

## A Dimensional Approach to Assess Emotional Wellness: Reliability and Validity of a Modified Emotional Wellness Scale (EWS)

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**Abstract:** The study aims to adapt and validate a measurement tool for emotional wellness, specifically focusing on its multidimensional structure. The study was conducted by using online survey method with a sample size 356 white-collar employees from selected service sectors in Ethiopia. Primary data was gathered using a modified 16-item structured emotional wellness questionnaire. Exploratory Factor analysis (EFA) and confirmatory factor analysis (CFA) was conducted to test the validity of EWS. Cronbach alpha and item-total score correlation was used to analyse the reliability of the EWS. The EFA showed that the EWS has a two-factor structure, with 14 items accounting for 52.2% of the total variance, indicating a valid factor structure. The sub-dimensions were identified as "Emotional Management" and "Emotional Awareness.". Confirmatory Factor Analysis (CFA) supports the two-factor model, with excellent fit with various statistical indices (CIMN ( $X^2/ df=1.86$ ), RMSEA =0.052, SRMR = 0.049, CFI= 1.000, NFI= .996, GFI =.997 and RFI= .995). The scale's reliability is confirmed through the Cronbach Alpha internal consistency coefficient, with an overall score of  $\alpha= 0.922$  and with sub-dimensions scoring  $\alpha= 0.897$  and  $\alpha= 0.864$ , respectively. The scale's unique features demonstrate high discriminatory power, with a satisfactory correlation with the items' index score and a range of 0.527 to 0.723. The finding shows that the EWS is a reliable and theoretically sound tool for assessing emotional wellness. This measurement instrument has been exclusively evaluated on white-collar employees within select service sectors in Ethiopia. It requires further testing across diverse cultures, sectors, and larger sample sizes to ensure generalisability.

**Keywords:** Emotional Wellness, Scale Adaptation, Validity, Reliability.

### 1. Introduction

Wellness is a broad term that encompasses characteristics of physical, mental, and spiritual health as well as environmental, social, and professional factors. The relatively recent concept of wellness broadens our definition of health beyond the mere existence or absence of disease. According to Myers et al. (2000), there are various ways to define wellness, with the most often accepted definition being any behaviour that is focused on achieving optimal health. As cited in Owen and Çelik (2018), these behaviours include integrating body, mind, and spirit; pursuing personal objectives for a more meaningful existence; and leading an active life in all social, personal, and ecological domains (Guta, 2022: 119). The National Wellness Institution (NWI) claims that there are numerous definitions and applications of the term "wellness" throughout history and cultural contexts. The NWI summarizes these interpretations by defining wellness as a deliberate, self-directed, and ever-evolving process of realizing one's greatest potential (NWI, 2023).

Emotional wellness is widely recognized as a significant sub dimension of overall wellness metrics. It is believed that emotions play a major influence in our lives. Though we may not realize it, everyone feels emotions. Emotions can also exert control over us, leading us to act impulsively. Individuals frequently wish to conceal their feelings for a variety of reasons related to personal and societal conventions. Additionally, most people believe that managing their emotions is necessary to gain acceptance, appear reasonable, perform well, and lead successful lives. However, the fact that we are not only unaware of our emotions but also lack a thorough understanding of them makes it even more difficult to become mindful of them and regulate them effectively (Edara, 2021: 1).

The concept of emotional wellness is multifaceted. According to Hettler (1976), emotional wellness is an indication of a positive attitude toward life and the ability to regulate and accept one's feelings and actions. Accepting responsibility for personally fulfilling life management, acknowledging one's limitations, and asking for help when necessary are all indicators of emotional wellness. Relationships between emotionally healthy individuals are built on mutual respect, trust, and dedication. They embrace risks, difficulties, and the idea that conflict is a necessary component of development (Strout & Howard, 2012). The emotionally healthy person maintains a positive approach to life, based on a sense of personal responsibility and the ability to manage one's life in personally satisfying ways. In the modern workplace, employees must increasingly deal with long working hours, long commutes, and time spent away from family and friends. Success in business requires employees to manage and balance their emotional wellness. Employees have the opportunity to succeed and find fulfilment in the workplace, as well as the challenges, stress, risk of failure, and psychological costs that these entails. The attributes of emotional wellness in the workplace include a variety of factors, such as high functioning in all areas of life, meaningful psychological contact between the employee and the employer, sustained engagement and awareness, intellectual curiosity and desire, cognitive flexibility, strong collaboration and motivation to work, humility, a sense of connectedness to one's organizational culture and climate, and interpersonal/intrapersonal harmony.

The importance and sensitivity of employees' emotional wellness in terms of organizational success has once again become a focus of discussion and literature, especially with the emergence of COVID-19 (e.g., Owen and Kaymak, 2023; Fessel and Cherniss, 2020; Moon, 2021; Nikolis et al., 2021; Daud et al., 2020). The field's literature and measurement tools are also developing day by day. Despite the fact that there are many wellness models and scales, the concept of wellness and its components evolve over time, and efforts to find a measurement instrument that most closely aligns with the theoretical framework of emotional wellness never stop. The availability of multiple measurement scales has made measuring emotional wellness difficult for many researchers. Researchers faced challenges in selecting appropriate scales for evaluation due to inconsistent results, lack of standards, and accessibility issues. Some scales, such as the wellness evaluation of lifestyle, require payment for access, which can make them challenging to use. Since there is no standard scale designed to independently assess the emotional wellness dimensions, studies on emotional wellness (i.e., Owen and Kaymak, 2023; Benitti, 2019; Nakiboneka, 2018; Baldwin et al., 2017; Kaveh et al., 2016; Demirbaş-Çelik et al., 2016; Rahman et al., 2015; Evans, 2004; Hermon and Davis, 2004) generally use various measurement tools that are mostly developed to measure general wellness dimensions. Koslouski et al. (2023) state that the variety of terminology employed and the quantity of current metrics make it difficult to understand what each study is measuring (Koslouski et al., 2023). This is due to the fact that wellness is a complicated idea, and the quantitative wellness instruments now in use are unable to adequately capture this complexity. The quality of the conceptual frameworks that underpin the existing wellness evaluation tools determines how effective they can be; therefore, improving conceptual clarity would help to develop better wellness and its component metrics.

In this sense, measuring wellness dimensions is one of the significant and contemporary topics covered in the literature on the concept of wellness (Bart et al., 2018; Oguz-Duran & Tezer, 2009). Therefore, the purpose of this study is to adapt a measurement tool for emotional wellness by revealing its multidimensional structure and introducing a tool for evaluating emotional wellness and its sub-dimensions through validity and reliability test. The following questions were addressed in this systematic review of the published literature regarding the assessment and measurement of emotional wellness in order to pinpoint areas that require further research in order to advance the field: 1) Definition of emotional wellness and how it is conceptualized in the literature; 2) Which tools for measuring emotional wellness have been tested or used in organizational environments 3) To what extent are these wellness evaluation tools addressed to the major characteristics of emotional wellness, and 4) To what extent are these wellness evaluation tools accessible, dependable, and valid.

