the only ones thus far to integrate these three variables into a single model. The cited study sought to scrutinize the extent to which AL influences creativity through the mediators of meaningful work and WE. Chaudhary and Panda (2018) further found that greater leader authenticity correlates with followers having a deeper sense of doing important work, which then yields increased WE.

The above findings imply that authentic leaders have a positive impact on subordinates' perceptions of their work as meaningful, and that an elevated sense of having a significant job strengthens WE. The current study analyzed these links in view of the dearth of literature on—and thus the limited knowledge about—this topic. The second hypothesis was written as follows:

**H2.** *The relationship between authentic leadership and work engagement is mediated by meaningful work.*

#### 2.4. Authentic Leadership, Work–Family Enrichment, and Work Engagement

Research on the connections between employees' professional and private lives has received increasing attention within the fields of organizational psychology and human resource management. This growing interest has been driven by evolving ideas about family roles and emerging work-related patterns that stress the impact of the interplay between family and work on influential factors such as productivity, job satisfaction, and overall well-being. Various researchers have underscored the potential negative relationship between work and family dimensions, namely, work–family conflict (Greenhaus and Powell 2006; Grzywacz and Marks 2000). However, an alternative perspective has arisen based on Brummelhuis and Bakker's (2012) work–home resources (WHR) model, which proposes that workers' professional and private lives can be allies rather than adversaries.

Greenhaus and Powell (2006) define WFE as how workplace experiences can enhance the quality of employees' personal life. This enhancement comes from these individuals' adoption and refinement of workplace knowledge, skills, and behaviors that positively influence their private actions (Carlson et al. 2006). The WFE process follows two distinct pathways: instrumental and affective (Greenhaus and Powell 2006).

The instrumental route comprises the direct use of resources acquired in one role to improve performance in another. For example, employees working in multidisciplinary teams can develop a capacity for understanding and integrating diverse perspectives,

ultimately enhancing their ability to manage family conflicts. The affective pathway is the indirect influence of performance in one role on achievements in another role. Positive workplace experiences, for instance, can enhance employees' self-esteem, producing a cascading effect of positive emotions that improve their family life.

WFE thus consists of resource accumulation in line with the WHR model (Brummelhuis and Bakker 2012), which draws on the conservation of resources theory (Hobfoll 1989). The latter theory posits that individuals tend to retain, accumulate, and engage in actions to protect resources consisting of interpersonal relationships, tangible assets, working conditions, energy, or time. From this theoretical perspective, authentic leaders can provide instrumental (e.g., decision making support) and affective resources (e.g., transparent interpersonal relationships fostering positive emotions) that significantly enhance WFE (Luthans and Avolio 2003; Jiang and Men 2017). According to Braun and Nieberle (2017), workers who perceive their leaders as authentic are more likely to report higher levels of WFE.

A better work–life balance means employees are able to engage more deeply in their job. Prior research has detected a significant bidirectional relationship between WFE and WE (Timms et al. 2015). Balanced work and family dimensions increase employees' commitment and dedication to—and energy directed toward—work. Conversely, higher levels of WE can have a positive impact on other aspects of workers' life, such as their family (Carlson et al. 2006; Jiang and Men 2017; Siu et al. 2010). More WE allows employees to acquire and accumulate workplace resources (e.g., skills, knowledge, self-efficacy, achievements, and success) that, through a spillover effect, enrich other domains, including their family life.

Few previous studies have explored the relationships between AL, WFE, and WE. One exception is Jiang and Men (2017), who found that AL and WFE serve as antecedents of WE, although the cited authors stopped short of developing an analytical model to clarify these variables' potential sequential effects on each other. In light of the above findings, the present research included the proposal that employees who perceive their leaders as authentic are more likely to exhibit more WFE, which in turn fosters greater WE. The third hypothesis thus posited the following:

**H3.** *The relationship between authentic leadership and work engagement is mediated by work–family enrichment.*

### *2.5. Authentic Leadership, Meaningful Work, Work–Family Enrichment, and Work Engagement*

This study's theoretical model also proposed that AL positively influences followers' attribution of meaning to their work and their level of WFE in order to clarify the relationship between AL and WE. Meaningful work can serve as a bridge between the family and work domains (e.g., Bragger et al. 2019; Chalofsky 2003), thus a sequential mediation effect was postulated. More specifically, AL was expected to increase employees' sense of having a meaningful job, which then enhances WFE and, ultimately, leads to more WE.

