The Mediating Roles of Psychological and Workplace Well-Being in the Cor-relation between
Emotional Intelligence and Work Engagement among Sales-persons in Germany's Pharmaceutical Products Companies

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KEYWORDS	ABSTRACT
emotional intelligence 1; psychological well-being 2; workplace well-being 3; work engagement 4; pharmaceutical industries 5; business-to-	This study investigates the relationships between emotional intelligence ability (EI-Ability), psychological well-being (SPWB), workplace well-being (SWWB), and salesperson work engagement (SWE) within Germany's pharmaceutical B2B sector. Grounded in the Job De-mands Resources (JD-R) theory, the study further explores the mediating roles of SPWB and SWWB in the EI–SWE linkage. A quantitative, cross-sectional survey was administered to 375 salespersons employed in pharmaceutical firms across North Rhine-Westphalia, with 340 valid responses obtained via simple random sampling. The data were analyzed using Structural Equation Modeling (PLS-SEM). The findings indicate that EI-Ability positively and signifi-cantly affects SPWB, SWWB, and SWE. Both SPWB and SWWB also positively influenc SWE and partially mediate the relationship between EI-Ability and SWE. Notably, EI-

1 . INTRODUCTION

In today's globalized economy, organizations are experiencing accelerated changes in which traditional geographical, political, and social borders lose their significance. In this context, human capital has assumed the role of a key driver of sustainable competitive advantage and long-term organizational success (Hitka et al., 2019). This shift has led organizations to make a shift from an operational human resource function to a more strategic human resource management (HRM) function, one that acknowledges the overall value of employees in business performance (Alhindaassi et al., 2025; Hamadamin & Atan, 2019). At the heart of this change is the increased focus on promoting and maintaining employee work engagement (EWE), which has become a key issue for both human resource functions and executive management (Ahmed, 2024; Gallup, 2025; Hu et al., 2024). The acknowledgment of employees' abilities, passion, and commitment as organizational assets requires an active attempt to measure and nurture the drivers of EWE (Ahmed, 2024; Alhindaassi et al., 2025; Chawla et al., 2022; Hu et al., 2024; Loring & Wang, 2022).

Ability accounts f|r 61% of the variance *business 6;* in SPWB and 57% in SWWB, while the combined predictors explain 71% of the |ariance in SWE. *Germany 7* The study offers critical implications for practitioners and poli-cymakers aiming to enhance |engagement in similar high-pressure organizational contexts.
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1.1 Employee work engagement

Employee work engagement is a positive mental state that is job-related and enjoyable and is described by vigor, dedication, and absorption (Schaufeli et al., 2002). That is, in specific terms, vigor reflects high mental energy and resilience, dedication reflects strong emotional commitment and sense of importance, and absorption reflects one being absorbed in activities (Schaufeli, 2018; Wut et al., 2022). EWS provides the basis for the development of the psychological and emotional attachment of employees to institutions with definite goals oriented along institutional goals and accordingly leading to high organizational effectiveness in general and definite functionality in specific terms (Alhindaassi et al., 2025; Mérida-López et al., 2023; Rajabi et al., 2024).

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Despite its proven value, recent figures by Gallup (2025) confirm the fact that the global worker engagement was just 21%, down by two points from the last rank in 2023. Gallup (2025) presents the fact that worker disengagement translates to around US$438 billion loss in productivity per year. The regional trend for the field in the continent of Europe is even more disturbing. Schaufeli (2018), based on the ground of his inferences from the sampling population of 43,850 workers in 35 European countries, identified moderate positive relationships between EWE at the national level and indicators such as happiness and job satisfaction. All the same, despite these relationships, EWE in the region continues to remain at deplorable lows, where Gallup's 2024 global poll only registers regional worker engagement at 13%. Germany in particular ranks 27 in the rank-ordered list of 37 European states, where with only 12% of its workforce classified as engaged, 3 points down from the last rank in 2023 (Gallup, 2025). The trend is enough reason to research and mitigate the root causes of EWE, specifically in Germany's strategic sectors, like the pharmaceutical industry.

1.2 Ability Emotional Intelligence

Within the highly regulated, highly competitive context of the German pharmaceutical business-to-business market, sales representatives often deal with complex emotional, cognitive, and interpersonal issues at risk of threatening their continuous performance and commitment (Bolschakow et al., 2023; Hoffmeister, 2018; Schaufeli, 2018). In this high-stakes context, Ability Emotional Intelligence (EI-Ability), which is distinct from traditional trait-based approaches that focus on selfcentered emotional tendencies, is found as a beneficial psychological resource (Alhindaassi et al., 2025; Luong et al., 2021). EI-Ability includes the ability to perceive and understand emotions within one and others regulate emotions within oneself and others, and effectively apply this awareness of emotions (Mayer et al., 2016; Wong & Law, 2002). This ability enables sales staff to manage emotional labor skillfully, decode subtle social cues, and adjust to numerous interpersonal approaches in order to build trust and rapport (Schlegel & Mortillaro, 2019). Such adaptive emotional strengths are essential in aiding the augmentation of Work Engagement (WE) (Bande et al., 2015; Heidari et al., 2017; Sawasdee et al., 2020), which encompasses the factors of vigor, dedication, and absorption (Schaufeli et al., 2002). High-emotional-intelligence individuals are known to demonstrate resistance to stress, have robust intrinsic motivation, and sustain consistent high-level engagement throughout their working life, thus retaining high engagement levels even under stressful conditions (Abbas et al., 2025; Malik & Garg, 2020; Narayanasami et al., 2023; Selvi & Aiswarya, 2023). Despite EI-Ability being a pivotal factor, the empirical examination of work engagement has been insufficiently explored within the dedicated context of the German pharmaceutical B2B market, an industry of long sales cycles, customized customer solutions, and rigorous compliance demands that generate substantial emotional pressure (Hoffmeister, 2018; Schaufeli, 2018).

