

Does Work Task Motivation Mediate the Relationship Between Psychological Capital and Teacher Well-being?*

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This study examined the mediating role of work task motivation (WTM) in the relationship between psychological capital (PsyCap) and teacher well-being (TWB) in the higher educational context of Ethiopia. The Psychological Capital Questionnaire-12 (PCQ-12), Work Task Motivation Scale for Teachers (WTMST), and Teacher Well-Being Scale (TWBS) were used to collect and analyzed data from a sample of 596 university teachers employed at Ethiopia's Amhara Regional State Universities. The results indicated that PsyCap had a direct and positive effect on WTM ($\beta = 0.374$, CI 95% [0.271, 474], $p < .001$) and TWB ($\beta = 0.298$, CI 95% [0.150, 0.430], $p < .001$). WTM also has a direct and positive impact on TWB ($\beta = 0.472$ CI 95% [.003, .481], $p < .05$). Besides, WTM fully mediated the relationship between PsyCap and TWB ($\beta = 0.110$, CI 95% [0.006, 0.206], $p < 0.05$). We also found that PsyCap intrinsic motivation identified regulation directly and positively, whereas external, introjected regulation, and amotivation negatively and directly predicted TWB. Finally, the dimensions of WT (intrinsic motivation, identified regulation, external regulation, and introjected regulation

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Ethical Approval. All human participants' included in the study procedures followed the institution's ethical standards and the 1964 Helsinki Declaration.

Informed Consent. Informed consent was obtained from all participants included in the study.

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and amotivation) partially mediated the relationships between PsyCap and dimensions of TWB (workload, organizational, and student interaction well-being).

Keywords: Positive psychology, self-determination theory of motivation, psychological capital, teacher well-being, work task motivation.

Highlights:

- PsyCap had a direct and positive effect on WTM, TWB, intrinsic motivation, and identified regulation, but a direct and negative effect on external, introjected regulation, and amotivation.
- WTM had a direct and positive impact on TWB.
- Intrinsic motivation: positively identified regulation, whereas external, introjected regulation, and amotivation negatively and directly affected TWB.
- PsyCap and workload, as well as organizational and student interaction well-being, were all partially mediated by intrinsic motivation, identified regulation, external regulation, introjected regulation, and amotivation.

The self-determination theory of motivation (SDT) and positive psychology indicate the existence of an association among psychological capital (PsyCap), work task motivation, and teacher well-being (TWB). Besides, positive psychology is a broad field that includes many concepts related to positive emotions, behaviors, and experiences. Some of the positive psychology constructs associated with PsyCap are: *self-esteem* (refers to an individual's evaluation of their self-worth and self-image), *emotional intelligence* (refers to an individual's ability to perceive, understand, and manage their own emotions and the emotions of others), *mindfulness* (refers to the practice of being present and fully engaged in the current moment, without judgment or distraction), and *gratitude* (refers to the practice of being grateful). While these constructs share similarities with PsyCap, their focus and measurement differ (Luthans et al., 2015; Seligman, 2011). Self-esteem, for example, is concerned with an individual's self-evaluation, whereas emotional intelligence is concerned with emotional awareness and regulation. Mindfulness and gratitude, on the other hand, are more focused on specific practices or behaviors that can improve positive emotions and well-being. Despite this, all of these constructs are part of the larger field of positive psychology, which seeks to understand and promote human flourishing and well-being (Luthans et al., 2015; Seligman, 2011). Therefore, positive psychology and SDT were thus used to link teachers' PsyCap, well-being, and work task motivation (WTM) used in this study.—Ryan and Deci (2000) found that SDT has innumerable benefits for parents, health care providers, religious leaders, managers, coaches, and teachers.

SDT employs various types of WTM in relation to various goals or reasons that result in different actions (Ryan & Deci, 2000). According to Fernet et al. (2008) SDT describes three motivations: amotivation, extrinsic motivation, and intrinsic motivation. Gagne and Deci (2005) identified that identified regulation and intrinsic motivation resulted in positive outcomes, whereas external regulation, amotivation, and introjected regulation lead to negative results, building on the work of Fernet et al. (2008). In the context of work, self-determined motivation is associated with greater job satisfaction (Fernet et al., 2008).

According to the SDT, intrinsic motivation enables individuals to develop internal psychological growth, integrate their personalities, develop psychological stability, and foster positive life processes (Ryan & Deci, 2000). Ryan et al. (2008) showed that intrinsic motivation and internalization are the most positive determinants of personal and higher levels of well-being. Teachers who have additional PsyCap tend to have high levels of motivation, are more intrinsically motivated, and have highly integrated regulation. SDT also reveals connection among PsyCap, WTM, and TWB (Ryan & Deci, 2017).

Psychological Capital and Teacher Well-being

The positive psychology movement, initiated by Martin Seligman, has identified the PsyCap as a resource with numerous potential advantages for individuals (Burhanuddin et al., 2019). It helps to enhance vocational well-being (Zhao & You, 2021a), improves work motivation and engagement (Avey et al., 2008), boosts self-esteem (Bissessar, 2014), encourages positive attitudes (Avey et al., 2011), and improves workload and organizational and student interaction well-being Zewude and Hercz (2021). The authors found a significant positive relationship between PsyCap and organizational and student interaction well-being, as well as total TWB. Similarly, Aveyet et al. (2011) found that PsyCap is associated with positive outcomes and is negatively linked to pathology and negatively related variables.

Hobfoll's (1989) Conservation of Resource Theory indicates that individuals seek to acquire and maintain resources. In this connection, PsyCap is a vital personal resource, resulting in improved well-being and positive functioning.

Youssef and Avolio (2007) defined PsyCap as the individual's positive psychological state of development, characterized across four dimensions: (1) redirecting paths to success and, if necessary, preserving them toward goals (hope); (2) the self-confidence to take responsibility for challenging tasks (efficacy); (3) when beset by adversity and troubles, bouncing back to attain success (resilience); and (4) making positive attributions about succeeding now and in the future (optimism) (p. 3). PsyCap consists of four fundamental elements: hope, efficacy, resiliency, and optimism. Together, these core elements are prominent resources that positively affect well-being.

There is strong evidence that these four dimensions of PsyCap are positively related and can predict well-being together (Luthans et al., 2013; Luthans & Youssef-Morgan, 2017). Specifically, PsyCap is a positive predictor of workload and organizational and student interaction well-being (Zewude & Hercz, 2021). Thus, we proposed the following testable research hypothesis:

RH_1 : (a) PsyCap (a) is positively related to TWB (total and dimension; Kun & Gadanecz, 2022; Zewude & Hercz, 2021).