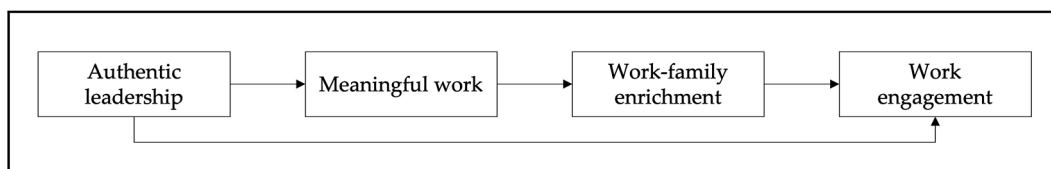
Some of the relationships among these variables have been examined in prior research, but scholars have not yet explored these relationships within a comprehensive model. For example, Bragger et al. (2019) confirmed that workers who ascribe greater meaning to their job tend to experience a more satisfying work–life balance. Tummers and Bronkhorst (2014) also found that quality leader–follower relationships (e.g., AL) provide employees with a better understanding of their role and impact on their organization. This knowledge encourages them to make their job more central to their identity and thus to feel that their work is more meaningful.

As mentioned previously, this sense of meaning is a crucial resource that translates into more positive attitudes toward other aspects of life (i.e., WFE) (Braun and Nieberle 2017; Brummelhuis and Bakker 2012; Greenhaus and Powell 2006). Finally, Timms et al. (2015) verified that, when employees see their work experiences as positively influencing their family life, they tend to report higher WE. The present study sought to contribute to

the literature by examining the chain of effects among the four aforementioned variables. Given the existing findings, the last hypothesis was written as follows:

**H4.** *The relationship between authentic leadership and work engagement is sequentially mediated by meaningful work and work–family enrichment.*

Figure 1 presents the theoretical model of the proposed connections.



**Figure 1.** Theoretical model.

### 3. Method

#### 3.1. Procedure and Sample

The data were collected from 292 individuals based on a sampling frame of workers from various business sectors in order to more fully understand the direct and indirect relationships between AL and followers' WE. Measures were drawn from the relevant literature and incorporated into a cross-sectional survey administered online. The participants were recruited by directly contacting their organizations and distributing the survey via professional and social media platforms. A nonprobability sampling technique was thus used to gather the data.

To follow the Declaration of Helsinki's principles, the respondents were given a guarantee of their answers' anonymity and confidentiality, and they voluntarily agreed to take part in this research. The participants' average age was 40.52 years (standard deviation [SD] = 11.88), and most were female (70.5%). The marital status data showed that 54.5% were married or in a partnership, while 32.9% were single, 11.6% divorced, and 1% widowed or widowered. The family context included 43.2% childless respondents, 21.2% with 1 child, 26.4% with 2 children, and 7.2% with 3 or more children. The participants had a mean organizational tenure of 9.59 years (SD = 9.91) and a mean tenure with their leader of 5.07 years (SD = 6.57). Most respondents interacted with their leader every day (64.4%) or at least once per week (26.7%). The majority worked in the service sector (92.1%) and had a permanent employment contract (70.9%).

#### 3.2. Measures

##### 3.2.1. Criterion Variable: WE

WE was evaluated using the Utrecht Work Engagement Scale-9 developed by [Schaufeli et al. \(2006\)](#). This scale comprises 9 items assessing feelings of vigor (e.g., "At my work, I feel bursting with energy."), absorption (e.g., "Time flies when I am working."), and dedication (e.g., "I am proud of the work I do."). The participants rated each item on a 7-point Likert scale ranging from 1 ("Never") to 7 ("Always"). Each respondent's composite score was calculated by averaging their responses' values (Cronbach's alpha [ $\alpha$ ] = 0.95). Higher scores correspond to greater WE.