1.3 Psychological well-being

Psychological well-being (PWB), covering dimensions including autonomy, growth, acceptance of oneself, and a sense of life purpose (Ryff & Keyes, 1995; Pradhan & Hati, 2022), represents the key psychological resource contributing to the individual's resilience, motivation, and long-term dedication to professional activities (Dugan et al., 2023; Koroglu & Ozmen, 2022; Robertson & Cooper, 2010). At the same time, workplace well-being (WWB) is described in terms of employees' general quality of experience in the organizational environment, including perceived support for employees' needs, relations between employees at different hierarchical levels, and job satisfaction (Baquero, 2023; Pradhan & Hati, 2022). Both these kinds of well-being (psychological and contextual) operate in conjunction to reduce stress and promote adaptive mental structures and practices in the workplace (Anwar et al., 2022; Koroglu & Ozmen, 2022; Pradhan & Hati,

2022). The employees high in terms of EI-Abilities show high competence in fostering PWB (Alotaibi et al., 2020; Els & Jacobs, 2023; Pincheira et al., 2023; Rifaya & Dayarathna, 2019) and WWB (Arshad et al., 2023; Sudiro et al., 2023; Yan et al., 2018), as high-level skills in emotional management and emotional awareness promote emotional balance, build positive workplace relationships, and allow the implementation of coping mechanisms in the face of professional obstacles (Koroglu & Ozmen, 2022; Kuanr et al., 2025).
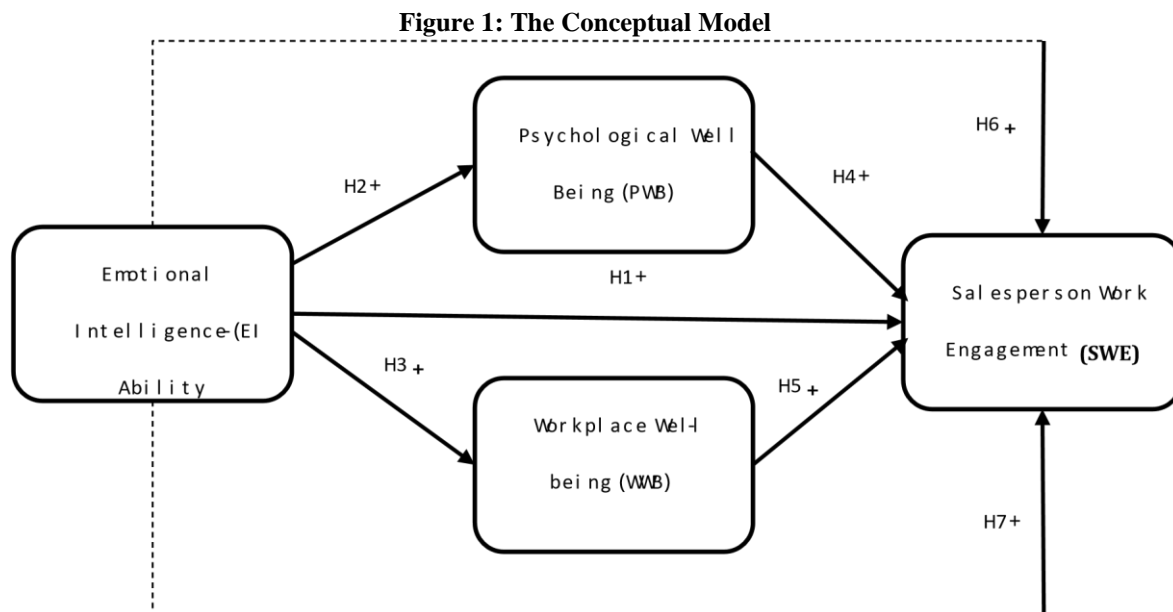
1.4 Workplace Well-Being

While earlier studies had established the positive impact of emotional intelligence on work engagement (Danquah, 2022; Mérida-López et al., 2023; Widowati & Satrya, 2023), essential theoretical and empirical shortcomings were found. Particular attention is needed to address the methodological lack in understanding how individual-level psychological resources act as mediators within this relationship (George et al., 2022; Mérida-López et al., 2023; Zheng et al., 2022). Early research has not adequately tackled the mediating mechanisms by which EI-Ability affects engagement, particularly of the consequent constructs like Psychological Well-Being (PWB) and Workplace Well-Being (WWB). This confusion calls for more in-depth insight into the mediating mechanisms underlying the emotional intelligence-work engagement relationship, in turn deepening the theory and the application of emotional intelligence in high-stress working environments.

In light of the theoretical interconnection between EI-Ability, psychological well-being (PWB), workplace well-being (WWB), and work engagement (WE), a number of critical gaps in research remain. First, although various individual relationships between these variables have been established in previous research, empirical research that explores PWB and WWB as mediating variables in the EI–WE model is surprisingly lacking. Second, the business-to-business (B2B) pharmaceutical industry, especially in the German environment, has not received adequate academic attention despite its environment being characterized by high-stakes client relationships, complex ethical challenges, and significant regulatory complexities (Böhm et al., 2017; Schiermeier & Mühlfelder, 2020).

2. GOAL OF STUDY

This study examines the extent to which EI-Ability shapes work engagement among sales representatives, with psychological well-being (PWB) and workplace well-being (WWB) as mediating variables in the pharmaceutical industry of Germany. The study centers on three main questions that dissect both direct and indirect relationships between EI-Ability and work engagement, along with expounding on the links between EI-Ability and work engagement through the mediating and predictive roles of PWB and WWB. Based on the conceptual model, we proposed to test the following hypotheses:

H1: EI-Ability positively influences work engagement among B2B salespersons in Germany's pharmaceutical products companies.