Psychological Capital and Work Task Motivation

SDT targets the social environment with which one interacts in one's individual internal resources and that nurtures individuals and enables them to develop specific behaviors, inner states, situations, and motivations (Liu et al., 2021). In SDT, the concept of individual prosperity describes a positive psychological state that incorporates the intrinsic motivation that enables individuals to show internal psychological growth, integrate their personalities, sustain psychological stability, and foster positive life processes (Ryan & Deci, 2000). Ryan et al. (2008) found that intrinsic motivation and internalization processes are the most positive determinants of personal and relational well-being.

Several studies have shown a connection between PsyCap and WTM. For instance, Ferraro et al. (2018) found that PsyCap incorporates a significant positive relationship with work motivation and includes a positive effect on TWB, although teaching is a stressful profession (Van Dick & Wagner, 2001). It substantially supports the development of well-being in people functioning in situations of severe stress (Izydorczyk et al., 2019). PsyCap was closely related to higher intrinsic motivation and identified regulation, but it was also associated with lower levels of amotivation (Datu et al., 2018). Furthermore, motivation mediated the connection between PsyCap and engagement across time (Datu et al., 2018). There is a strong relationship between PsyCap and intrinsic motivation, which is favorable to TWB (Ryan & Deci, 2017). Additionally, motivation mediates the satisfaction of needs and well-being (Milyavskaya & Koestner, 2011); intrinsic motivation mediates the relationship between PsyCap and well-being (Siu et al., 2014). Hence, teachers with high levels of PsyCap tend to have high motivation, are more intrinsically motivated, and have highly integrated regulation; they also tend to show less external regulation, introjected motivation, or amotivation. Thus, motivation mediates the relationship between PsyCap and TWB (Ryan & Deci, 2017). We thus hypothesize that:

RH_2 : (a) PsyCap (a) is positively related to WTM (total, intrinsic motivation and identified regulation); and (b) negatively related to external regulation, introjected regulation and amotivation (Ferraro et al., 2018; Zewude & Hercz, 2022).

Work Task Motivation and Teacher Well-being

PsyCap from the standpoints of positive psychology, can predict work task motivation (Ferraro et al., 2018; Fermiano Fidelis et al., 2021; and TWB

(Ryan & Deci, 2000; Collie et al., 2015; Zewude & Hercz, 2021). SDT is the theoretical model that is most noticeable and links TWB and WTM.

SDT distinguishes different types of motivation based on the goals or reasons for an act (Ryan & Deci, 2000). Fernet et al. (2008) found that SDT exhibits three broadly recognized motivations, from low to high: amotivation, extrinsic motivation, and intrinsic motivation. Self-determined motivation has positive and negative consequences or outcomes. For instance, intrinsic motivation and identified regulation both result in positive effects, whereas external regulation, introjected regulation, and amotivation have negative results (Fernet et al., 2008). Additionally, self-determined types of motivation in the workplace are associated with higher job satisfaction (Fernet et al., 2008).

As indicated in the literature, as assessed by the SDT, intrinsic motivation enables individuals to develop internal psychological growth, integrate their personalities, enable psychological stability, and foster positive life processes (Ryan & Deci, 2000; Zewude et al., 2022). Moreover, Ryan et al. (2008) found that intrinsic motivation and internalization processes are the most positive determinants of personal well-being at a higher level. Hence, teachers with high PsyCap tend to have high motivation, be more intrinsically motivated, and have highly integrated regulation. Thus, WTM mediates the relationship between PsyCap and TWB. Consequently, the proposed constructed theoretical frameworks displayed in Figures 1 and 2 were examined in this study.

RH₃: WTM (total and dimensions:intrinsic motivation and identified regulation) would positively, and (b) external regulation, introjected regulation and amotivation would be negatively associated with TWB (total and dimension; Zhao & You, 2019; 2021; Zewude & Hercz, 2022).

Testing Mediation Model

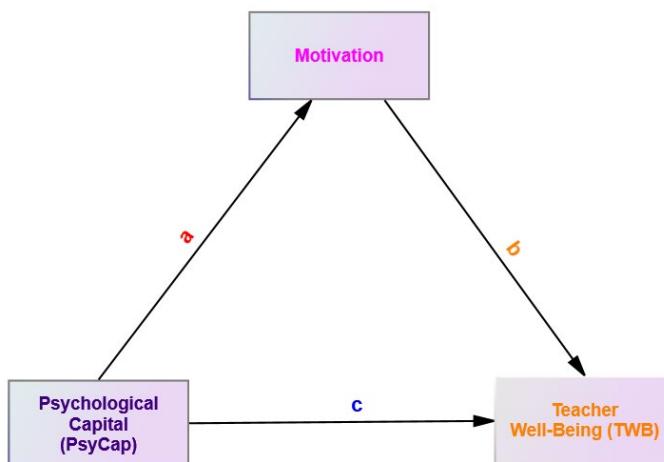
This study inferred that WTM (i.e., intrinsic motivation, identified regulation, external regulation, introjected regulation, and amotivation) could be the best strategy for PsyCap to impact TWB. The hypothesized mediating role of WTM on the link between PsyCap and TWB is derived from two theoretical perspectives. First, the SDT (Ryan & Deci, 2017) argues that using several motivation strategies enables instructors to use their maximum energy to their work effectively and to show positive psychological makeup toward the teaching profession. Thus, teachers with high PsyCap tend to have high WTM, are more intrinsically motivated, and have highly integrated regulation. SDT has also been associated with the relationship between PsyCap, WTM and TWB (Ryan & Deci, 2017). Second, PPT (Seligman, 2011) noted that focusing on well-being using positive psychology help to understand and build the factors that allow individuals, communities, and societies to flourish. Besides, motivation strategies and positive psychology as personal resources promote better TWB when a teacher's work is stressful.

Therefore, we operationalized PsyCap as an essential personal resource in the present research. In turn, instructors with high levels of PsyCap will likely experience greater intrinsic motivation and identified regulation and lower levels of external regulation, introjected regulation and amotivation. Besides, teachers may realize better teacher well-being (workload, organizational and student interaction). Hence, we examined the mediator role of work task motivation between psychological capital and teachers' well-being. It also explored the direct effect of psychological capital and work task motivation (total and dimensions) on teachers' well-being (total and dimensions). Two hypothetical models were proposed and tested in congruence with scientific literature (see Figures 1-2). Regarding PsyCap, WTM, and TWB, the theorized links are displayed in Figures 1 and 2. Thus we proposed the following research hypotheses to test the mediation model:

RH4. PsyCap would positively predict (a) WTM and TWB as well as (b) WTM directly and would positively predict TWB (Li, 2018; Soykan et al., 2019; Zewude & Hercz M., 2022)

RH5: WTM mediates the relationship between PsyCap and TWB (Soykan et al., 2019; Zewude & Hercz, 2022) (see Figure 1).

Figure 1
The mediation role of WTM between PsyCap and TWB



Note. The Conceptual mediation model of PsyCap, WTM, and TWB.