##### 3.2.2. Predictor Variable: AL

AL was assessed using [Walumbwa et al.'s \(2008\)](#) Authentic Leadership Questionnaire. The 16 items measure four dimensions: self-awareness (e.g., "My leader seeks feedback to improve interactions with others."), relational transparency (e.g., "My leader says exactly what he or she means."), internalized moral perspective (e.g., "My leader expresses beliefs that are consistent with his or her actions."), and balanced processing (e.g., "My leader welcomes views that challenge his or her deeply held positions."). The participants scored each item on a 5-point Likert scale running from 1 ("Never") to 5 ("Most of the time, if not

always"). Each respondent's composite score was obtained by averaging their responses' values ( $\alpha = 0.97$ ). Higher scores on the scale indicate more AL.

### 3.2.3. Mediator One: Meaningful Work

Steger et al.'s (2012) Work and Meaning Inventory was utilized to measure the respondents' sense of doing meaningful work. This scale comprises 10 items covering three facets of meaningful work: positive meaning (e.g., "I have found a meaningful career."), meaning making through work (e.g., "I view my work as contributing to my personal growth."), and stronger positive motivation (e.g., "My work helps me understand myself better."). The participants rated each item on a 7-point Likert scale ranging from 1 ("Absolutely false") to 7 ("Absolutely true"). Each respondent's composite score was estimated by averaging their responses' values ( $\alpha = 0.93$ ). Higher values indicate more meaningful work.

### 3.2.4. Mediator Two: WFE

To measure WFE, a 9-item scale was adopted from Carlson et al.'s (2006) work. This instrument assesses 3 factors related to the way engagement in work tasks can improve family life: work to family involvement (e.g., "My involvement in my work helps me understand different viewpoints, and this helps me be a better family member."), work to family affect (e.g., "My involvement in my work puts me in a good mood, and this helps me be a better family member."), and work to family capital (e.g., "My involvement in my work helps me feel personally fulfilled, and this helps me be a better family member.>").

The participants scored each item on a 5-point Likert scale running from 1 ("Strongly disagree") to 5 ("Strongly agree"). Each respondent's composite score was calculated by averaging their responses' values ( $\alpha = 0.95$ ). Higher scores indicate greater WFE.

### 3.2.5. Assessment of Common Method Variance (CMV) and Measures' Convergent and Discriminant Validity

This research was based on data collected from a single source for all the constructs at one moment in time, so CMV could possibly weaken the results' validity (Podsakoff et al. 2003). This bias's presence in the present study was evaluated using various techniques, including a marker variable incorporated into the survey using Ramamoorthy and Flood's (2004) Solitary Work Preference scale. This instrument comprises 3 items rated on a 5-point Likert scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree") (e.g., "Working with a group is better than working alone" [reversed]). Each participant's composite score was obtained by averaging their responses' values ( $\alpha = 0.84$ ). Lower scores indicate a preference for working alone.

Controlling for data contamination requires the marker variable to have no significant associations with at least 1 of the 4 variables of interest (Lindell and Whitney 2001; Podsakoff et al. 2003). The current study's marker variable is significantly correlated with only 2 of the 4 analyzed constructs (see Table 1). The results suggest that CMV is not a threat to the data's validity.