H2: EI-Ability positively affects psychological well-being among B2B salespersons in Germany's pharmaceutical products companies.

H3: EI-Ability positively affects workplace well-being among B2B salespersons in Germany's pharmaceutical products companies.

H4: Salespersons' psychological well-being positively influences their work engagement in Germany's pharmaceutical products companies in the B2B sector.

H5: Salespersons' workplace well-being positively influences their work engagement in Germany's pharmaceutical products companies in the B2B sector.

H6: Psychological well-being mediates the correlation between EI-Ability and work engagement among salespersons in Germany's pharmaceutical products companies in the B2B sector.

H7: Workplace well-being mediates the correlation between EI-Ability and work engagement among salespersons in Germany's pharmaceutical products companies in the B2B sector.

Figure 1: The Conceptual Model

H1: EI-Ability positively influences work engagement among B2B salespersons in Germany's pharmaceutical products companies.

H2: EI-Ability positively affects psychological well-being among B2B salespersons in Germany's pharmaceutical products companies.

H3: EI-Ability positively affects workplace well-being among B2B salespersons in Germany's pharmaceutical products companies.

H4: Salespersons' psychological well-being positively influences their work engagement in Germany's pharmaceutical products companies in the B2B sector.

H5: Salespersons' workplace well-being positively influences their work engagement in Germany's pharmaceutical products companies in the B2B sector.

H6: Psychological well-being mediates the correlation between EI-Ability and work engagement among salespersons in Germany's pharmaceutical products companies in the B2B sector.

H7: Workplace well-being mediates the correlation between EI-Ability and work engagement among salespersons in Germany's pharmaceutical products companies in the B2B sector.

3. METHODS

3.1 Participants and setting

To accomplish the objectives of this study, a quantitative research design grounded in a positivist epistemological stance was adopted. The target sample comprised 375 frontline sales representatives employed in German pharmaceutical companies operating in the B2B sector. Ultimately, 344 responses were retrieved. Following data screening procedures, specifically, the identification and removal of four multivariate outliers based on Mahalanobis distance, the final dataset consisted of 340 valid responses.

The 340 sales representatives working for pharmaceutical firms based in Germany operating in the B2B market in North Rhine-Westphalia. As observed, a remarkable percentage of the sample, i.e., 83.5%, was males; these males were predominantly youthful professionals aged between 25 and 40, of whom 64.7% were married. Information on educational level, service tenure for sales representatives working for B2B pharmaceutical firms, and other professional information are shown (see Table 1).

Table 1: The Information of Respondents' Profile (n= 340).

Item	Category	Frequencies	Percentage

Gender	Male	284	83.5
	Female	56	16.5
	25-30 Year	63	18.5
	31-35 Year	99	29.1
	36-40 Year	65	19.1
	41-45 Year	59	17.4
	46-50 Year	46	13.5
Age Group	Over 50 Year	8	2.4
	Single	102	30.0
	Married	220	64.7
Social Status	Divorced/Widowed	18	5.3
	Diploma	143	42.1
	Bachelor	150	44.1
	Master	42	12.4
Education Level	Doctorate	5	1.5
	3-5 years	56	16.5
The length of work as a salesperson in the B2B pharmaceutical firms.	6-10 years	112	32.9
	11-15 years	102	30.0
	More than 15 years	70	20.6
The Current Position	Non-Executive Level	310	91.2

Executive Level	30	8.8

3.2 Measures

To assess study constructs, the study utilized psychometrically valid scales that were previously validated from literature.

All the constructs were operationalized on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

3.2.1 Emotional intelligence ability

Emotional intelligence ability (EI-Ability) was assessed from the 16-item Wong and Law Emotional Intelligence Scale (WLEIS), which was launched way back in 2002. As detailed from the scale, EI is a second-order construct that is comprised of four interrelated dimensions: "self-emotion appraisal (SEA), others' emotion appraisal (OEA), use of emotion (UOE), and regulation of emotion (ROE)." Some of the sample items are: "I always know whether or not I am happy," "I am a good observer of others' emotions," "I would always push myself to try my best," and "I am quite capable of controlling my own emotions." In the present study, we obtained a Cronbach's alpha reliability coefficients of 0.84 for SEA and 0.83 for OEA, UOE and ROE.

3.2.2 Psychological and workplace well-being (PWB)

Psychological well-being (PWB) and workplace well-being (WWB) were taken from a validated scale of Pradhan and Hati (2022), which consists of 8 items for PWB (e.g., "I feel I am a sensible person") and 9 items for WWB (e.g., "I attach a lot of value to my work"). In the present study, we obtained high Cronbach's alpha reliability coefficients of 0.87 SPWB for and 0.92 for SWWB. 3.2.3 Work engagement

Work engagement (WE), finally, was taken from the Utrecht Work Engagement Scale (UWES), which was conceptualized by none other than Schaufeli et al. (2002), that places engagement as a second-order construct comprised of three dimensions: vigor, dedication, and absorption. Some of the sample items are: "I am bursting with energy at work," "I am enthusiastically involved in my work," and "I am fully absorbed in my work." In the present study, we obtained Cronbach's alpha reliability coefficient of 0.88 for the SWE vigor scale, 0.87 for the SWE dedication scale and 0.77 for the SWE absorption scale.

3.3 Procedure

Ethical approval for this study was secured from the Lincoln University Ethics Committee. All participants consented to take part in the survey; they were informed about the purpose of the study and that participation was voluntary; they could also withdraw at any time without penalty. Participants were also assured of the confidentiality of their data.