## 2. Literature Review

### 2.1 Definition of Emotional Wellness

In most cases, emotional wellness is seen as a subdimension of overall wellness. A person's emotional wellness can have a detrimental impact on their physical and mental health. It can also impair an individual's ability to cope with daily life and deal with change or uncertainty. We can view and study emotion from a variety of perspectives because it permeates every aspect of life. It is exceedingly difficult to define emotions precisely because they

simultaneously involve many different kinds of interdependent reactions, including physiological, cognitive, biological, relational, etc. Numerous academic disciplines have contributed to the development of multiple theories that aim to explain the evaluation and function of emotions. This has resulted in an evolving body of research on emotions. The primary theories include those pertaining to evolution, physiology, cognition, and assessment. However, Edara (2021) notes that researchers attempt to characterize and define emotions in connection to their various fields of study; as a result, the majority of definitions are incomplete since they only touch on a portion of the human experience (Edara, 2021: 1).

Emotional wellness is defined by Renger et al. (2000) as being related to a person's level of depression, anxiety, well-being, self-control, and optimism (Ohuruogu et al., 2019: 48). Strout and Howard (2012) on the other hand defined emotional wellness as the ability to accept personal responsibility for decisions in life and their consequences with emotional stability and positivity (Strout and Howard, 2012: 197). According to Powers, Dodd, and Jackson (2013), emotional stability is the foundation of emotional wellness and numerous disciplines have demonstrated that emotional stability significantly predicts success, leadership, and overall health (Cioffi, 2018: 40). Priebe (2018) claims that themes like optimism, self-efficacy, emotional awareness, coping mechanisms, stress management, positive humour, leisure activities, self-worth, and having a positive identity are all included in the emotional/psychological wellness domain in wellness models (Priebe, 2018: 40). Helliwell (2005) viewed emotional wellness as a continuous process involving awareness and management of feelings, and a positive outlook on oneself, the world, and relationships (Khatri, & Gupta, 2017: 288). Lo and Herman (2017) also defined emotional wellness as the awareness and acceptance of one's feelings, fostering positive self-perception and life enthusiasm. It also involves the ability to manage feelings and related behaviours, including realistic assessment of limitations (Lo and Herman, 2017).

Hettler (1976) on the other hand, asserted that emotional wellness reflects a positive approach to life. The capacity to control and accept feelings and actions is known as emotional wellness. Being aware of one's limitations, accepting responsibility for living a personally fulfilling life, and asking for help when necessary are all indicators of emotional wellness (Hettler, 1976). People who are emotionally healthy don't stop at building relationships that are dependent on one another and are founded on mutual respect, trust, and commitment; they also take chances, solve problems, embrace conflict as a necessary part of life, and accept the challenges they confront (Strout and Howard, 2012: 197). In addition to being conscious of and tolerant of one's own feelings, Schafer (2012) states that the dimension of emotional wellness acknowledges the importance of having positive attitudes towards oneself and life, as well as being aware of and accepting one's own emotions. It also emphasizes the importance of controlling one's own emotions and actions in light of one's own advantages and disadvantages. A person with good emotional health can continue to interact with other people satisfactorily (Schafer, 2012: 31). As per the National Committee on Workplace Emotional Wellness (2010), emotional wellness is characterized by an individual's comprehension of their capabilities, ability to manage stress and energy levels optimally, ability to maximize commitment, and sense of control over their surroundings. In the modern workplace, employees must increasingly deal with long working hours, long commutes, and time spent away from family and friends (Finch and Krackowsky, 2010).

Success in business requires employees to manage and balance their emotional wellness. Building and sustaining a healthy work environment where people may thrive is at the centre of the broad and growing idea of workplace wellness. Putting workplace health policies into practice is essential because it fosters a supportive, secure, and cooperative work environment where people can give their all. Barsade and O'Neill (2016) state that while most leaders concentrate on how employees think and behave, emotions play an equally significant role. They point out that organizations frequently overlook the role emotions play in fostering a positive workplace culture. Instead, they emphasize cognitive culture—the body of intellectual norms, presumptions, and standards that together provide the broad framework for how workers think and act in the workplace. Barsade and O'Neill contend that emotional culture affects "hard" metrics like financial performance and absenteeism as well as teamwork, burnout, and employee happiness. Hence, when managers overlook it or don't get it, they're missing out on an essential aspect of what makes businesses function, and their firms suffer as a result (Barsade & O'Neill, 2016). However, finding a measurement tool that most closely fits the theoretical framework of emotional wellness of employees in the workplace has become a constant endeavour as the importance and sensitivity of employees' emotional wellness to organizational success has become a focal point of discussion.

## 2.2. Assessing Emotional Wellness

According to LaFountaine, Neisen, & Parsons (2006), there is an active search and effort in the literature to find a tool to measure holistic wellness and its dimensions, as research in this field has evolved over time and the number of measurement tools has increased (LaFountaine et al., 2006). Although there are many written sources confirming the validity of the perceptual approach to emotional wellness, there is not yet enough empirical data to draw a definitive conclusion. Empirical research however, reveals that wellness measurement tools may not always be effective in all specific, well-defined situations (Schafer, 2012). This is because theoretically grounded and empirically reliable measures of wellness in general, as well as the emotional wellness dimension in particular, are lacking (Roscoe, 2009). Rachele et al. (2013) indicated that two common types of measures are used to assess wellness: unidimensional and multidimensional measures. Unidimensional wellness measures use items that rate a general sense of wellness, such as a Likert scale or visual analogue scale, and these measures do not allow for detailed evaluation of each dimension of wellness. Historically, this approach has been used in healthcare organisations to evaluate the effects of treatments. Multidimensional wellness measures have the advantage over unidimensional measures in that they provide detailed information about an individual or group. While these instruments provide multidimensional assessments of wellness, they are also likely to carry a higher participant and administrator burden than unidimensional wellness measures due to the long nature of the scale (Rachele et al., 2013). When we came to the emotional wellness dimension prior studies examined emotional wellness from a variety of angles. Previous studies have explored emotional wellness from various perspectives, with some utilizing multidimensional analysis to evaluate this dimension, despite most being unidimensional.