**Table 1.** Mean (M), standard deviation (SD), Spearman's correlation, Cronbach's alpha, squared correlation, composite reliability (CR), and average variance extracted (AVE) values.

| Variables                                   | M     | SD    | 1                 | 2        | 3                   | 4                        | 5           | 6           | 7           | CR   | AVE  |
|---|-------|-------|-------------------|----------|---------------------|--------------------------|-------------|-------------|-------------|------|------|
| 1. Age                                      | 40.52 | 11.88 | –                 |          |                     |                          |             |             |             |      |      |
| 2. Interaction with supervisor <sup>1</sup> | –     | –     | 0.04 <sup>2</sup> | –        |                     |                          |             |             |             |      |      |
| 3. Work engagement                          | 5.41  | 1.22  | 0.21 **           | –0.20 ** | (0.95) <sup>3</sup> | <b>0.23</b> <sup>4</sup> | <b>0.45</b> | <b>0.42</b> | <b>0.03</b> | 0.86 | 0.84 |
| 4. Authentic leadership                     | 3.45  | 1.03  | 0.01              | –0.21 ** | 0.48 **             | (0.97)                   | <b>0.17</b> | <b>0.21</b> | <b>0.01</b> | 0.97 | 0.65 |
| 5. Meaningful work                          | 5.43  | 1.34  | 0.05              | –0.14 *  | 0.67 **             | 0.41 **                  | (0.93)      | <b>0.44</b> | <b>0.02</b> | 0.86 | 0.62 |
| 6. Work–family enrichment                   | 3.61  | 0.84  | 0.06              | –0.09    | 0.65 **             | 0.46 **                  | 0.66 **     | (0.95)      | <b>0.01</b> | 0.88 | 0.79 |
| 7. Solitary work preference                 | 3.74  | 0.90  | 0.08              | –0.11    | 0.18 **             | 0.10                     | 0.15 **     | 0.08        | (0.84)      |      |      |

<sup>1</sup> Interaction with supervisor: 1 = daily, 2 = weekly, 3 = twice a week, 4 = monthly; <sup>2</sup> Spearman's correlations below the diagonal; <sup>3</sup> Cronbach's alphas in parentheses; <sup>4</sup> squared correlations in bold; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .



In addition, confirmatory factor analysis was conducted to check whether the four variables' items capture distinct constructs as opposed to generating CMV. The four-factor model fits the data well (i.e., root mean square error of approximation [RMSEA] = 0.05; Tucker–Lewis index [TLI] = 0.95; comparative fit index [CFI] = 0.96), while the single-factor model presents unacceptable fit statistics (i.e., RMSEA = 0.15; TLI = 0.52; CFI = 0.55) (Hu and Bentler 1999; Marsh et al. 2004). The present results indicate that the four constructs have discriminant validity and, thus, that no serious CMV is present in the data.

A latent-factor model was also tested by adding an unmeasured latent method factor to the four-factor model. All the items were allowed to load on their respective constructs and on the latent variable, and the results confirm goodness of fit (RMSEA = 0.04; TLI = 0.96; CFI = 0.97). A CFI difference test was then run to compare the two models' fit. The CFI changed by 0.01 between the models, which is well below the recommended maximum variation of 0.05 (Bagozzi and Yi 1990). This result thus suggests that adding a latent method factor to the model produced no significant improvement in its overall goodness of fit, which further reduces the likelihood that CMV is present.

Next, all the variables' composite reliability (CR) and average variance extracted (AVE) were estimated (see Table 1). The CR values range from 0.86 to 0.97, well above the recommended cut-off point of 0.70 (Hair et al. 2010). The AVE values run from 0.62 to 0.84, so they are also above the widely accepted threshold of 0.50 (Fornell and Larcker 1981), thereby confirming that the constructs have adequate convergent validity.

The AVE values were also compared to the squared correlations between all the possible pairs of variables to check for discriminant validity. Fornell and Larcker (1981) state that the AVE values should be greater than the shared variance between the variables (see Table 1 above). Overall, the different techniques' results indicate that the model's four constructs have convergent and discriminant validity and that CMV does not pose a serious threat.

#### 4. Results

Table 1 lists the mean, SD, and Spearman's correlation coefficient values. The main variables are all positively and significantly intercorrelated. AL, meaningful work, and WFE are moderately to strongly correlated (i.e., above 0.41), so multicollinearity tests were conducted. The variance inflation factor values are below 2.3 and tolerance values above 0.4, which confirms that multicollinearity is also not a problem (Hair et al. 2010). Age is significantly correlated with WE, and interaction with supervisor is associated with WE, AL, and meaningful work.