4. DATA ANALYSIS

To achieve the predictive goals of the study, hypothesis testing was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM), namely through the use of SmartPLS version 3.3.3. Suitability of PLS-SEM for studies that emphasize model estimation, more particularly concerning predictivity, makes this approach well-suited for studies where hypothesis predictivity is more valuable than other features (Hair et al., 2021; Sarstedt et al., 2022). This methodology is well-suited to the objectives of the current study, including a study of the predictive impact of emotional intelligence (EI-Ability) capability, psychological well-being (PWB), and Workplace well-being (WWB) on work engagement (SWE) of sales personnel, with a further study of PWB and WWB as mediating roles. The methodology of PLS-SEM involves two major stages: the development of the measurement model and the development of the structural model. In the measurement model, aspects such as internal consistency, together with convergent and discriminant construct validity, are assessed. In a subsequent stage, the structural model is utilized to examine hypothesized relationships, evaluate the explained variance (R^2), and assess the predictivity of the model through the use of the Q^2 statistic.

5. RESULTS

5.1 Measurement Model Results

A full assessment of the reliability of measurement tools involves the testing of both their internal integrity and temporal stability. In line with the advice given by Hair et al. (2019), the current study conducted a thorough assessment of the measurement model through the testing of construct validity, convergent validity, and discriminant validity. As reported by Al Azzani et al. (2024), reliability refers to the extent to which the items being assessed do a good job of representing their respective latent constructs. Cronbach's alpha, a statistic which reveals the average correlation among the items of a certain construct, was employed to assess the measurement model's internal reliability (Alshammakh & Azmin, 2021; Meeker et al., 2022). In addition, composite reliability (CR) was used to evaluate the overall internal integrity of each latent variable, with a reliability of 0.70 being regarded as sufficient to indicate acceptable reliability (Lai, 2021; Hair et al., 2021). In the

current study, Cronbach's alpha values ranged between 0.77 and 0.92, whereas the CR measures were between 0.84 and 0.94; all of these were higher than the preset limits, hence supporting the internal reliability as well as the consistency of the constructs (Table 2). The reliability of individual items was further ascertained through the checking of indicator loadings, providing indications of the strength of links between the reflective constructs and the respective observed items (Hair et al., 2021). For the measurement process, the algorithm of Partial Least Squares (PLS) was used. The items PWB5, WWB2, and SWE-A1 had loading measurements less than the acceptable limit of 0.60 and were hence dropped to enhance the reliability of the constructs as well as ensure at least three indicators were available for every latent variable, as per the advice of Hair et al. (2021) and Sarstedt et al. (2022). The remaining items had loading values of more than 0.60, hence providing sufficient convergent validity at the construct level.

Furthermore, the final criterion used for testing the construct-level convergent validity is the Average Variance Extracted (AVE). It measures the extent how much the latent construct captures the related observed indicators' variance and can be computed as the average of the squared factor loading of the related indicators pertaining to the respective latent construct (Hair et al., 2021; Henseler & Schuberth, 2023). The criterion of 0.50 or more is broadly agreed upon as the standard of adequacy of convergent validity, distinguishing the fact that the construct captures more of the indicators rather than error variance (Hair et al., 2021). As can be observed from the case of Table 2, the values of all the pertaining AVE of the respective

study overcome the 0.50 criterion, hence affirming the adequacy of the measurement model in capturing the respective latent dimensions. These findings serve as empirical support to the model's convergent validity, adding credence to the fact that the indicators share much of the variance with the respective corresponding constructs.

Table 2: Construct Reliability and Convergent Validity (Loading and AVE) (after deleting some items)

Constructs	Dimension	Item	Loading (≥0.60)	Cronbach's Alpha (≥0.70)	CR (≥0.70)	AVE (>0.50)
Emotional Intelligence (EI-Ability)	*"Self-Emotion Appraisal (SEA)"*	SEA1	0.82			
		SEA2	0.87			
		SEA3	0.87			
		SEA4	0.71	0.84	0.89	0.67
	"Others' Emotion Appraisal (OEA)"	OEA1	0.84			
		OEA2	0.84	0.83	0.89	0.66
		OEA3	0.77			
		OEA4	0.79			
	"Use of Emotion (UOE)"	UOE1	0.70			
		UOE2	0.74	0.83	0.89	0.66
		UOE3	0.89			
		UOE4	0.90			
	"Regulation of Emotion (ROE)"	ROE1	0.74			
		ROE2	0.83	0.83	0.89	0.67
		ROE3	0.85			
		ROE4	0.85			
Salespersons' Psychological Wellbeing (SPWB)		PWB1	0.75			
		PWB2	0.86			
		PWB3	0.66			
		PWB4	0.80			
		PWB6	0.62			
		PWB7	0.79	0.87	0.90	0.57

| | | PWB8 | 0.76 | | | |

Salespersons' Workplace Wellbeing (SWWB)		WWB1	0.81	0.92	0.94	0.65
		WWB3	0.85			
		WWB4	0.81			
		WWB5	0.86			
		WWB6	0.87			
		WWB7	0.86			
		WWB8	0.65			
		WWB9	0.70			
Salespersons' Work Engagement (SWE)	*Vigour (SWE_V)*	SWE_V1	0.70	0.88	0.91	0.63
		SWE_V2	0.74			
		SWE_V3	0.86			
		SWE_V4	0.85			
		SWE_V5	0.82			
		SWE_V6	0.77			
	Dedication (SWE_D)	SWE_D1	0.76	0.87	0.91	0.66
		SWE_D2	0.80			