### 2.2.1. Uni dimensional approach to assess Emotional Wellness

Previously, as a result of the numerous wellness models, various measurement tools have been developed that can be used to assess different dimensions of wellness. According to Oguz-Duran & Tezer, (2009), the most prevalent measures include the Lifestyle Assessment Questionnaire (LAQ), Test-Well (National Institute of Healthy Living, 1988), the Wellness Index by Travis and Ryan (1988), and the Wellness Evaluation of Lifestyle developed by Myers, Witmer, and Sweeney (1996). These tools aim to provide a comprehensive understanding of holistic wellness (Oguz-Duran & Tezer, 2009). Among the scales that assess the dimension of emotional wellness Uni-dimensionally is the Perceived Wellness Survey (PWS) developed by Adams, T., Bezner, J., & Steinhardt, M. (1997), Optimal Living Profile (OLP) developed by Renger et al. (2000), Body-Mind-Spirit Wellness Behaviour and Characteristic Inventory (BMS-WBCI) developed by Hey et al. (2006) and the Five (5F-Wel) and Four-factor WEL (4F-Wel) developed by Myers, J. E., Luecht, R. M., & Sweeney, T. J. (2004).

The Perceived Wellness Survey (PWS) is a 36-item, multidimensional questionnaire scored on a six-point Likert scale. The PWS assesses social, spiritual, physical, intellectual, emotional, and psychological dimensions of well-being. Six items were used to measure emotional wellness. The Optimal Living Profile (OLP) developed by Renger et al. (2000). This assessment tool includes measures that evaluate intellectual, emotional, social, spiritual, physical and environmental health dimensions. The emotional wellness dimension is measured by using 21 items. The Body-Mind-Spirit Wellness Behaviour and Characteristic Inventory (BMS-WBCI), on the other hand consists of three sub-dimensions. The first sub-dimension, "Body," includes nine items related to risky physical wellness behaviours. The second sub-dimension, "Mind," includes 20 items representing intellectual, social, emotional, and vocational aspects of wellness. The final subdimension, "spirit," includes 15 items covering spiritual, occupational, and emotional aspects. The Mind and Spirit sub-dimensions include emotional wellness statements, but it's unclear which statement corresponds to which dimension.

### 2.2.2. A multi-dimensional approach to assess Emotional Wellness

Certain studies have employed multi-dimensional analysis to evaluate emotional wellness. The Lifestyle Assessment Questionnaire (LAQ) is one of the scales employed for a multidimensional evaluation of emotional wellness. Baldauf (1991) utilises the LAQ- 5th Edition (National Wellness Institute, 1989) to examine a sample of adult males and females following a "wellness lifestyle" to determine if a correlation exists between this lifestyle and the psychological constructs of self-actualization and self-concept. According to Baldauf (1991) the LAQ- 5th Edition was initially created by Hettler in 1976 as a component of the health promotion program at the University of Wisconsin-Stevens Point. The LAQ comprises four sections and one of them is wellness inventory section which



outlines the current lifestyle and wellness level across six dimensions: physical, social, emotional, intellectual, occupational, and spiritual and respective subcategories (Baldauf, 1991). The physical and emotional aspects of wellness are categorised into subcategories. The subcategories of the emotional dimension include emotional awareness and acceptance, as well as emotional management. The emotional awareness and acceptance dimension is assessed using 32 items, while the emotional management sub-section is assessed with 24 items. Despite Baldauf's (1991) assertion that Lifestyle Assessment Questionnaire (LAQ) and emotional wellness subscales exhibit high reliability (i.e. Emotional Awareness  $\alpha = .94$ , and Emotional Management  $\alpha = .89$ ), the frequent revisions and various version of this scale (e.g., Test-Well: Wellness Inventory—High School Edition (TWI[HS])), along with the challenges of accessibility and associated costs, pose significant barriers to its utilisation. Moreover, according to Palombi (1992), neither the instrument's manual nor details on the samples that were used to make it are accessible (Roscoe, 2009: 222).

On the other hand, Stewart (1998), in his reliability and validity examination of the Test-Well Measurement Scale High School Edition (TWI[HS]), noted that the authors examined the emotional wellness component under two sub-dimensions i.e. Emotional Awareness and Sexuality and Emotional Management (Stewart, 1998: 33). When evaluating the two dimensions in this Test-Well, specifically the expressions in the first sub-dimension, the emotional awareness section is entirely related to sexuality and is solely used to assess sexuality awareness. Emotional awareness is a crucial aspect of overall emotional wellness and his approach differs from the general descriptions and traits of emotional awareness, which focus on understanding and articulating one's own emotions and those of others. The emotional management section contains 10 statements, primarily focusing on emotional management, but some are difficult to directly relate to this aspect, such as enjoying life and managing time well.

Conversely, Rahman et al. (2015) examined the emotional wellness of medical students utilising a structured questionnaire derived from the wellness wheel and identified four dimensions. Rahman et al. (2015) initially tried to explain a two-dimensional perspective of emotional wellness, namely emotional awareness and emotional management. However, through factor analysis conducted in Pakistan, they identified a four-dimensional structure. These dimensions were identified as self-satisfaction, dependency, anxiety and moody. When we evaluated these dimensions, the moody dimension had only one item and this contradicts the assumption in the literature that sub-dimensions should be assessed using at least two items (Durmuş et al., 2016), which invalidates the four-factor structure.

As indicated by previous studies, our literature review also shows that there is a variation in what wellness measures in general and emotional wellness in particular. Although these measurements are more detailed, they do not encompass every aspect presented in the concept of emotional wellness. Despite the use of existing tools, a comprehensive approach is needed to measure emotional wellness effectively. In general, Roscoe (2009) draws attention to the dearth of empirically valid and theoretically supported measures of total wellness, especially the emotional wellness component. Consequently, a theory-based, psychometrically sound assessment tool that gauges people's subjective emotional wellness needs to be used to measure emotional wellness. Having a standard assessment tool will help organisations measure their progress towards their wellness goals and create development plans by highlighting the advantages and disadvantages of current wellness initiatives and providing a better understanding of employees' emotional wellness. Taking this into account, the researcher aims to fill this gap by conducting a validity and reliability analysis of a scale called the "Emotional Wellness Scale (EWS), adapted from currently used scales to assess emotional wellness. Below, the numerous statistical analyses conducted in this pilot study, along with the methodology used in the adaptation and modification of this new scale, are presented.

### 3. Research Method

In this study, the quantitative method was used as the research method. Primary data was gathered using a modified 16-item structured emotional wellness questionnaire. Exploratory and confirmatory factor analysis was conducted to test the validity of EWS. Cronbach alpha and item-total score correlation was used to analyse the reliability of the EWS. The main population of the study was determined as white-collar employees working in the service sector in Ethiopia.