RH6: PsyCap positively predicts workload well-being, organizational well-being, and student interaction well-being (RH6a-c) (Li, 2018; Soykan et al., 2019; Zewude & Hercz, 2021; 2022).

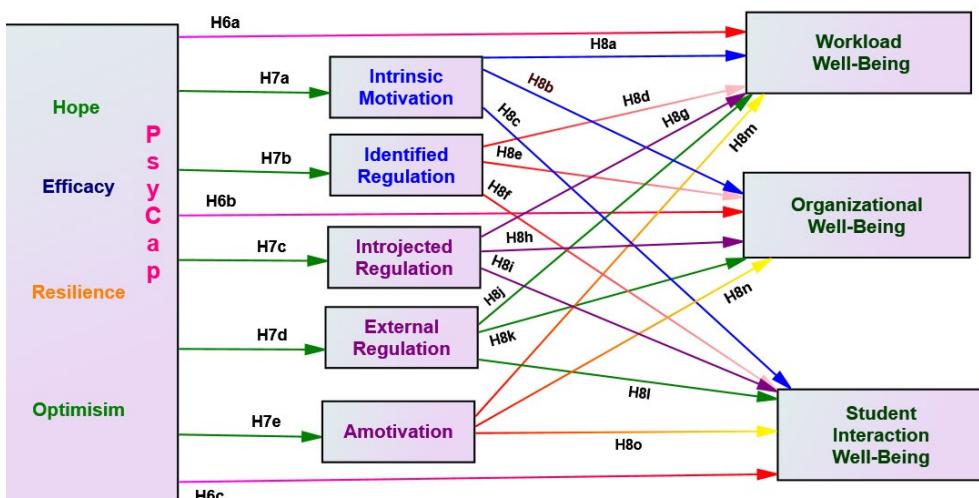
RH7: PsyCap has a direct and positive effect on intrinsic motivation and identified regulation (RH7 a-b), and it has a negative impact on introjected regulation, external regulation, and amotivation (RH7c-e) (Zewude & Hercz, 2022; Zhao & You, 2019; 2021).

RH8: Intrinsic motivation (RH8a-c) and identified regulation (RH8d-f) positively and introjected regulation (RH8g-i), external regulation (RH8j-l), and amotivation (RH8m-o) negatively predict workload well-being, organizational well-being, and student interaction well-being (Soykan et al., 2019; Zewude & Hercz, 2022) (see Figure 2).

RH9: Intrinsic motivation (RH9a-c), identified regulation (RH9d-f), introjected regulation (RH9g-i), external regulation (RH9j-l), and amotivation (RH9m-o) mediate the relationship between PsyCap and workload well-being, organizational well-being, and student interaction well-being (Bernard et al., 2014; Ferraro et al., 2018; Ryan & Deci, 2017; Siu et al., 2014; Zewude & Hercz, 2021; 2022) (see Figure 2).

Figure 2

A theoretical model of the PsyCap construct on workload, organizational and student interaction well-being mediated by intrinsic motivation, identified regulation, introjected regulation, external regulation and amotivation.



The Present Study

Ethiopia is the second-largest country in Africa by population, and it has recently undergone a rapid university expansion that led to several societal

challenges. Among other things, a trend of university teachers leaving the profession and showing no further interest in teaching has been observed. According to a report by the World Bank (2017), Ethiopian university teachers lack academic freedom and encounter institutional interference; have higher work stress, poor motivation, and lower job satisfaction; and are overburdened by meetings, low salaries, and lower well-being (Zewude & Hercz, 2021).

Researchers in Ethiopia have examined universities, including reforms to teacher education, causes of and possible solutions for academic staff flight, gender equality in public universities, challenges and practices for professional development, and coping with stress (Abebe & Tassew, 2013; Alemayehu & Woldemariam, 2020; World Bank, 2003; Egne, 2015; Gemedu & Tynjälä, 2015; Zewude & Hercz, 2021).

This study, however, covers new ground, examining a comprehensive theoretical framework of positive PsyCap (Luthans et al., 2007; 2015), SDT (Ryan & Deci, 2017), and the newly emerging TWB model (Collie et al., 2015), with respect to today's higher education institutions in Ethiopia. To our best knowledge, the potential role of PsyCap on TWB and the links between PsyCap and TWB through WTM have not been examined among teachers at any level of education. In addition, intrinsic motivation, identified, external, introjected regulation, and amotivation mediates the association between PsyCap and workload, organizational, and student interaction well-being has not been studied. Besides, previous studies have primarily focused on studying the positive role of PsyCap in health and organizational settings but not in educational settings. Therefore, it is essential to understand the potential direct and indirect effect of PsyCap as personal resources through WTM to improve TWB in Ethiopian higher education settings. In light of the above reasons, this study (a) assessed the link between PsyCap, WTM (total and dimensions) and TWB (total and dimensions); (b) tested the direct effect of PsyCap on WTM (total and dimensions), and TWB (total and dimensions) and WTM (total and dimensions) on TWB (total and dimensions), and (c) examined whether the links between PsyCap and TWB (total and dimensions) among Ethiopian University instructors mediated through WTM (total and dimensions).

Method

Participants

Questionnaires were completed by a convenient sample of 614 teachers from three Ethiopian public universities. Eighteen questionnaires were excluded because of incomplete data before analysis, for a response rate of 97%. The final participants included 447 (75%) men and 149 (25%) women who worked at a public university with $M_{age} = 32.81$ ($SD = 6.42$). Of these 211 (35.4%) had a bachelor's degree, 325 (54.5%) had a master's degree, and 60 (10.1%) had a doctoral degree, equivalent, or higher. This study employed structural

equation modeling and confirmatory factorial analysis. General guidelines on absolute sample size were followed: that is, to attain the sample size needed ensure statistically stable estimates and fewer sampling errors, it is often recommended that samples have 200 participants or more (Strang, 2015).

Instruments

Positive Psychological Capital Questionnaire (PCQ-12; Fred Luthans et al., 2007).

The 12-item PCQ scale, utilizing a six-point Likert scale with 1 (strongly disagree) to 6 (strongly agree), is used to assess the positive psychological states of university instructors (strongly agree). The PCQ-12 contains four items for hope, three for self-efficacy, three for resilience, and two for optimism (Luthans et al., 2007). The psychometric properties of the PCQ-12 scale were tested. Construct validity was tested using the confirmatory factor analysis (CFA) model on the Amharic (the language spoken by our respondents) version of the scale. The path model showed a good model fit with the sample data: χ^2 (48) = 185.77, $p < .001$, TLI = 0.951, CFI = 0.964, SRMR = .047, RMSEA = .069 (.059–.080) in Amharic. According to the recommended criteria, the data had an acceptable fit: GFI, CFI, TLI, and RFI $\geq .90$ and SRMR and RMSEA $< .10$ (see Table 2). The internal consistency, and the composite reliability (CR) of the PsyCap instrument for each of the HERO dimensions were examined, with the following results: hope ($\alpha = 0.87$; CR = 0.87), efficacy ($\alpha = 0.88$; CR = 0.86), resilience ($\alpha = 0.82$; CR = 0.89), and optimism ($\alpha = 0.78$; CR = 0.87). The Cronbach's alpha and CR scale values for PsyCap tested ($\alpha = 0.86$; CR = 0.87) (see Table 1).