	SWE_D3	0.84			
	SWE_D4	0.87			
	SWE_D5	0.79			
	SWE_A2	0.66			
	SWE_A3	0.63			
	SWE_A4	0.79			
	SWE_A5	0.72			
Absorption (SWE_A)	SWE_A6	0.80	0.77	0.84	0.52

Having obtained convergent validity, the researchers proceeded to test the discriminant validity using the "HeterotraitMonotrait Ratio (HTMT)" approach. The method measures the level of discrimination of constructs through the exploration of the correlations of the inter-constructs and the intra-constructs (Hair et al., 2021; Henseler & Schuberth, 2023). As per the laid-down stipulations, the discriminant validity can be diluted if the values of HTMT exceed the limit of 0.90 (Bloomfield & Fisher, 2019; Hair et al., 2021). Table 3 reveals, all the calculated HTMT ratios are much less than the significant limit, hence conclusively establishing the fact that the measurement model's constructs are empirically different from each other.

Table 3: Discriminant Validity Results by HTMT

Constructs	OEA	ROE	SEA	SPWB	SWE-A	SWE-D	SWE-V	SWWB	UOE
OEA									
ROE	0.72								
SEA	0.87	0.69							
SPWB	0.77	0.78	0.72						
SWE-A	0.71	0.68	0.65	0.76					
SWE-D	0.45	0.54	0.39	0.54	0.35				
SWE-V	0.82	0.77	0.76	0.81	0.83	0.48			
SWWB	0.73	0.76	0.68	0.83	0.69	0.42	0.76		

| UOE | 0.76 | 0.75 | 0.73 | 0.81 | 0.71 | 0.48 | 0.85 | 0.72 | |

Following the rigorous testing of the measurement model in the aspects of items loading, convergent validity (as indexed through the AVE and the HTMT methods), the findings affirm the presence of strong convergent as well as discriminant validity of the employed constructs. Figure 2 presents a diagrammatic representation of the overall measurement model, which has been tested through the PLS algorithm, portraying the Path Coefficients, the Indicator Loadings, and the R^2 values of significant importance in the model setting.

Figure 2: The Comprehensive Measurement Model Results
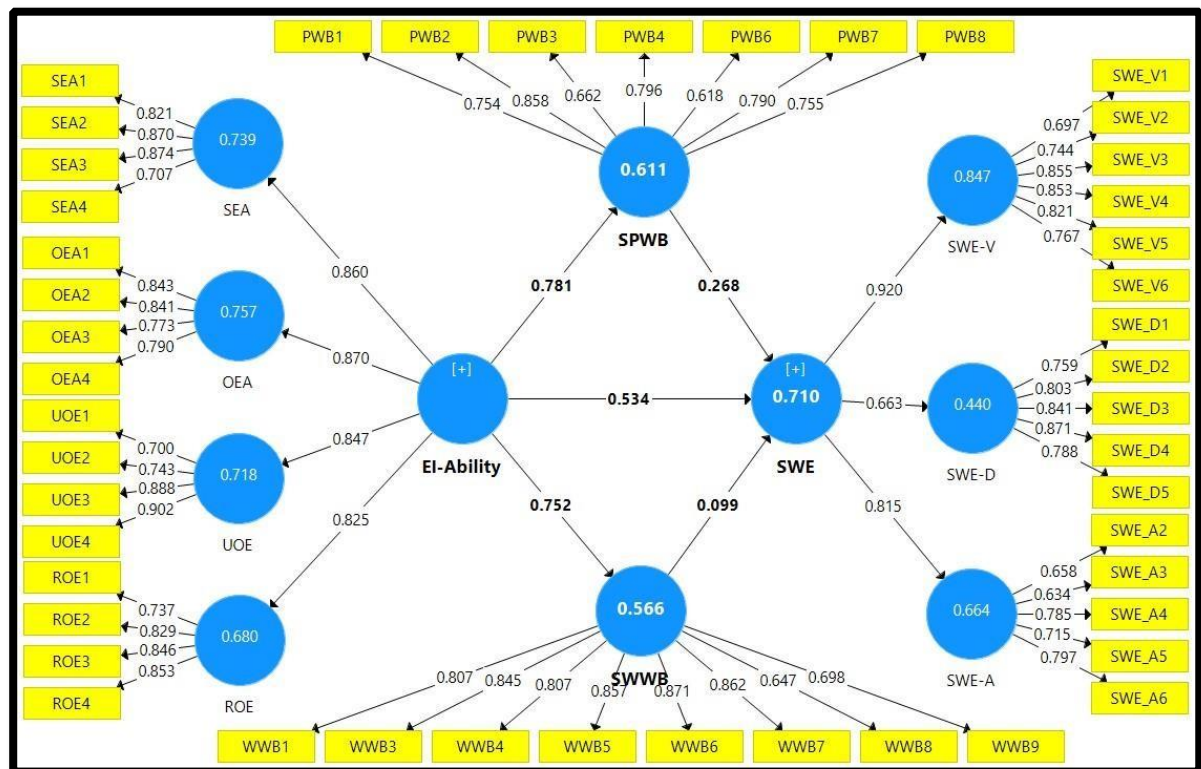
5.2 Structural Model Assessment

In the current section, the validity and predictive ability of the previously developed structural model were evaluated using SmartPLS version 3.3.3. For the identification of the statistical significance of the postulated relationships, bootstrapping processes were performed using 5,000 resamples along with one-tailed blindfolding methods. Several constructs were investigated in the current study, i.e., emotional intelligence (EI-Ability), psychological well-being (SPWB), workplace wellbeing (SWWB), and work engagement (SWE) among B2B salespersons in Germany's pharmaceutical products companies. The following were the required statistical measures used: path coefficients (β), t-statistics, and p-values, as the significance thresholds were set at the levels of 0.05, 0.01, and 0.001.