### 3.1. Data Collection Instrument

The literature analysis shows that emotional wellness is interpreted in various ways and is not a single-dimensional concept. It primarily focuses on emotional awareness and management, suggesting a two-dimensional framework for developing an emotional wellness scale. Thus, the authors assume that the emotional wellness scale can be developed using a two-dimensional framework, i.e. "emotion awareness" and "emotional management". In doing so, we base our assumption based on Baldauf's (1991) view and different scales assessed above. Emotion awareness refers to the awareness of one's feelings, while emotional management involves controlling and expressing these feelings, and engaging in effective behaviours to manage them (Baldauf,1991: 143). An individual's awareness and management of emotions can enhance the physical, social, and spiritual wellness of employees by elevating morale, coping strategies, self-esteem, performance, work efficiency, and resilience against mental stress, depression, and anxiety (Rahman et al., 2015: 60).

While determining the scale items, a thorough literature review was conducted to identify scale items related to emotional wellness, incorporating insights from significant studies that specifically address the concept of emotional wellness (i.e. McElligott & Turnier, 2020; Benetti, 2019; Baldwin et al., 2017; Kaveh et al., 2016; Demirbaş-Çelik et al., 2016; Evans, 2005), and notable works in the field of wellness. Typically, once the two dimensions have been determined, the researcher looks for the optimum method of measuring these dimensions. The emotional wellness measurement scale and items are selected and structured based on certain criteria, and experts examined the related scales based on whether the scale has the intended quality to measure the dimensions, whether each item measures the desired behaviour, and whether the scale is appropriate for the groups to be applied. In order to ensure the content validity of the scale, researchers usually need to benefit from expert opinions on the subject matter (Özdemir, 2018: 67).

Finally, based on the above criteria, the instrument was adapted and patterned in part from the wellness assessment tool developed by the New York State Bar Association (NYSBA), which is used to measure the eight dimensions of wellness, and from Benitti's (2019) doctoral dissertation titled "Evaluating the perceptions and practices of the Emotional Wellness of Higher Education Leaders." According to Seymour and Bradbum (2004) "constructing a new scale by combining items from several existing scales is an acceptable practice" (Adams et al., 1997: 212). In addition, due to the variety of measures Campbell & Osborn (2021) advised researchers to strengthen or harmonise existing metrics rather than generate new ones (Koslouski et al. 2023: 4). Consequently, these measurement scales and items were chosen primarily due to the scales have clearly stated statements regarding the dimensions to be assessed, their perceived capability to measure the intended behaviour, and their appropriateness for the target group. Additionally, certain items from the initial pool were excluded as they were deemed contextually irrelevant to the scale.

**Table 1. Source of Emotional Wellness Scale (EWS)**

No	Source of Measurement Scale	Prepared by	No Items used/ no item in the scale	Emphasis
1	Evaluating the perceptions and practices of the emotional wellness of higher education leaders	Benitti, P. (2019). (Doctoral dissertation)	7/8	Emotional Awareness
2	Wellness assessment scale	New York State Bar Association (NWSBA)	9/10	Emotional Management

As mentioned above a 16-item assessment tool (Emotional Wellness Scale - EWS) was adapted from wellness assessment scale of NWSBA and Bennitti (2019) as shown in Table1. The instrument is intended to monitor the emotional wellness perception of employees.

### 3.2. Data Collection Process

Primary data was gathered using a modified 16-item structured emotional wellness questionnaire. The scale is a 5-point Likert-style scale, ranging from "strongly disagree" (1) to "strongly agree." (5). The study's research instrument is divided into two sections: Part I, which includes respondents' demographic profile, and Part II, which gathers information about employees' emotional wellness. Data was collected from participants by using Online questionnaires (Google Form). Data collection was carried out between May and August, 2024.

### 3. 3. Population and Sample Selection

The study group is made up of white-collar employees working in the service sector in Ethiopian. The sample size is determined using the item-to-participant ratio (N/p). While Field (2005) and Tabachnick & Fidell (1996) agree that a sample size of 300 is sufficient for factor analysis, Kline (1994) suggests reducing this number to 100 when the factor structure is small and clear. Nevertheless, larger samples yield better results (Kagaari et al., 2010; Field, 2005; Büyüköztürk, 2002; Tabachnick and Fidell, 1996; and Kline, 1994). For this study, the item/participant ratio was established at 1:20. Consequently, a sample size of greater than 300 respondents are needed for the 16-item survey. The sample size for the study comprises 53.9% (n = 192) male and 46.1% (n = 164) female. In terms of age, 49.7% (n = 177) of the participants were between the ages of 21-30, 35.7% (n = 127) were between the ages of 31-40, 9.8% (n = 35) were between the ages of 41-50, 3.4% (n = 12) were between the ages of 51 and above, and 1.4% (n = 5) of the participants were under the age of 20. On the other hand, 54.5% (n = 194) of the participants were married, and 45.5% (n = 162) were single. When the education levels of the participants were examined, it was determined that 55.6% (n = 198) had a bachelor's degree, 33.7% (n = 120) had a post graduate degree, and the remaining 8 % (n = 30) had an associate's degree from vocational training and 2.2% (n = 8) completed high school. While private sector employees make up 57.6% (n = 205), public sector employees make up the remaining 42.4% (n = 151). Furthermore, 26.4% (n = 94) of the participants came from the finance sector, 24.2% (n = 86) from the health sector, 15.4% (n = 55) from media and communication, 11% (n = 39) from educational sector, 9.6 % (n = 34) from tourism, 7 % (n = 25) from transportation and logistics, and 4.2% (n = 15) and 2.2 % (n = 8) from NGO and municipality service, respectively.

### 3.4. Data analysis strategy

The Jamovi 2.4.11.0 statistical analysis program was used in the analysis of the data. The main reason for choosing the Jamovi program, which was created using the R programming language, is its similarity to the most widely used SPSS program in the field of social science research (Ahmed et al., 2021), compatibility with popular data file formats such as CSV, RData, DTA, and SAV, providing a graphical user interface (GUI) that simplifies the process of conducting statistical analyses, being suitable for individuals with different levels of statistical expertise (Sequeira and Borges, 2024), and having the capacity to conduct many single and multivariate analyses. Jamovi offers the user great convenience by simultaneously presenting the data and output windows, facilitating quick completion of all analyses through menus, eliminating the need for coding knowledge (Özyer, 2021; Navarro and Foxcroft, 2019), and offering clear instructions on how to interpret the results (Bartlett and Charles, 2022). In the study, first exploratory factor analysis was applied to determine the construct validity of the scale, and CFA was applied to test the criterion validity. The reliability study of the adapted scale tested the consistency of the scale items using Cronbach's correlation coefficient and item-total score correlation analysis.