The mediation effects were assessed using the PROCESS macro for IBM SPSS Statistics 27 software (Igartua and Hayes 2021). The respondents' age and frequency of interaction with their supervisor were set as covariates. Table 2 lists the serial mediation analysis results for Model 6.

The first hypothesis (i.e., H1) suggested that AL and WE are positively correlated. The results in Table 2 reveal that AL's total effect on WE is statistically significant (non-standardized regression coefficient [B] = 0.55;  $p < 0.001$ ). This finding indicates that employees are inclined to be more engaged in their tasks when they perceive their leader as authentic. Thus, H1 was supported by the data.

The second hypothesis (i.e., H2) posited that the AL–WE relationship is mediated by meaningful work. The results confirm that, when leaders are perceived as authentic, their employees are inclined to attribute greater significance to their work ( $B = 0.52$ ;  $p < 0.001$ ). In addition, individuals who regard their work as more meaningful also report increased WE ( $B = 0.43$ ;  $p < 0.001$ ). AL's indirect impact on WE through meaningful work is statistically significant ( $B = 0.22$ ; lower-level confidence interval [LLCI] = 0.14; upper-level confidence interval [ULCI] = 0.32). These findings also support H2.

**Table 2.** Regression coefficients (*B*s), standard errors (*SE*s), summary information, and indirect effects for serial mediation model.

| Variables                                | Meaningful Work (MW) (Mediator 1) |   | Work–Family Enrichment (WFE) (Mediator 2) |   | Work Engagement (WE) (Criterion Variable)             |  |  |
|--|-----------------------------------|---|---|---|---|--|--|
|  | <i>B</i>                          | <i>SE</i>   | <i>B</i>                                  | <i>SE</i>   | <i>B</i>  | <i>SE</i>  |  |
| <b>Total Effects</b>                     |                                   |   |   |   |   |  |  |
| Constant                                 | –                                 | –   | –   | –   | 3.01 ***  | 0.31   |  |
| Authentic leadership (AL)                | –                                 | –   | –   | –   | 0.55 ***  | 0.06   |  |
| Age                                      | –                                 | –   | –   | –   | 0.02 **   | 0.01   |  |
| Interaction with supervisor <sup>1</sup> | –                                 | –   | –   | –   | –0.16 *   | 0.08   |  |
|  |                                   |   |   |   | $F(3, 288) = 40.13;$<br>$p < 0.001$<br>$R^2 = 0.29^2$ |  |  |
| <b>Direct Effects</b>                    |                                   |   |   |   |   |  |  |
| Constant                                 | 3.62 ***                          | 0.38  | 0.78 **                                   | 0.20  | 0.61 *  | 0.26   |  |
| Authentic leadership                     | 0.52 ***                          | 0.07  | 0.17 ***                                  | 0.04  | 0.19 **   | 0.05   |  |
| Meaningful work                          | –                                 | –   | 0.39 ***                                  | 0.03  | 0.43 ***  | 0.05   |  |
| Work–family enrichment                   | –                                 | –   | –   | –   | 0.39 ***  | 0.07   |  |
| Age                                      | 0.01                              | 0.01  | 0.00                                      | 0.00  | 0.01 **   | 0.00   |  |
| Interaction with supervisor              | –0.18                             | 0.09  | 0.03                                      | 0.04  | –0.07   | 0.05   |  |
|  |                                   | $F(3, 288) = 23.62;$<br>$p < 0.001$<br>$R^2 = 0.20$ |   | $F(4, 287) = 89.63;$<br>$p < 0.001$<br>$R^2 = 0.56$ |   | $F(5, 286) = 112.78;$<br>$p < 0.001$<br>$R^2 = 0.66$ |  |
| <b>Indirect Effects</b>                  |                                   |   |   |   |   |  |  |
|  | <b>Effect</b>                     | <b>BootLLCI <sup>3</sup></b>                        |   | <b>BootULCI <sup>4</sup></b>                        |   |  |  |
| Total                                    | 0.37                              | 0.26  |   | 0.48  |   |  |  |
| AL → MW → WE                             | 0.22                              | 0.14  |   | 0.32  |   |  |  |
| AL → WFE → WE                            | 0.06                              | 0.03  |   | 0.12  |   |  |  |
| AL → MW → WFE → WE                       | 0.08                              | 0.04  |   | 0.13  |   |  |  |