The Teacher Well-being Scale

The Teacher Well-being Scale (TWBS-16) scale is a 16-item measure with a seven-point Likert response format developed by Collie et al. (2015) and later adapted for the Amharic language by Zewude & Hercz (2022a). It is used to assess aspects of teaching work that influence teachers' lives. The TWBS contains three dimensions: workload, organizational, and student interaction well-being. CFA examined the model fit of the TWBS scale using a robust maximum likelihood estimation method. Thus, the construct validity of the scale of this study was confirmed by goodness of fit indicators: χ^2 (101) = 219.68, $p < .001$, TLI = 0.970, CFI = 0.974, SRMR = .045, RMSEA = .044 (.036–.052) (see Table 2). Moreover, the TWBS's reliability for each dimension had a Cronbach's alpha (α) and CR of workload well-being ($\alpha = 0.89$; CR = 0.81), organizational well-being ($\alpha = 0.87$; CR = 0.86), and student interaction well-being ($\alpha = 0.92$; CR = 0.88). Finally, a reliability coefficient was assessed for the total TWB score measured by the sum of all items ($\alpha = 0.87$; CR = 0.85), which indicated acceptable internal consistency (see Table 1).

The Work Task Motivation Scale for Teachers

Participants' WTM levels were measured using the Work Task Motivation Scale for Teachers (WTMST-15), which was developed by Fernet et al. (2008) and later adapted for the Amharic language by Zewude et al. (2022). The WTMST is based on Ryan and Deci's (2000) SDT. It comprises five subscales, each with three items (Fernet et al., 2008): intrinsic, identified, external, introjected regulation, and amotivation (Fernet et al., 2008). The WTMST construct includes 15 self-reported items on a seven-point scale, ranging from 1, does not correspond at all, to 7, corresponds completely. It is a standardized, validated instrument for measuring teachers' motivation in the teaching context. The CFA model produced a good model fit to this study data: χ^2 (80) = 375.47, TLI = 0.947, CFI = 0.960, SRMR = .068, and RMSEA = .079 (.071, .087) (see Table 2).

As shown in Table 1, the CR for all WTM constructs ranged from 0.88 to 0.94, and Cronbach's alpha ranged from 0.87 to 0.93, indicating that the reliability of the constructs was good and acceptable. The Cronbach's alpha and CR values for WTM of teachers were intrinsic motivation ($\alpha = 0.93$; CR = 0.94), identified regulation ($\alpha = 0.87$; CR = 0.88), external regulation ($\alpha = 0.92$; CR = 0.92), introjected regulation ($\alpha = 0.92$; CR = 0.93), and amotivation ($\alpha = 0.90$; CR = 0.91) (see Table 1).

Sociodemographic Characteristics

Demographic factors such as gender, age, and educational qualification were collected.

Procedure

Before the data collection process, we obtained approval from the Institutional Review Board of our institution. The participants (respondents) in this study were volunteers. The research followed all procedures, rules, and regulations of the international research code of ethics. We used an Amharic version instrument with good evidence of reliability and validity from the previous studies and checked psychometric properties of the instruments in this study as well.

Data Analysis

Statistical analyses were conducted using the International Business Machines Statistical Package for the Social Sciences (IBM SPSS) Statistics version 26.0 and AMOS (Analysis of Moment Structures) version 26.0.

We examined the psychometric properties of the scales using CFA and calculated Pearson correlations to check the relationship of the constructs. The absence of multicollinearity was confirmed by inspecting the determinants of covariance matrices, checking the correlations among the values of the constructs, and checking the assumption of normality. Finally, outliers were dealt with following Kline (2016) and Tabachnick and Fidell (2018) suggestions.

Normal Distribution

For values of skewness ≤ 2 or kurtosis ≤ 4 , the distribution of the data is considered not too different from the theoretical normal distribution (Kim, 2013). The skewness values of this study are between 0.104 and 1.65, and the kurtosis scores ranged from -0.036 to 2.0, indicating that distributions of all constructs were not too dissimilar from the theoretical normal distribution (see Table 1).

Confirmatory Factor Analysis and Mediation Testing

The global cutoff points for the acceptable fitness of indices of the structural equation modeling were χ^2 = non-significant; GFI, RFI, TLI, and CFI ≥ 0.90 (Kline, 2016R. B. (2016; Tabachnick & Fidell, 2018), and SRMR and RMSEA ≤ 0.10 (Hu & Bentler, 1999) were the criterion values in this study. The χ^2 test may be significant in the larger sample, so establishing an absolute cutoff value for RMSEA is not advisable (Hair et al., 2019). Therefore, before performing the structural equation modeling, we performed a CFA analysis of the scales recommended by Hair et al. (2019). After the CFA results were checked, the measurement model was examined, and the structural model or proposed mediation model was tested using the bootstrap method (see Table 1). For further psychometric verification, we used both the structural and measurement models. The structural model draws upon existing theory and the previous scientific literature. The structural model was also oriented toward the research

objectives to differentiate which independent variables explain the dependent variables. For this reason, the measurement model was used to measure all variables to represent the theory (Hair et al., 2019).

Structural Equation Modelling (SEM)

This study investigated how well construct validity could explain the study variables (Hairet al., 2019). We used three types of structural equation modeling in this study for validating the exogenous and endogenous variables (Wan, 2002), of which there are three types: *measurement model*, *structural model* (Byrne & Vijver, 2010), and *path analysis* (Hair et al., 2019). CFA tests a measurement theory by providing evidence of the validity of individual measures using the model's overall fitness and other evidence of construct validity (Hair et al., 2019). CFA and path analysis were used here because the variables had been hypothesized and empirically confirmed rather than derived from the data (Lei & Wu, 2007). The bootstrapping method was used to make conclusions regarding indirect effects of the hypothesized mediation model.

The hypothesized model described in Figures 1 and 2 was examined using the maximum likelihood method, a standardized estimate-based structural equation modeling. The main reasons to use structural equation modeling in this study are the following: (1) our proposed mediation models are a complex one that examines the direct and indirect (mediated) effects, the structural factor models (CFA), and other complex relationships among variables (Lei & Wu, 2007); (2) it is advised to confirm the factor structure of a psychological instrument (Tomarken & Waller, 2005); (3) this study tested the relationships among latent constructs using various methods (Lei & Wu, 2007); and (4) this study used bootstrapping methods for the proposed mediation models for inferences on indirect effects.