#### 3.4.1. Validity analysis

In social, scientific, and health sciences, it is critical to assess the structural validity of scale adaptation and development studies. McCarthy and Garavan (2007) and Field (2005) argue that factor analysis is considered a "powerful and indispensable method of construct validity" and is used to show the extent to which items measure different variables in order to determine discriminant validity (Kagaari et al., 2010). According to Erkuş (2003), exploratory factor analysis (EFA) is a statistical technique that should be used in the context of validity studies in studies on the adaptation of a scale developed in one culture to another and will help reveal the dimensions of the scale in the adapted culture and the structure of the measured attribute (Kılıçer and Odabaşı, 2010). Exploratory factor analysis (EFA) is a statistical method that has become a basic tool used in the development and validity of scales (Watkins, 2018). EFA aims to determine the latent variables or factors underlying observable variables and to discover theoretically meaningful and new variables (factors) by utilizing the correlations between variables (Kilicer

and Odabasi, 2010; Büyüköztürk, 2002; Erkus, 2003; Field, 2005). In this context, exploratory factor analysis was conducted to investigate the validity of the Emotional Wellness Scale.

In data analysis, CFA is frequently used to investigate the predicted causal relationships between variables. CFA is an important analytical method used to verify the structure obtained from exploratory factor analysis (Brown and Moore, 2012). CFA is a statistical technique that allows testing the hypothesis that there is a relationship between the latent structures underlying the observable variables and these structures and also confirms the factor structure of the observed variable set (Suhr, 2006). Worthington & Whittaker (2006) state that confirmatory factor analysis (CFA) should be used to verify the validity of the structure obtained using EFA in scale development studies. According to Orçan (2018) the practical application of CFA in scale adaptation studies varies; while some adaptation studies use both EFA and CFA, others only use CFA. Using only CFA in adaptation studies may cause some problems, and it is important to apply CFA after first performing EFA to determine cultural differences in scale adaptation studies (Orçan, 2018: 414). However, Kellow (1995) considers it more appropriate to apply EFA before CFA in the early stages of the scale development process in terms of showing how effectively the items are loaded on components that were not assumed (Hurley et al., 1997). Therefore, exploratory and confirmatory factor analyses were conducted to determine the validity of EWS.

### 3.4.2. Reliability analysis

An important concept in psychometrics and test theory is the reliability of a test score. Reliability analysis uses the coefficients of scale tools tailored to the research topic to assess the internal consistency of scale items (Netemeyer, Bearden & Sharma, 2003: 41). Generally, we say a test score has high reliability if it consistently yields similar values for a participant under consistent application conditions. The degree of consistency of a test is expressed by a coefficient called the reliability coefficient. The reliability coefficient is between 0 and 1. The reliability of the scale increases as the reliability coefficient approaches 1. The values of the reliability coefficients vary depending on the number of scale items for interpretation, but the minimum acceptable reliability criteria are accepted as  $> 0.60$  (Ohiri and Nnennaya, 2024: 2219-20; Durmuş et al., 2016: 89).

On the other hand, one of the important processes frequently used together with internal consistency analysis in the evaluation of the psychometric properties of a test is the selection of items (Macdonald and Paunonen, 2002). The item selection process is usually analysed using a very popular and most frequently used technique called item-total correlation (Xie and Cobb, 2020). Item-total correlation analysis is used to see the discriminatory power of an item or how uniform the items in a test are in measuring a single concept and how well the items measure the constructs (Hasançebi et al., 2020; Bandalos, 2018). The magnitude of the correlation coefficient indicates that the items exemplify similar behaviors, and the internal consistency of the scale has a high discriminatory power (Marianti et al., 2023). According to Büyüköztürk (2011), it can be said that the items with positive and high item-total correlations of .30 and higher are well discriminatory (Kurtuluş et al., 2015). Thus, the item-total score correlation was used along with Cronbach's  $\alpha$  correlation coefficient to test the reliability of the EWS.

## 4. Findings

### 4.1. Validity of the scale

Exploratory and confirmatory factor analyses were conducted to test the structural and criterion validity of the EWS. In order to determine whether the scale data are suitable for factor analysis, the Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett sphericity test results were examined, and it is expected that the Bartlett sphericity test will be significant at the .05 level and the Kaiser-Meyer-Olkin (KMO) coefficient will be between 0.80-0.90 for the sample size. Büyüköztürk (2010) states that KMO coefficient values greater than .60 are considered acceptable (Leech, Barrett, & Morgan, 2014; Çokluk, Şekercioğlu, & Büyüköztürk, 2010; Leech, Barrette, & Morgan, 2005; Büyüköztürk, 2002). As a result of the EFA, it was established that the KMO value was estimated as 0.945, Bartlett's sphericity test and Chi-Square value were significant ( $p < .05$ ), and the data set was suitable for factor analysis.



Table 2. Bartlett's Test of Sphericity and KMO Measure of Sampling Adequacy Values

Bartlett's Test of Sphericity			KMO Measure of Sampling Adequacy
$\chi^2$	df	p	MSA
2509	91	< .001	0.945

items 9 and 10, were eliminated from the analysis because of overlapping values. After removing these items, the analysis results showed that the KMO value was calculated as 0.945, Bartlett’s sphericity test, and Chi-Square values were significant ( $p < .05$ ). Therefore, it was seen that the sample data matrix was suitable for factor analysis and could be factored; the calculated KMO value was between 0.8 and 0.9; Bartlett’s sphericity test and Chi-Square values were significant ( $\chi^2 = 2509$ ,  $df = 91$ ,  $p < .000$ ). The principal component factorization method, which is frequently employed in the social sciences, was employed as a factorisation method. Since significant correlations between the components were anticipated, the Promax rotation method was employed as a rotation technique. In calculating the number of factors, the lowest value of item eigenvalues, 1.00, was used (Field, 2005; Büyüköztürk, 2002; Tabachnick and Fidell, 1996). As a result of the factor analysis, as shown in Table 3. all 14 items of the EWS analysed were gathered under 2 factors with eigenvalues greater than 1.0. In addition, it is stated that factor loading values, which are a coefficient explaining the relationship of items with factors, should be above the limit value of 0.30 or 0.40 (Dong et al., 2012; Field, 2005; Büyüköztürk, 2002). Therefore, in this study, items with factor loading values above the 0.40 limit value were included in the analysis. Figure 1 shows the Eigenvalue Graph used while determining the factor number of the EWS.