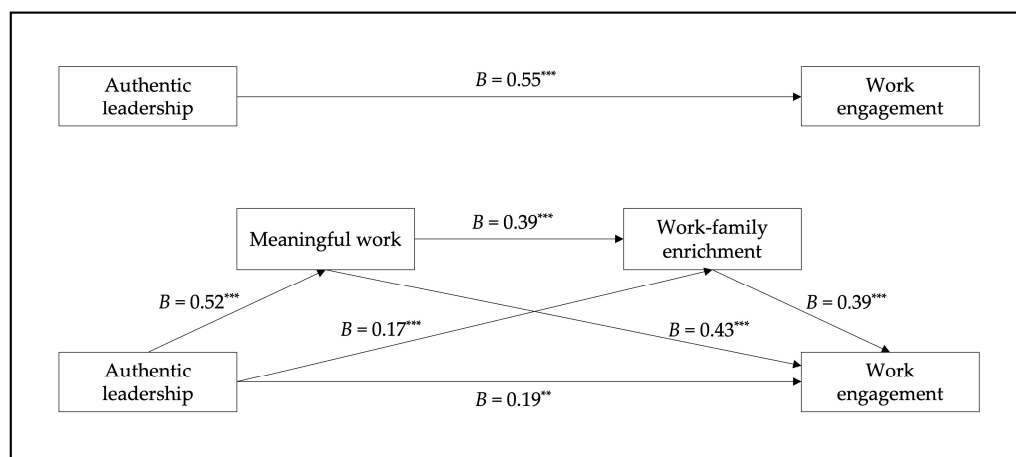
<sup>1</sup> Interaction with supervisor: 1 = daily, 2 = weekly, 3 = twice a week, 4 = monthly; <sup>2</sup>  $R^2$  = coefficient of determination; <sup>3</sup> LLCI = lower-level confidence interval; <sup>4</sup> ULCI = upper-level confidence interval; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; *B* = non-standardized coefficient.

The third hypothesis (i.e., H3) postulated that the AL–WE relationship is mediated by WFE. The results show that AL acts as a resource in work contexts that has a positive effect on employees’ personal lives ( $B = 0.17; p < 0.001$ ). This impact, in turn, translates into workers’ increased engagement with their work ( $B = 0.39; p < 0.001$ ). The AL–WE link’s influence is also indirectly channeled through WFE ( $B = 0.06; LLCI = 0.03; ULCI = 0.12$ ), thereby validating H3.

Finally, the last hypothesis (i.e., H4) focused on a possible sequential mediation effect in which both meaningful work and WFE strengthen the connection between AL and WE. H4 is supported by AL’s statistically significant indirect impact on WE when meaningful work and WFE are present ( $B = 0.08; LLCI = 0.04; ULCI = 0.13$ ). The results verify that AL positively influences how much employees attribute meaning to their job ( $B = 0.52; p < 0.001$ ). This effect is a pivotal resource that augments workers’ ability to navigate demands in their personal lives ( $B = 0.39; p < 0.001$ ), which then intensifies their inclination to engage more effectively with their work tasks ( $B = 0.39; p < 0.001$ ).

The AL–WE relationship’s overall impact is statistically significant (total effect:  $B = 0.55; p < 0.001$ ), but its strength diminishes when the mediating variables are considered (direct effect:  $B = 0.19; p < 0.01$ ). Thus, the AL–WE link is only partially influenced by meaningful work and WFE.