5.3 Influence of emotional intelligence ability on SWE, SPWB and SWWB

Table 4 and Figure 3 illustrate the data, which exhibit significant support for the relationships postulated by the model. EI-Ability has positive effects on salespersons' work engagement (SWE), psychological well-being (SPWB), and workplace well-being (SWWB) in Germany's pharmaceutical products companies, as expressed by the measures $\beta = 0.534$, t = 8.825, $p < 0.001$, $\beta = 0.781$, t = 38.151, $p < 0.001$, and $\beta = 0.752$, t = 27.958, $p < 0.001$, respectively. Additionally, salespersons' psychological and workplace well-being positively and significantly contribute to their work engagement ($\beta = 0.268$, t = 4.047, $p < 0.001$ for SPWB; $\beta = 0.10$, t = 1.744, $p < 0.05$ for SWWB). These findings give strong support to the validation of H1 through H5.

Table 4: The Direct Hypotheses Results

Hypo-NO.	Direct Hypothesis	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
H1	EI-Ability -> SWE	0.534	0.061	8.825	0.000	Supported
H2	EI-Ability -> SPWB	0.781	0.020	38.151	0.000	Supported
H3	EI-Ability -> SWWB	0.752	0.027	27.958	0.000	Supported
H4	SPWB -> SWE	0.268	0.066	4.047	0.000	Supported
H5	SWWB -> SWE	0.099	0.057	1.744	0.041	Supported

In addition, the R^2 statistic captures the degree to which the dependent variable's variance is explained by independent variables. Models possessing low R^2 values are associated with too limited a capability for explaining substantively; broadly speaking, R^2 values less than 0.10 are considered inappropriate for explaining the associated endogenous variable's variance (Falk & Miller, 1992; Urbach & Ahlemann, 2010). According to Cohen (1988), if the R^2 value exceeds 0.26, the model enjoys substantial explanatory ability. The results reported in Figure 2 and Table 5 support the finding that the R^2 output of the current study indicates the independent constructs of EI-Ability, SPWB, and SWWB together explain 71 percent of the overall variance of SWE, whereas EI-Ability explains 61 percent of the SPWB and 57 percent of the SWWB variance in the pharmaceutical enterprises of Germany. It emphasizes the strong explanatory ability of the applied model. Moreover, the effect of latent variables upon the dependent variable was assessed using the f^2 analyses, providing a complement to the R^2 evaluations (Hair et al., 2012). According to Cohen (2013), whereas the p-values indicate the presence of an effect, they fail to report the size of the effect. Therefore, f^2 values were utilized to report the effect sizes, as follows: small (0.02 to 0.15), medium (0.16 to 0.35), and large (> 0.35). In line with the results of Table 5, the estimated effect sizes of the influences of EI-Ability, SPWB, and SWWB upon SWE of the German pharmaceutical industry were 0.32 (moderate), 0.10 (small), and 0.03 (small), respectively, whereas the effect sizes corresponding to the influences of EI-Ability upon SPWB and SWWB were evaluated at 1.57 (large) and 1.30 (large), respectively. Finally, the values of the applied Q^2 were also calculated through the blindfolding approach. Values of the Q^2 reported in Table 6 demonstrate the outstanding predictability of the model, which exceeded the significance limit of 0.0000 set by Hair et al. (2021).

Table 5: R^2 Values and Impact Size f2

Construct	R^2	Effect Size (f^2)	Result
Salespersons' Work Engagement (SWE)			
EI-Ability	0.71	0.32	Moderate
SPWB	0.71	0.10	Small
SWWB	0.71	0.03	Small
Salespersons' Psychological Well-Being (SPWB)			
EI-Ability	0.61	1.57	High
Salespersons' Workplace Well-Being (SWWB)			
EI-Ability	0.57	1.30	High

Table 6: Predictive Relevance (Blindfolding) Q²

Endogenous Construct	SSO	SSE	Q² (=1-SSE/SSO)	Predictive Relevance
Salespersons' Work Engagement (SWE)	5440	3929.251	0.278	Moderate
Salespersons' Psychological Well-Being (SPWB)	2380	1571.437	0.340	Moderate
Salespersons' Workplace Well-Being (SWWB)	2720	1738.902	0.361	High

5.4 SPWB and SWWB mediation of EI-Ability and salespersons' work engagement

Mediation analysis was conducted using the bootstrapping procedure, using 5,000 subsamples at a 95% confidence level, where this methodology has emerged as more precise and reliable compared to conventional methodologies (Hair et al., 2021; Sarstedt et al., 2022). Following the methodology prescriptions given by Hair et al. (2021) and Zhao et al. (2010), the current study investigated the mediating roles of salespersons' psychological well-being (SPWB) and workplace well-being (SWWB) in the correlation between the EI-Ability and salespersons' work engagement (SWE) among pharmaceutical firms operating in the German B2B sector. The empirical results, provided in Table 7, provide strong support that SPWB and SWWB do significantly mediate the EI–SWE link. The bootstrapped indirect effect of SPWB ($\beta = 0.21$, $t = 4.00$, $p < 0.001$) and of SWWB ($\beta = 0.10$, $t = 1.72$, $p < 0.05$) were statistically significant, as the respective 95% bootstrap confidence intervals for SPWB (0.128 to 0.299) and SWWB (0.010 to 0.151) did not overlap at zero, consequently supporting hypotheses H6 and H7. Additionally, as can be seen from the results given in Table 4, the direct effect of EI-Ability upon SWE remained statistically significant, providing the result that SPWB and SWWB serve as partial mediators. Figure 3 graphically depicts the results of bootstrapping, outlining the structural relationships among the variables.