First, the reliability of the TWBS, the PsyCap, and the WTMST constructs was tested according to Cronbach's alpha and CR. Each subscale and the total reliability must be ≥ 0.70 (Cronbach, 1951; Cronbach, 2004).

Common Method Biases

Common method biases (CMB) is one of the primary sources of measurement error that threatens the validity of inferences drawn from the association between independent and dependent variables (Podsakoff et al., 2003). It also affects or biases the measures rather than the hypothesized theoretical constructs of study (Podsakoff et al., 2003, 2012).

Hence, the CMB testing followed the Harman single-factor test guidelines (Podsakoff et al., 2003). No significant CMB was found in this study, as the computed variance (19.27%) was below the threshold of 50%.

Results

Descriptive Statistics, Pearson Correlation, and Normal Distribution of Variables

Table 1 presents the internal consistency of the constructs, the descriptive statistics (means and standard deviations), the normality of distribution using kurtosis and skewness, and the correlations of all the main constructs. A correlation matrix was performed and presented in the stated hypotheses (RH1, RH2, and RH3). The findings of this study confirmed a significant positive

correlation between PsyCap and intrinsic motivation ($r = 0.207, p < .01$), identified regulation ($r = 0.254, p < .01$), workload well-being ($r = 0.214, p < .01$), organizational well-being ($r = 0.115, p < .01$), student interaction well-being ($r = 0.277, p < .01$), and TWB ($r = 0.266, p < .01$), which supports the stated hypothesis (RH1-RH3). However, PsyCap had a significant and negative relationship with external regulation ($r = -0.224, p < .01$), and amotivation ($r = -0.141, p < .01$), as well as a negative but non-significant relationship with introjected regulation (see Table 1).

Finally, intrinsic motivation had a positive and significant correlation with identified regulation ($r = .507, p < .01$) and was negatively correlated with external regulation ($r = -.207, p < .01$), introjected regulation ($r = -.272, p < .01$), and amotivation ($r = -.270, p < .01$). Additionally, identified regulation had a negative and statistically significant relationship with external regulation ($r = -.226, p < .01$) and amotivation ($r = -.229, p < .01$) but not with introjected regulation ($r = -.015, p > .05$). External regulation was positively significant with introjected regulation ($r = .269, p < .01$) and amotivation ($r = .408, p < .01$). The correlation of introjected regulation with amotivation was also positive and significant ($r = .441, p < .01$).

Table 1
Descriptive statistics, Pearson correlation, Cronbach alpha (α) reliability, skewness, kurtosis of the primary constructs

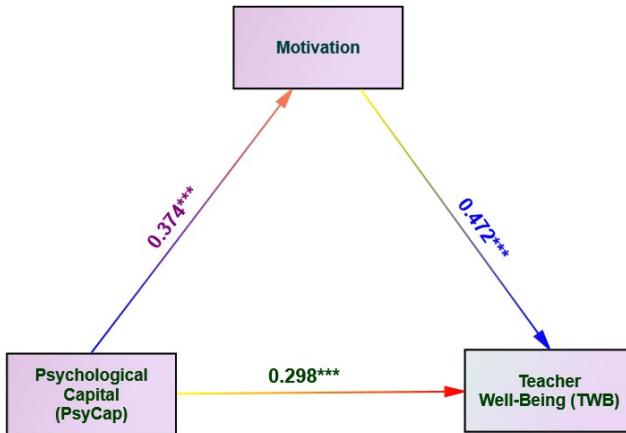
Variables	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Ku</i>	1	2	3	4	5	6	7	8	9	10
1	52.70	7.55	-.15	.13	.88									
2	12.05	2.35	-.62	.26	.21**	.94								
3	11.9	2.48	-.77	.89	.25**	.51**	.87							
4	11.60	2.76	-.27	-.01	-.22**	-.21**	-.23**	.92						
5	11.42	2.99	-.37	-.51	-.07	-.27**	-.01	.27**	.92					
6	10.38	3.07	-.25	-.27	-.14**	-.27**	-.23**	.41**	.441**	.91				
7	27.15	5.32	-.45	.06	.21**	.14**	.24**	-.01	.045	-.024	.89			
8	27.51	5.21	-.51	.07	.12**	.10*	.12**	.04	.13**	.084*	.321**	.83		
9	16.72	4.40	-.42	-.31	.28**	.24**	.36**	.17**	.006	-.137**	.37**	.288**	.80	
10	71.38	11.95	-.04	-.13	.27**	.21**	.31**	.05	.086*	-.02	.76**	.75**	.71**	.87

Note. * $p < .05$ and ** $p < .001$ (2-tailed), M = mean; SD = standard, Cronbach alpha (α) in **diagonal bold**, 1 = Psychological Capital, 2 = Intrinsic motivation, 3 = identified regulation, 4 = external regulation, 5 = introjected regulation, 6 = amotivation, 7 = workload well-being; 8 = organizational well-being; 9 = student interaction well-being; 10 = teacher well-being, Ku = kurtosis, Sk = skewness.

Mediation Analysis

Figure 3

Mediation model: the mediation role of work task motivation between PsyCap and teacher well-being



Note. *** $p = .001$

This study examined the mediating role of WTM in the relationship between PsyCap and TWB (see Tables 3 and 4). The indirect and direct impact of independent variables on the dependent variables were analyzed and presented (see Figures 3 and 4). The standardized direct effect path from PsyCap to WTM of teachers were positive and significant ($\beta = 0.374$, CI 95% [0.271, .474], $p < .001$), and TWB ($\beta = 0.298$, CI 95% [0.150, 0.430], $p < .001$), which supports RH4.

Table 2
Confirmatory factor analysis of the instruments, the measurement, and the structural models of the variables

Fit indices	CFAs of scales						Main constructs (Figure 11)			Global Cutoff points	
	PsyCap	Motivation	TWB	Measurement Model	Structural model	1896	1896	1896	1896	1896	1896
χ^2	186	375	220								
χ^2/df	48	80	100								
P-Value	.001	.001	.001								
χ^2/df	3.87	4.69	2.17								
TLI	0.951	0.947	0.970								
CFI	0.964	0.960	0.974								
SRMR	.047	.068	.045								
RMSEA	.069 (.059-.080)	.079 (.071-.087)	.044 (.036-.052)	.046 (.043-.048)	.046 (.043-.048)	.046 (.043-.048)	.046 (.043-.048)	.046 (.043-.048)	.046 (.043-.048)	.046 (.043-.048)	.046 (.043-.048)
	Model 1-IM	Model 2-IR	Model 3-ER	Model 4-INTR	Model 5-AM	Model 6-All	Model 6-All	Model 6-All	Model 6-All	Model 6-All	Model 6-All
	MM	SM	MM	MM	MM	MM	MM	MM	MM	MM	MM
χ^2	701	724	767	789	732	758	719	741	705	734	1759
χ^2/df	4.06	4.17	4.06	4.17	4.06	4.17	4.06	4.17	4.06	4.17	827
P-value	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
SRMR	.042	.047	.052	.056	.042	.047	.041	.046	.041	.047	.052
RMSEA	.035	.035	.039	.039	.037	.037	.036	.036	.035	.036	.040
	(.031-.039)	(.031-.039)	(.034-.043)	(.035-.043)	(.032-.041)	(.033-.041)	(.032-.040)	(.032-.040)	(.031-.040)	(.037-.042)	(.041-.046)