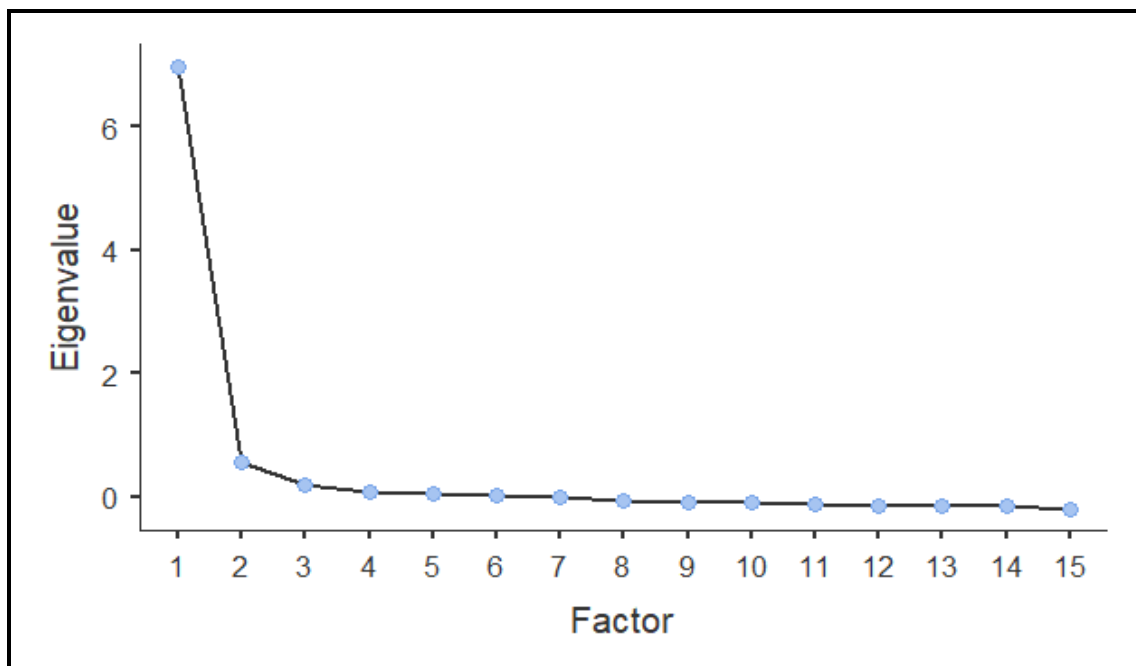


Figure 1: The screen plot

The Eigenvalue Graph (Screen Plot) method is a widely used to determine the number of factors. This method takes the screen test graph of the factors up to the point where the horizontal line shows a significant decrease. This point on the curve, according to Shrestha (2021) and Ledesma, Valero-Mora, & Macbeth (2015), indicates the maximum number of components (or factors) of the curve (Karaman, 2023). The variance explained by these 2 factors illustrates that these two factors account for 52.2% of the variance on the scale. When each factor is considered, the variance explained by the items under the first factor is 31.4%, and the variance explained by the second factor is 20.7%. The factor loadings on the first factor varied between .42 and .86, and the factor loadings on the second factor varied between .71 and .81. As seen in Table 3, it was determined that the “first” dimension consisted of 10 items (6, 7, 5, 14, 13,15, 8, 16, 11 and 12), and the “second” dimension consisted of 4 items (1, 4, 3,

and 2). These dimensions were named “Emotional Management” and “Emotional Awareness” respectively based on the context of literature and the characteristics of the items.

As a result of the first CFA analysis conducted to test the criterion validity using the results obtained from the exploratory factor analysis, it is understood that the EWS criterion consisting of 14 items and 2 factors obtained from the exploratory factor analysis shows an acceptable fit in terms of validity (see Table 5). In this study, among the model fit indices used to perform CFA analyses, Chi-Square (X<sup>2</sup>), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), Root Mean Square Error of Approximation (RMSEA), and Root Mean Square Residuals (RMR) goodness of fit statistics were taken into consideration.

Table 3. Factor structure of the Emotional Wellness Scale

Scale items	Subgroups of the Scale	
	Factor 1	Factor II
DIHS6	.855	
DIHS7	.808	
DIHS5	.734	
DIHS14	.729	
DIHS13	.679	
DIHS15	.618	
DIHS8	.484	
DIHS16	.473	
DIHS11	.462	
DIHS12	.424	
DIHS1		.812
DIHS4		.804
DIHS3		.801
DIHS2		.707
<b>Variance Explained (%)</b>	<b>31.4%</b>	<b>20.7%</b>

Note. 'Maximum likelihood' extraction method was used in combination with a 'Promax' rotation

The standard fit criteria used in the evaluation of the fit indices are evaluated by taking into account the values of excellent and acceptable fit (X<sup>2</sup> “p” = (P>0.05); X<sup>2</sup>/Sd= (<2 & <5); RMSEA = (≤ 0.05 & ≤0.08); CFI = (>0.95 & >0.90); GFI = (>0.95 & >0.90); NFI = (>0.95 & >0.90); RFI = (> 0.95 & > 0.90) & SRMR = (< 0.05 & < 0.8)), respectively (Schermelleh-Engel et al., 2003: 52; Bülbül & Demirer, 2008).

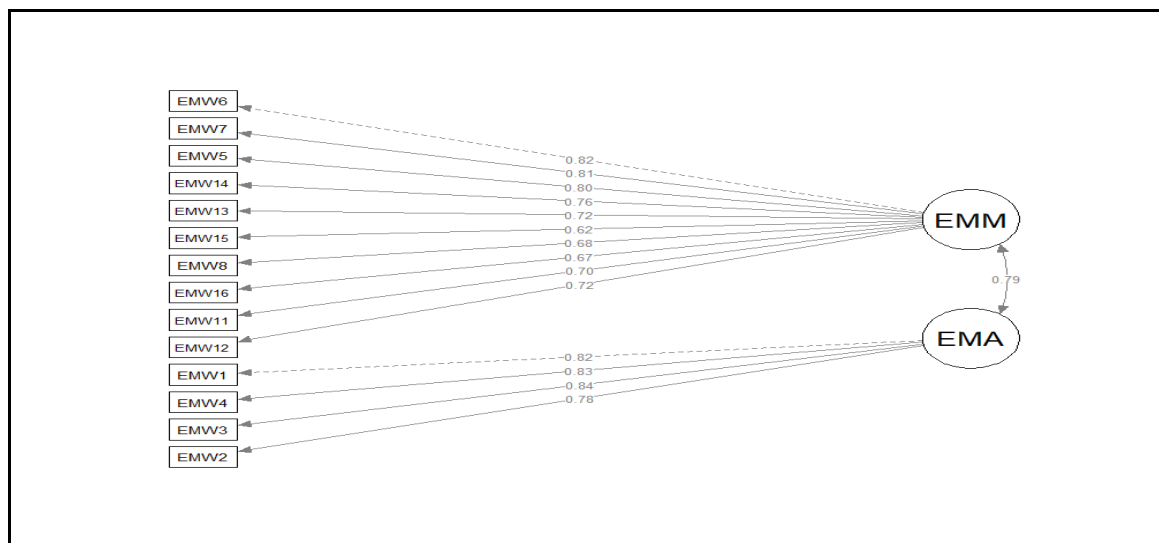


Figure 2. Factor loadings and correlations between factors according to CFA Results of EWS