Of the covariates included, age presents a positive statistically significant effect on WE, although only residually ( $B = 0.01; p < 0.01$ ), while workers’ frequency of interaction with their supervisor failed to have any impact on WE levels ( $p > 0.05$ ). The proposed model explains 66% of WE’s unique variance ( $F[5, 286] = 112.78; p < 0.001$ ). Figure 2 presents the main results.



**Figure 2.** Authentic leadership’s influence on work engagement through meaningful work and work–family enrichment.  $B$  = non-standardized regression coefficient; number = 292; participants’ age and interaction with supervisor as covariates; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

## 5. Discussion

### 5.1. Main Findings

The present study analyzed the role of meaningful work and WFE as mechanisms underlying the AL–WE relationship. The above results confirm that authentic leaders have a positive impact on their employees’ WE. This finding is aligned with previous research’s findings (e.g., Bamford et al. 2013; Chaudhary 2021; Giallonardo et al. 2010; Hsieh and Wang 2015; Oh et al. 2018; Walumbwa et al. 2011; Wong and Cummings 2009), thereby supporting the argument that, when positive leader–follower relationships are supported by authenticity, mutual trust, and transparency, they contribute to workers’ transfer of positive emotions to their job. This process ultimately generates greater dedication to, involvement in, and energy available for work tasks.

The AL–WE connection is, however, not necessarily direct. One possible explanatory mechanism of this relationship is meaningful work. The results support the hypothesis that perceived AL encourages employees to attribute greater meaning to their job and thus become more deeply involved in their work. The literature on the link between these three variables is limited, but the current findings reinforce Chaudhary and Panda’s (2018) conclusions about the associations between AL and meaningful work and between meaningful work and WE (e.g., Fairlie 2011; Geldenhuys et al. 2014; Kaur and Mittal 2020). More specifically, on-going relationships with leaders perceived as authentic generates positive emotions such as work-related self-esteem and a sense of purpose. These outcomes reinforce professional activities’ centrality in employees’ identities and, in turn, lead them to invest more in workplace tasks.

WFE was proposed as another explanatory mechanism behind the AL–WE link. The present results confirm this hypothesis and thus Jiang and Men’s (2017) finding that WFE mediates the connection between AL and WE. Once again, the literature rarely puts these three variables into a single model; although, researchers have often analyzed their effects in isolation, such as AL’s positive impact on WFE (e.g., Braun and Nieberle 2017; Jiang and Men 2017) and the positive connection between WFE and WE (e.g., Koekemoer et al. 2020; Timms et al. 2015).

Authentic leaders focus on building and maintaining genuine, transparent relationships. These supervisors are also guided by ethical concerns during interactions with their employees, so, in addition to having a positive influence on subordinates’ behavior and actions, authentic leaders seek to provide support beyond work contexts. For instance, they encourage employees to find a balance between professional and family responsibilities. This positive input is a key resource for staff members that increases their ability to succeed in both work and family dimensions. These individuals develop a more positive perception

of, and greater satisfaction with, their own effective management of family challenges, which improves their attitudes toward work and then leads to greater WE.

The results also support the defined hypotheses and thus the proposed model based on analyses of how AL's effect on WE is mediated sequentially by meaningful work and WFE. Perceptions of AL increase workers' sense of doing important work, which in turn contributes to more WFE and, ultimately, to stronger WE. These findings can be interpreted using social exchange theory (Blau 1964) and Brummelhuis and Bakker's (2012) WHR model. Employees feel, based on the authentic relationships they establish with their leaders, that their job has a purpose and value. Positive emotions and competencies are generated by meaningful work because workers' ties to leadership constitute a valuable resource that improves the quality of their family life. In the end, these individuals engage in reciprocity behaviors (i.e., increased WE) due to their perception that their family benefits from their fulfilling job (Cropanzano and Mitchell 2005; Schaufeli and Bakker 2004).