Note. CFI = comparative fit index; χ^2 = degree of freedom; MM = measurement model; RMSEA = root mean square error of approximation, SM = structural model; SRMR = standardized root mean square residual, TLI = Tucker-Lewis Index. **Model 1-IM**: PsyCap on teachers' workload, organizational, and student interaction well-being mediated by intrinsic motivation; **Model 2-IR**: PsyCap on teachers' workload, organizational, and student interaction well-being mediated by external regulation; **Model 3-ER**: PsyCap on teachers' workload, organizational, and student interaction well-being mediated by introjected regulation; **Model 4-INTR**: PsyCap on teachers' workload, organizational, and student interaction well-being mediated by amotivation; **Model 5-AM**: PsyCap on teachers' workload, organizational, and student interaction well-being mediated by intrinsic motivation, identified regulation, external regulation, introjected regulation, and amotivation.

The findings of this study support RH8, which proposes that WTM is a direct and positive predictor of TWB ($\beta = 0.472$, CI 95% [0.003, .481], $p < .05$). The indirect effect of PsyCap (see Table 13) on TWB mediated through WTM was significant ($\beta = 0.110$, CI 95% [0.006 . 0.206], $p < .05$), which supported H9. The mediation analysis regarding the structural model found that a good model fit (see Table 2): $\chi^2 (1896) = 845$, $p < .001$, $\chi^2/df = 2.24$, TLI= 0.931, CFI = 0.935, SRMR = .089, and RMSEA = .046 (.043 to .048) (see Table 11). The goodness of fit for the measurement model was also acceptable; χ^2 , (845) = 1896, $p < .001$, TLI = 0.931, CFI = 0.935, SRMR = .035, and RMSEA = .046 (.043, .048). This result indicates that our model had acceptable structural validity, supported by Hu and Bentler's (1999) cutoff points.

Table 3

A standardized direct effect of PsyCap and work task motivation of teachers (total and dimensions) on teacher well-being (total and dimensions)

Outcome variables	Path	Predictors	Standardized direct effect	Bootstrap 95% CI		
				LBC	UBC	p-value
IM ($R^2 = 0.424$)	←	PsyCap	0.651	0.442	0.775	.01
IR ($R^2 = 0.173$)	←	PsyCap	0.587	0.360	0.724	.01
ER ($R^2 = 0.261$)	←	PsyCap	-0.511	-0.615	0.349	.01
ITR ($R^2 = 0.345$)	←	PsyCap	-0.416	-0.566	-0.243	.01
AM ($R^2 = 0.339$)	←	PsyCap	-0.582	-0.731	-0.383	.01
WWB ($R^2 = 0.421$)	←	PsyCap	1.114	0.871	1.289	.05
OWB ($R^2 = 0.338$)	←	PsyCap	1.006	0.803	1.231	.01
SIWB ($R^2 = 0.449$)	←	PsyCap	1.022	0.804	1.212	.01
WWB	←	IM	-0.304	-0.593	-0.107	.01
OWB	←	IM	-0.191	-0.485	-0.023	NS
SWB	←	IM	-0.228	-0.510	-0.046	.05
WWB	←	IR	-0.101	-0.318	.064	NS
OWB	←	IR	-0.250	-0.462	-0.096	.01
SIWB	←	IR	-.009	-0.213	0.153	NS
WWB	←	ER	0.287	-0.162	0.434	.001
OWB	←	ER	0.264	-0.160	0.411	.01
SIWB	←	ER	0.148	-0.042	0.289	.01
WWB	←	ITR	0.234	0.113	0.367	.01
OWB	←	ITR	0.297	0.179	0.436	.01
SIWB	←	ITR	0.246	0.131	0.361	.01
WWB	←	AM	0.281	0.036	0.434	.05
OWB	←	AM	0.311	0.146	0.540	.01
SIWB	←	AM	0.210	0.084	0.509	.05
Total Constructs						
Motiv ($R^2 = 0.140$)	←	PsyCap	0.374	0.271	0.474	.001
TWB ($R^2 = 0.240$)	←	PsyCap	0.298	0.150	0.430	.001
TWB	←	Motivation	0.472	.003	0.481	.05

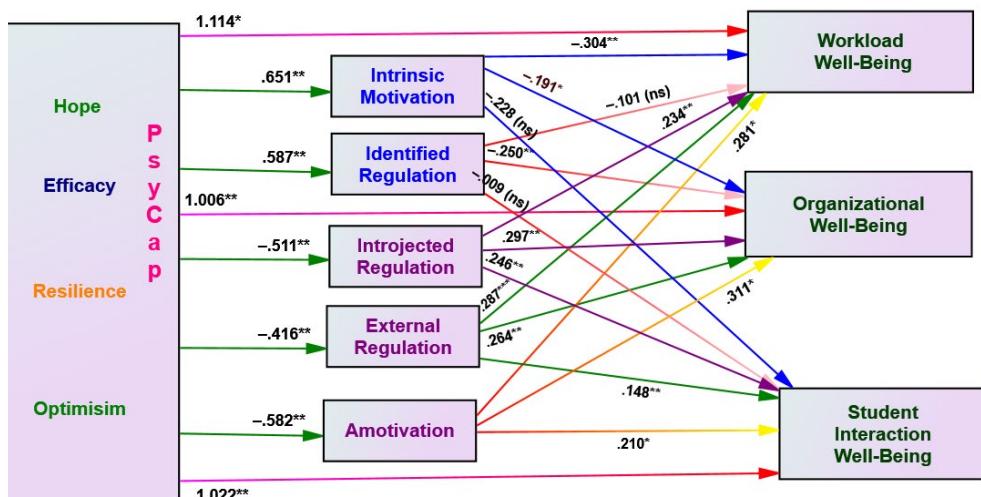
Note. AM = amotivation, ER = external regulation, IM = intrinsic motivation, IR = identified regulation, ITR = introjected regulation, LBC = lower bound; OWB = organizational well-being; PsyCap = PsyCap, SIWB = student interaction well-being; TWB = teacher well-being, UBC=upper bound; WWB = workload well-being