Therefore, as a result of the analysis it was determined that EWS comprises 14 items with two dimensions and have good and acceptable fit limits. According to the results obtained from the research, CIMN ( $X^2/df = 1.86$ ), RMSEA = 0.049, SRMR = 0.028, CFI = .1000, NFI = .996, GFI = .997, and RFI = .995 were found. Figure 2 shows the CFA regression values of the two-dimensional emotional wellness scale. The fit index values obtained during the confirmatory factor analysis are given in Table 4.

**Table 4. CFA fit indices**

Label	Fit indices
X <sup>2</sup>	141.3
dF	76
P	< .001
Goodness of Fit Index (GFI)	0.997
Adjusted Goodness of Fit Index (AGFI)	0.994
Comparative Fit Index (CFI)	1.000
Bentler-Bonett Normed Fit Index (NFI)	0.996
Bollen's Relative Fit Index (RFI)	0.995
SRMR	0.028
RMSEA	0.049

**4.2. Reliability**

In order to evaluate the reliability of the measurement scale and its dimensions, the internal consistency method (Cronbach's alpha coefficient) was calculated. As a result of the analysis, the Cronbach's alpha internal consistency coefficient of the Emotional Wellness Scale (EWS) was found to be  $\alpha = 0.922$ , the reliability coefficient for the "first" dimension was found to be  $\alpha = 0.897$ , and the reliability coefficient for the "second" dimension was found to be  $\alpha = 0.864$ .

**Table 5. Cronbach's Alpha Value of the Emotional Wellness Scale (EWS)**

Factor Name	Number of items	Mean (X)	Sd	Cronbach Reliability Coefficient	Alpha
Emotional Management (EMM)	10	3.74	0.729	0.897	
Emotional Awareness (EMA)	4	3.90	0.820	0.864	
Overall Scale	14	3.78	0.706	0.922	

As a result of the item-total correlation analysis of the emotional wellness scale, the scale items show a satisfactory correlation with the item index score (Pearson's  $r > 0.5$ ). This correlation varies between 0.527 and 0.723. Table 6 shows item total score correlation and cronbach alpha values of the Emotional Wellness Scale.

**Table 6: Item total score correlation and cronbach alpha values of the Emotional Wellness Scale**

Question Statement	Factor loadings	Item Total score Correlation	X	SD	Reliability Coefficient =
I tend to be confident in my ability to manage conflict	.855	0.723			

I tend to be able to manage my emotions in order to guide my action	.808	0.714			
I tend to feel confident in my ability to self-regulate my stress level	.734	0.710	3.74	0.729	0.897
I find healthy ways to cope with stress (e.g. exercise, meditation, social support, self-care activities, etc.)	.729	0.676			
I can express all ranges of feelings (i.e. hurt, sadness, fear, anger, joy, etc.) and manage emotion-related behaviours in a healthy way	.679	0.638			
I do not let my emotions get the better of me. I think before I act	.618	0.527			
I maintain a balance of work, friends, family, school and other obligations	.484	0.619			
I accept the responsibility for my action	.473	0.562			
I am able to ask for assistance when I need it, either from friends, family, or professionals	.462	0.628			
I am able to set priorities	.424	0.657			
I tend to have positive thoughts about myself	.812	0.668			
I tend to be aware of my own emotions	.804	0.664	3.90	0.820	0.864
I tend to be able to accept my emotions	.801	0.679			
I tend to be aware of the emotions of others	.707	0.657			
<b>Total</b>			<b>3.78</b>	<b>0.706</b>	<b>0.922</b>

## 5. Discussion and Conclusion

The major objective of this research was to assess the validity and reliability of the "Emotional Wellness Scale," which was adapted as an alternative tool for gauging emotional wellness in the workplace. Within the scope of this pilot study conducted to adapt the Emotional Wellness Scale (EWS), validity and reliability analyses were conducted using white-collar employees within select service sectors in Ethiopia.

The Emotional Wellness Scale (EWS) was created for this study by emphasizing the theoretical underpinnings of the variable to be measured, utilizing the research in pertinent literature, and considering the structure of valid and reliable scales developed on subjects similar to this one in the literature. The data collected were subjected to construct validity and reliability analysis. Within the scope of the validity study, the construct validity was examined with exploratory factor analysis in order to evaluate the structure of the EWS. Factor analysis was used to examine the mutual correlations present in the EMW survey responses and to identify items that were similar and related in terms of content or meaning among the factors to be obtained by creating smaller factor groups. According to EFA, the Kaiser-Meyer-Olkin (KMO) value was found to be 0.945. This value indicates that the sample size is sufficient (Field, 2013). In the Bartlett Test of Sphericity, the  $\chi^2$  statistic was determined as ( $\chi^2 = 2509$ ,  $df = 91$ ), and this value was found to be statistically significant ( $p < 0.001$ ). Principal component analysis and Promax rotation methods were used to obtain the most appropriate model. During the analysis, the items with overlapping values (i.e., 9 and 10) were removed from the analysis.

As a result of the exploratory factor analysis conducted with the data obtained using a 5-point Likert scale, a factor structure of 14 items was obtained from the 16-item scale belonging to the adapted Emotional Wellness Scale (EWS). It was revealed that the 14-item scale was gathered under 2 factors with all eigenvalues greater than 1.0. It was determined that the variance explained regarding the quality it measured was 52.2%. Factor 1, emotional



management (EMM), is the strongest factor, explaining the greatest percentage of variance of EWS (i.e., 31.4%). People with emotional management skills are able to control their emotions in response to various circumstances. While developing emotional management skills may take some time and work, they can make a person a more capable professional and encourage team members. Its significance as a factor in the EWS appears congruent with the definition of emotional wellness used in developing the instrument.

Factor 2: Emotional awareness (EMA) is the most important element of emotional wellness. Our ability to recognize our needs and wants—or lack thereof—is aided by emotional awareness. It facilitates the development of stronger bonds between us. This is due to the fact that emotional awareness facilitates clearer communication about feelings, improved conflict avoidance or resolution, and easier transitions from painful emotions to new ones. The variance explained by the second factor is 20.8%. Generally, our work lives will benefit from our ability to be aware of our emotions, identify our feelings, and bounce back from setbacks with a positive outlook. Therefore, it was determined that the structures of the EWS were valid in line with the factor analysis conducted on the Emotional Wellness Scale (EWS).