Table 7: The Indirect Hypotheses Results

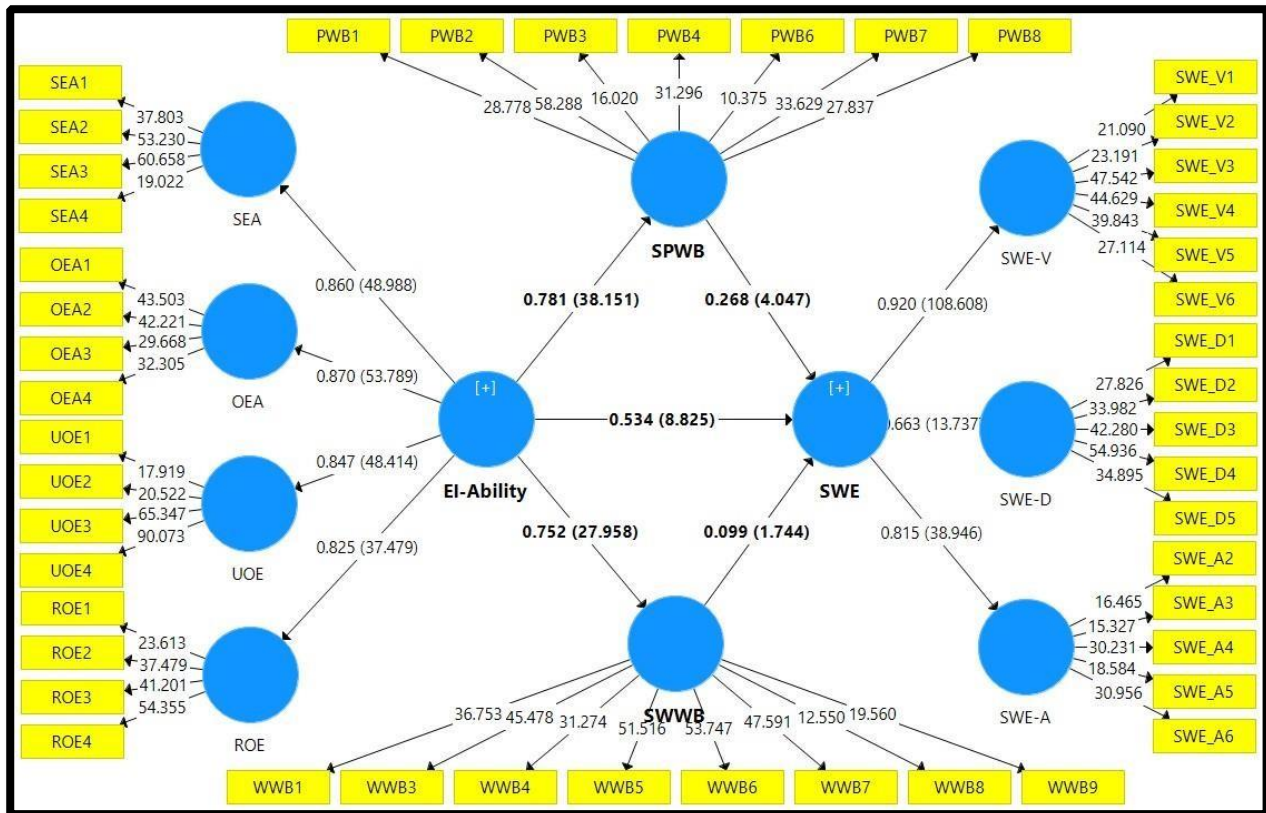| No	Hypothesis	Std Beta	Std Error	T Values	P Values	BCILL 5%	BCIUL 95%	Decision
H6	EI-Ability -> SPWB -> SWE	0.21	0.052	4.00	0.000	0.128	0.299	Supported
H7	EI-Ability -> SWWB -> SWE	0.10	0.044	1.72	0.043	0.010	0.151	Supported

Figure 3: PLS bootstrapping Outputs

6. DISCUSSIONS

This investigation presents strong empirical evidence of the significant effect of emotional intelligence ability (EI-Ability), consisting of the appraisal of emotions at the self-level, the evaluation of others, the use of emotions, and the regulation of emotions, upon work engagement (SWE) of B2B pharmaceutical salespersons operating in Germany. Adopting the Job Demands-Resources (JD-R) model, the findings provide evidence that EI-Ability represents a significant personal resource enhancing direct and indirect engagement through salespersons' psychological well-being (SPWB) and workplace well-being (SWWB). The direct link, determined between EI-Ability and SWE ($\beta = 0.534$), explains that B2B pharmaceutical salespersons characterized by high levels of emotional intelligence are more skillful at handling the cognitive and affective demands characteristic of the complex B2B settings, thereby supporting active engagement even in industries of strong competition and of high regulation requirements. The study also shows that EI-Ability significantly predicts SPWB ($\beta = 0.781$) and SWWB ($\beta = 0.752$), and the effect sizes are appreciably large (1.57 and 1.30, respectively). The result highlights the role of emotional competencies, such as the aspects of emotion regulation and constructive utilization of emotions, as critical components in the building of psychological well-being as well as contentment in the workplace. This finding accords with past literature that emphasizes the role of EI in preventing burnout and enhancing the state of well-being (Kumar & Potnuru, 2022; Senćanski et al., 2024b). It is notable that SPWB emerged as a superior mediator ($\beta = 0.21$) to SWWB ($\beta = 0.10$), suggesting that individual-based factors of inner emotional stability and personal satisfaction are more significant than environmental/organizational influences in understanding engagement. The findings are theoretically consonant with the JDR model, insofar as personal resource factors are self-reinforcing and frequently more resilient than the job-level resource factors in the presence of pressures/stressors (Bakker & Albrecht, 2018).