We then tested the hypotheses considering workload, organizational, and student interaction well-being as the dependent variables, PsyCap as the predictor variable, and the dimensions of WTM as the mediating variables. This study also found a significant and positive direct effect for PsyCap on workload well-being ($\beta = 1.114$, CI 95% [0.871, 1.289], $p < 0.01$), organizational well-being ($\beta = 1.006$, CI 95% [0.803, 1.231], $p < .01$), and student interaction well-being ($\beta = 1.022$, CI 95% [0.804, 1.212], $p < .001$). Moreover, the standardized direct beta coefficients from PsyCap to intrinsic motivation ($\beta = 0.651$, CI 95% [0.442, -0.775], $p < .01$) supported H7a, and identified regulation ($\beta = 0.587$, CI 95% [0.360, 0.724], $p < .01$) supported RH7b. Conversely, PsyCap directly and negatively affected external regulation ($\beta = -0.511$, CI 95% [-0.615, 0.349], $p < .01$), supporting RH7d, introjected regulation ($\beta = -0.416$, CI 95% [-0.566, -0.243], $p < .01$), supporting RH7c, and amotivation $\beta = -0.582$, CI 95% [-0.731, -0.383], $p < .01$), supporting RH7e.

RH8 states that the direct effect of the intrinsic motivation on workload (H8a), and student interaction well-being (see RH8c) is significant and positive ($\beta = -0.304$, CI 95% [-0.595, -0.107], $p < .01$), ($\beta = -0.228$, CI 95% [-0.510, -0.046], $p < .05$), although this is not the case for organizational well-being (see RH8b). Additionally, identified regulation (see RH8d-f) had a negative and significant direct effect on organizational well-being ($\beta = -0.250$, CI 95%: [-0.462, .064], $p < .01$) but not on workload well-being ($\beta = 0.101$, CI 95% [-0.318, -0.096], $p > .05$), and student interaction well-being ($\beta = -0.009$, CI 95% [-0.213, 0.153], $p > .05$). Moreover, external regulation, introjected regulation, and amotivation had a positive and significant direct effect on workload well-being, organizational well-being, and student interaction well-being (detail in Table 3; Figure 4).

Figure 4

Conceptual model of the PsyCap construct on teacher well-being dimensions mediated by intrinsic motivation, identified regulation, external regulation, introjected regulation, and amotivation.



The indirect effects of PsyCap through intrinsic motivation, identified regulation, external regulation, introjected regulation, and amotivation were significant on workload well-being ($\beta = -0.664$, CI 95% [-0.779, -0.429], $p < .05$), organizational well-being ($\beta = -0.711$, CI 95% [-0.894, -0.507], $p < .01$), and student interaction well-being ($\beta = -0.453$, CI 95% [-0.608, -0.244], $p < .05$), which supported RH9. See Table 4 for details on the dimensions of WTM between PsyCap and the dimensions of TWB. The mediation model (structural model) through intrinsic motivation, identified regulation, external regulation, introjected regulation, and amotivation indicates an acceptable fit: χ^2 (827) = 1759, $p < .001$, $\chi^2/df = 2.13$, TLI = 0.937, CFI = 0.942, SRMR = .076, and RMSEA = .044 (.041 to .046). Measurement model also supported this construct, indicating an acceptable fit: $\chi^2(794) = 1531$, $p < 0.001$, $\chi^2/df = 1.93$, TLI = 0.948, CFI = 0.954, SRMR = .052, and RMSEA = .040 (.037, .042) (see Table 2). Both the measurement and structural models showed that the proposed model had an acceptable measurement and structural validity, confirmed by Hair et al. (2019), Kline, (2016), and Tabachnick and Fidell (2018).

Table 4
The PsyCap on teacher well-being (total and dimensions) mediated through dimensions of motivation: Standardized direct effect.

Predictor Mediator	DV	Standardized indirect effect	Bootstrap 95% CI		
			LBC	UBC	p-value
PsyCap → IM, IR, ER, ITR, AM →	WWB	-0.664	-0.779	-0.429	.05
	OWB	-0.711	-0.894	-0.507	.01
	SIWB	-0.453	-0.608	-0.244	.05
PsyCap → IM →	WWB	-0.178	-0.521	-0.057	.01
	OWB	-0.166	-0.453	-0.065	.01
	SIWB	-.093	-0.326	-0.000	NS
PsyCap → IR →	WWB	-0.160	-.007	-0.211	.05
	OWB	-0.229	-.006	-0.177	.001
	SIWB	-.054	-.009	-0.225	NS
PsyCap → ER →	WWB	-0.253	-0.565	-0.103	.001
	OWB	-0.252	-0.572	-0.107	.001
	SIWB	-0.161	-0.457	-.045	.01
PsyCap → ITR →	WWB	-.026	-0.108	-.000	NS
	OWB	-.037	-0.124	-.004	NS
	SIWB	-.020	-.085	-.000	NS
PsyCap → AM →	WWB	-0.144	-0.418	-.029	.01
	OWB	-0.172	-0.458	-.058	.001
	SIWB	-.090	-0.328	-.007	NS
PsyCap → WTM →	TWB	0.110	.006	0.206	.05

Note. AM = amotivation; CI = confidence interval; ER = external regulation; IR = identified regulation; IM = intrinsic motivation; ITR = introjected regulation LBC = lower bound; NS = statistically not significant; OWB= organization well-being; PsyCap = psychological capital; R^2 = Regression model; SIWB = student interaction well-being; TWB = teacher well-being; UBC = upper bound; WTM = work task motivation, WWB = workload well-being.

Discussion

Due to the complex nature of the teaching profession (McCallum et al., 2017), teachers face a range of challenges in their daily work life. Their failure to manage their tasks affects their organization, their interactions with their students, administrators, and the work environment (Zewude and Hercz, 2021). Hence, the literature suggests that positive psychology can play a crucial role, including motivational strategies and positive psychological resources to foster TWB and maintain healthy functioning in the workplace (e.g., Luthans et al., 2015 Zewude et. al., 2023, Zewude & Hercz, 2021).

This study found that PsyCap was a positive predictor for WTM among teachers, and its relationship with TWB was found to be positive and significant. Work task motivation positively predicted TWB. The results also found that WTM was positively and significantly mediated PsyCap and TWB. Thus, WTM fully mediated the relationship between PsyCap and TWB. Furthermore, the structural and measurement model met the global cutoff points, indicating that various methods confirmed the mediation model.

The second mediation model of the study took the workload, organizational, and student interaction well-being as dependent variables, with PsyCap as the predictor variable and dimensions of WTM as mediator variables. This study also found that PsyCap was a positive predictor for workload, organizational, and student interaction well-being, as well as intrinsic motivation and identified regulation. By contrast, it was a negative predictor of external regulation, introjected regulation, and amotivation.