Finally, the current research confirmed that age has an additional positive effect on WE. More specifically, older employees tend to exhibit greater WE. One possible explanation may be that these workers have more tenure and experience, so they have particular resources and skills (e.g., emotional regulation) that enable them to cope more effectively with the daily demands of their work (Kim and Kang 2017). Little is known about the processes underlying how AL influences employees' behaviors and attitudes, especially regarding WE, which means the above findings add valuable insights to the literature on this topic.

### 5.2. Theoretical Contributions and Implications for Management

The results reinforce prior studies' findings about AL's impact on WE and on meaningful work and WFE in employees' connection with their job. Some researchers have confirmed that AL has a positive effect on WE (e.g., Başaran and Kiral 2022; Wirawan et al. 2020), but few have explored workers' subjective evaluation of their job's meaningfulness or non-work aspects (e.g., WFE) as explanatory mechanisms. The present study verified that employees are significantly affected by their perception of leaders' authenticity and that AL encourages them to integrate work-related aspects more consistently into their identity. In other words, their role as workers becomes more central to their life when their relationship with their leader is perceived as authentic (Chaudhary 2022). Thus, the positive emotions generated by attributing meaning to work appears to be a key determinant of WFE and to produce more WE. AL is a significant predictor of WE that previous research seems to have minimized (e.g., Björk et al. 2021; Mazzetti et al. 2023; Zahari and Kaliannan 2023) and future studies need to pay more attention to this topic.

In practical terms, the current findings underscore the importance of the dyadic relationship between leaders and followers and its potential impact on professional and personal outcomes. Organizations should prioritize attracting, retaining, and training leaders who emphasize authenticity in their actions. Management need to understand that leadership is an ongoing developmental process and provide supervisors with specific skills in information handling, interpersonal communication, and the identification and management of ethical concerns (Walumbwa et al. 2008, 2011).

Concurrently, employees ascribe meaning to their work experiences, so the creation of organizational environments capable of integrating and rewarding employees' significant contributions becomes pivotal (Chaudhary 2022). In addition, workers must be encouraged to manage both their professional and family life more effectively. To this end, company agendas have to prioritize fostering positive workplace experiences that facilitate WFE, such as training in soft skills. This approach puts the goal of balancing value creation with a more human-centered approach to managing internal stakeholders within organization's reach.

### 5.3. Limitations and Future Research

These valuable findings make interpreting them all the more important, although any applications must consider this study's limitations in two areas: the research design

and data collection process and the sample used. The first limitation arises from the study's reliance on correlational analysis and the collection of data from a single source (i.e., each worker) at a specific point in time (i.e., one survey with all the measures). These features raised concerns about CMV and limited the definition of causal relationships. Correlational research design's restrictions are well-documented in the literature (Podsakoff et al. 2003). The additional statistical techniques applied in the present study provide reasonable certainty that CMV is absent, but these constraints must, nonetheless, be kept in mind.

The second limitation is the non-probabilistic sample, which restricts the results' generalizability. Future studies on this topic may benefit from using more representative samples to ensure the findings' greater stability and applicability.

In terms of promising avenues for further research, scholars may want to explore more deeply the relationships between the four variables. The above limitations indicate that adopting a longitudinal study design and diversifying data collection sources could be fruitful strategies. Studies of employees' resources can be expanded to consider their family members' assessment of WFE, which would provide researchers with a more comprehensive understanding of how this variable affects WE.

Another potential avenue is a contextual approach, namely, analyzing the role of organizational policies and procedures. Future studies can examine internal communication's influence as central processes that shape employees' behaviors and attitudes (Karanges et al. 2015). Staff members should be given clearer information on their organization's culture, values, policies, and procedures because this can contribute to building strong workplace relationships and fostering a sense of belonging (Argenti 2003). Finally, the way employees engage in work tasks appears to be influenced by the ongoing digitalization of procedures and evolving configuration of workplace activities (Wang et al. 2023). Additional research is needed to include these new contextual factors in analytical models.

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**Data Availability Statement:** The data will be made available upon receipt of a reasonable request by the corresponding author.

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