The weaker predictive effect of SWWB on SWE (0.10), despite its strong correlation with EI-Ability, can be explained by the fact that B2B sales roles are often performance-driven and autonomy-oriented. In such roles, internal motivation and emotional competence may outweigh structural or social aspects of the work environment in determining engagement (Dugan et al., 2023; Kemp et al., 2025). Moreover, the indirect effects of SPWB and SWWB on EI-SWE correlation were statistically significant but lower than the direct effect of EI-Ability, indicating that while well-being enhances engagement, the influence of EI-Ability is not fully dependent on these mediators. This partial mediation reflects the multidimensional impact of EIcapable of both fostering well-being and directly influencing goal-directed behavior and task involvement. This study is

unique in its integration of EI-Ability, SPWB, and SWWB within the pharmaceutical B2B sales context, an underexplored domain in engagement research. Finally, the high R² value (0.71 for SWE) confirms the model's strong explanatory power and its relevance to managerial interventions aimed at boosting salesperson engagement through emotional intelligence training and psychological well-being support systems.

6.1 Implications, limitations, and future research recommendations

6.1.1 Theoretical Implications

This research makes a necessary input into the theory of the JD-R model by including EI-Ability as one of the most prominent personal resources of indirect and direct impacts upon salespersons' work engagement (SWE). Making distinctions between psychological well-being (SPWB) and workplace well-being (SWWB) as simultaneous mediators, the research provides an enriched picture of the JD-R framework motivational process. While partial mediation is empirically supported, the latter refers to a double-pathway model where EI-Ability acts as an inducer of interior psychological conditions as well as external workplace conditions, whose impact is strengthened engagement. Conventionally, research has considered an assumption of a unitarian view of well-being; here, the latter is deconstructed into interior and contextual modes, and an enriched picture of employee engagement mechanisms is provided. In an alternative interpretation, findings confirm the hypothesis of the JDR model of personal resources, along with protection from job demands, as supporting proactivity of motivation as well as performance outcomes. Strong explanatory power of the model, as empirically confirmed, asserts the significance of these variables as organizational motivation as well as welfare predictors of the high-demand world, most of all the world's developed world's B2B market.

6.1.2 Practical Implications

In practice, the results give actionable take-aways for human resources development, more specifically under the emotionally taxing realities of pharmaceutical sales for the B2B market. For business executives and management of the pharmaceutical industries, there are several actionable strategies that emerge from the results. Firstly, EI-Ability must take Center stage for recruitment, for leadership development, and for training programs. As of key psychological and workplace welfare value, EI development of salespeople can generate an intervention of high leverage for sustainable engagement. Secondly, by creating conceptual understanding of psychological and workplace wellbeing, organizations are advised to use a double focus: accomplishing personal balance of emotions, as well as establishing an encouraging workplace environment. Mental health-promoting intervention (e.g., mindfulness, pressure management) needs complementation by efforts constructing workplace conditions (e.g., workplace autonomy, acknowledgement, colleague support). Thirdly, due to partial mediation, organizations are advised to use an integrated model of development, building wellbeing and EI jointly, rather than treating them as discrete problems of HR. Doing so, companies can engineer workplace environments that are enriched psychologically and promote employee vitality, intrinsic motivation, as well as longer term productivity, most especially where work is pressure-intensive, as for salespeople of pharmaceutical companies.

6.1.3 Limitations and Future Research Recommendations

Though providing substantial insights, the current study does have its fair share of limitations that present prospects for future researchers. Firstly, results are only based on sales representatives working within the B2B pharmaceutical market of North Rhine-Westphalia, Germany, and thereby disregarding external generalizability of results. Future researchers would need to broaden the focus to include different occupations, industries, and geographical sites for the purpose of external validity. Secondly, use of a cross-sectional design does not permit inferring causal associations or temporal processes. Researchers would do well to use longitudinal research for exploring persistence and directional features of associations between EIAbility, SPWB, SWWB, and work engagement (SWE) across time. Thirdly, replication of the model across developed and developing countries or cross-country comparisons may provide us with context-specific insights. Finally, because only SPWB and SWWB have been studied as mediators, future researchers would also need to examine other mechanisms, such as subjective well-being and employee resilience, so as to portray, in greater nuance, processes by which EI influences SWE.

7. CONCLUSION

This study investigates an under-researched phenomenon and offers an elaborate model that tests the central role of EIAbility for building salespersons' work engagement (SWE) of pharmaceutical companies operating under Germany's business-tobusiness (B2B) market under the JD-R model. Our validated model shows that EI-Ability has substantial predictive power for SWE and indirectly, through psychological (SPWB) and workplace (SWWB) wellbeing as partial mediators. All seven espoused relations (H1-H7) are supported. The model accounts for 71% of the variance for SWE, 61% for SPWB, and 57% for SWWB, and large effect sizes for EI-Ability's effects on wellbeing. These results place EI-Ability as an indispensable psychological resource that can unlock work engagement, building occupational and personal well-being for workers under business-to-business sales' excessive demands.

10 Funding statement

Author Contributions

The authors confirm contribution to the paper. All authors reviewed the results and approved the final version of the manuscript.

12 Ethics Approval

Ethical approval for this study was secured from the Lincoln University Ethics Committee. All participants consented to take part in the survey; they were informed about the purpose of the study and that par-ticipation was voluntary; they could also withdraw at any time without penalty. Participants were also assured of the confidentiality of their data.

13 Conflict of interest

No conflict of interest is associated with this current study.

14 Data availability

Data used in this study are available from the corresponding author upon request.

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