The direct effects of intrinsic motivation on workload and student interaction well-being were significant and positive but had no direct effect on organizational well-being. Additionally, identified regulations had a negative and significant direct effect on organizational well-being but did not directly affect workload or student interaction well-being. Furthermore, external regulation introjected regulation and amotivation showed a positive and significant direct effect on workload well-being, organizational well-being, and student interaction well-being.

The indirect effects of PsyCap through intrinsic motivation, identified regulation, external regulation, introjected regulation, and amotivation on workload and organizational and student interaction well-being were significant. The measurement and structural model of this mediation model, assessed through intrinsic motivation, identified regulation, external regulation, introjected regulation, and amotivation exhibited an acceptable fit (Hair et al., 2019; Kline, 2016; Tabachnick & Fidell, 2018). Previous findings supported our hypotheses as well. For example, Luthans et al. (2015) showed that helping psychologically healthy people and encouraging them to be more productive, using their inner potential, leads to them being happy and, consequently, enabled them to build personal resources (Luthans et al., 2015). Therefore, this study used the positive psychological theory put forward by Seligman (2011) and the SDT of Ryan and Deci (2017) as a guiding theoretical framework. The structural model of

this study was tested using the directed and indirect effects of PsyCap on TWB through the WTM of teachers. We examined the potential role of a PsyCap and the motivation to foster TWB. To the best of our knowledge, no similar studies have been conducted in the education context, and particularly not any that examined university teachers in particular. Our study filled this gap.

Specifically, we found that PsyCap, intrinsic motivation, and identified regulation directly and positively affected TWB. By contrast, external regulation, introjected regulation, and amotivation negatively affected TWB, which improved TWB. Our findings supported the previous studies on WTM, PsyCap, and well-being (e.g., Datu et al., 2018; Fernet et al., 2008; Ferraro et al., 2018; Milyavskaya & Koestner, 2011; Ryan & Deci, 2017; Youssef-Morgan & Luthans, 2015; Zewude & Hercz, 2021). In addition, Zewude and Hercz (2021) found a significant and positive relationship between PsyCap and organizational, student interaction well-being, TWB.

Thus, in this study on PsyCap, TWB and motivation were investigated by establishing an integrated, fresh, and novel model following the emerging theoretical perspective of TWB presented by Collie et al. (2015), the SDT of motivation (Ryan & Deci, 2017), and the theory of positive psychology of Seligman (2011), combined in an approach that is relevant for today's higher education.

As a result of the current research, it is recommended that five issues in particular be looked into in future studies using an SDT and a positive psychology framework.

First, empirical support regarding the importance of TWB has attracted considerable attention in recent years. Furthermore, TWB can significantly reduce diseases and illnesses, improving chances for success at the individual and organizational level (Kaur & Singh, 2019). Well-being is the most potent determinant of overall life quality, it is essential for individuals' outcomes at work, and it positively correlates with life experiences (Rath & Harter 2010; Collie, Shapka, Perry, & Martin, 2015). In addition, future research should be broadly focused on the paradigm of SDT of motivation and positive PsyCap (Luthans, Youssef, & Avolio, 2007), the TWB model (Collie, Shapka, Perry, & Martin, 2015), mediating by motivation (Ryan et al., 2008).

Second, only a few scientific studies have been conducted on TWB at work using positive psychology perspectives (Bermejo et al., 2013; Colie et al., 2015; Zewude et.al, 2023, Zewude & Hercz, 2021), but no work of this type has been done in Ethiopia.

Third, this study provides practical intervention into university TWB by applying SDT and positive psychology. The results carry implications for university managers. For example, Adler and Seligman (2016) noted that schools, in addition to enabling academic performance and success in later life among their students, teach positive education and skills to promote well-being. Positive education improves teachers' and students' well-being and behavior, increasing autonomy, engagement, and intrinsic motivation (Adler & Seligman,

2016). Li (2018) reported that university leaders or managers can enhance TWB by increasing their sense of meaning in life or PsyCap.

Fourth, we analyzed and reported various types of reliability (Cronbach's alpha and CR), validity (construct), structural equation modeling, and path analysis in this article. Future research should develop an expanded experimental research design to identify time effects.

Fifth, the findings reported in this article emerged from data collected among university teachers. Nevertheless, this research did not investigate elementary or high school teachers. Research findings indicate that elementary and high school teachers experience challenges in their work lives (Rachel Crosby, 2015). Future work should focus on elementary, high school, and university teaching across cultures, using positive psychology to enhance TWB.

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Da li motivacija za radne zadatke predstavlja medijator u odnosu između psihološkog kapitala i subjektivnog blagostanja nastavnika?

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Ova studija ispituje medijatorsku ulogu motivacije za radne zadatke (eng. work task motivation, WTM) u odnosu između psihološkog kapitala (PsyCap) i subjektivnog blagostanja nastavnika (TWB), u kontekstu visokoškolskog obrazovanja u Etiopiji. Sledeci upitnici su korišćeni radi prikupljanja podataka na uzorku od 596 univerzitetskih nastavnika zaposlenih na univerzitetima u Amhari, Etiopija [Amhara je jedna od federalnih jedinica Etiopije, prim. prev]: Upitnik Psihološkog kapitala-12 (eng. The Psychological Capital Questionnaire-12, PCQ-12), Skala motivacije za radne zadatke kod nastavnika (eng. Work Task Motivation Scale for Teachers, WTMST), i skala subjektivnog blagostanja nastavnika (eng. Teacher Well-Being Scale, TWBS). Rezultati ukazuju na to da PsyCap ostvaruje direktni i pozitivan efekat na WTM ($\beta = 0.374$, CI 95% [0.271, 474], $p < .001$) i na TWB ($\beta = 0.298$, CI 95% [0.150, 0.430], $p < .001$). WTM takođe ostvaruje direktni i pozitivan efekat na TWB ($\beta = 0.472$, CI 95% [.003, 0.481], $p < .05$). Dalje, WTM predstavlja potpuni medijator u odnosu između PsyCap i TWB ($\beta = 0.110$, CI 95% [.006, 0.206], $p < .05$). Takođe smo otkrili da PsyCap, intrinzička motivacija i identifikovana regulacija ostvaruju direktni

i pozitivan, dok eksterna, intreprojektovana regulacija i amotivacija ostvaruju negativan efekat na TWB. Intrinzička motivacija, identifikovana, eksterna i intreprojektovana regulacija, kao i amotivacija predstavljaju parcijalne medijatore u odnosu između PsyCap, radnog opterećenja (eng. workload), organizacionog subjektivnog blagostanja i subjektivnog blagostanja u vezi interakcije sa studentima.

Ključne reči: pozitivna psihologija, samo-determinaciona teorija motivacije, psihološki kapital, nastavničko subjektivno blagostanje, motivacija za radne zadatke

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