On the other hand, a CFA analysis was carried out utilizing the results of the exploratory factor analysis to ascertain whether the structure of the scale is appropriate. The findings indicated that the two-factor model and the fourteen items derived from the exploratory factor analysis (CIMN ( $X^2/df = 1.86$ ), RMSEA = 0.049, SRMR = 0.028, CFI = .1000, NFI = .996, GFI = .997, and RFI = .99) display excellent fit regarding validity, thereby confirming the precision of the two-dimensional structure identified through the exploratory factor analysis.

Cronbach Alpha internal consistency coefficient test results were taken into consideration to test the reliability of the EWM scale. The Cronbach alpha reliability (internal consistency) coefficient for the overall EWM Scale was found to be  $\alpha = 0.922$ . Cohen (2013) states that reliability coefficients greater than .90 are regarded as excellent (Cohen, 2013). Cronbach alpha reliability coefficients of the sub-dimensions were  $\alpha=0.897$  and  $\alpha=0.864$ , respectively. The Emotional Wellness Scale contains no items with a Cronbach's alpha greater than .95, which would have suggested that the item was redundant. These values indicated that the EWM scale's reliability was acceptable. In addition, as a result of the item total correlation analysis, the scale showed a satisfactory correlation with the index score of the items ( $r > .50$ ), and the correlation varied between 0.527 and 0.723. Therefore, the distinctive features of the scale items demonstrated a high level of discriminatory power.

Consequently, a two-factor model has been developed following the assessment of the validity and reliability of service sector employees' emotional wellness perceptions on the Emotional Wellness Scale (EWS). The EWS is a 14-item tool designed to assess the emotional wellness status and perceptions of employees. The Emotional Wellness Scale was adapted to evaluate emotional wellness on a general level and has shown good validity and reliability (i.e., ( $\alpha > .90$ )). Consequently, the emotional wellness measuring scale assesses a person's level of emotional management and awareness. This encompasses the extent to which an individual feels upbeat and passionate about their life and themselves. It assesses the ability to realistically acknowledge one's limitations and regulate one's emotions and associated behaviour, and therefore this scale should be considered for an individual-level assessment of emotional wellness.

In conclusion, The EWS is a valid tool for measuring emotional wellness, but its effectiveness is limited to white-collar employees in Ethiopia's service sectors. Further testing across diverse cultures, sectors, and larger sample sizes is needed for generalizability.

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### References

1. Adams, T., Bezner, J., & Steinhardt, M. (1997). The conceptualization and measurement of perceived wellness: Integrating balance across and within dimensions. *American Journal of health promotion*, 11(3), 208-218.

2. Ahmed, A. A., & Muhammad, R. A. (2021). A Beginners review of jamovi statistical software for economic research. *Dutse International Journal of Social and Economic Research*, 6(1), 109-118.
3. Baldauf, G. R. (1991). The psychological correlates of a wellness lifestyle.
4. Baldwin, D. R., Towler, K., Oliver, M. D., & Datta, S. (2017). An examination of college student wellness: A research and liberal arts perspective. *Health psychology open*, 4(2), 2055102917719563.
5. Bandalos, D. L. (2018). *Measurement theory and applications for the social sciences*. Guilford Publications.
6. Barsade, S., & O'Neill, O. A. (2016). Manage your emotional culture. *Harvard business review*, 94(1), 58-66.
7. Bart, R., Ishak, W. W., Ganjian, S., Jaffer, K. Y., Abdelmesse, M., Hanna, S., ... & Danovitch, I. (2018). The assessment and measurement of wellness in the clinical medical setting: a systematic review. *Innovations in clinical neuroscience*, 15(09-10), 14.
8. Bartlett, J. E., & Charles, S. J. (2022). Power to the People: A Beginner's Tutorial to Power Analysis using jamovi. *Meta-Psychology*, 6.
9. Benitti, P. (2019). *Evaluating the perceptions and practices of the emotional wellness of higher education leaders* (Doctoral dissertation, Doctoral dissertation). Retrieved from Sacramento State ScholarWorks database. <http://hdl.handle.net/10211.3/210207>.
10. Brown, T. A., & Moore, M. T. (2012). Confirmatory factor analysis. *Handbook of structural equation modeling*, 361, 379.
11. Bülbül, H., & Demire, Ö. (2008). Hizmet Kalitesiölçüm Modelleri Servqual Ve Serperfin Karşılaştırmalı Analizi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (20), 181-198.
12. Büyüköztürk, Ş. (2002). Faktör analizi: Temel kavramlar ve ölçek geliştirmede kullanımı. *Kuram ve uygulamada eğitim yönetimi*, 32(32), 470-483.
13. Cioffi, D. (2018). *College President Perceptions of Personal Wellness: Exploring "Well-ish" and the Work-Life Balance of Mid-Career Private College Presidents*. Johnson & Wales University.
14. Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. routledge.
15. Çokluk, Ö., Şekercioğlu, G., & Büyüköztürk, Ş. (2012). *Sosyal bilimler için çok değişkenli istatistik: SPSS ve LISREL uygulamaları* (Vol. 2). Ankara: Pegem akademi.
16. Daud, S., Hanafi, W. N. W., Abdullah, W. M. T. W., Ahmad, N. N., & Toolib, S. N. (2020). Applying health belief model in assessing Malaysian graduate's emotional wellness post COVID 19 outbreak: a conceptual paper. *Global Business and Management Research*, 12(4), 580-588.
17. Demirbaş-Çelik, N., Korkut-Owen, F., & Doğa, T. (2016). International Journal of Innovative Research in Education. *Journal of Innovative Research in Education*, 3(4), 203-209.
18. Dong, W., Xiao-Hui, X., & Xian-Bo, W. (2012). The healthy lifestyle scale for university students: development and psychometric testing. *Australian journal of primary health*, 18(4), 339-345.
19. Durmuş, B., Yurtkoru, E. S., & Çinko, M. (2016). Sosyal Bilimlerde SPSS'le Veri Analizi (6. Baskı, Beta Yayıncılık, İstanbul).
20. Edara, I. R. (2021). Exploring the relation between emotional intelligence, subjective wellness, and psychological distress: A case study of university students in Taiwan. *Behavioral Sciences*, 11(9), 124.
21. Erkuş, A. (2003). Ölçme ve Psikometrinin Tarihsel Kökenleri: Güvenirlik Geçerlik ve Madde Analizi. Tutumlar Bileşenleri ve Ölçülmesi. *Türk Psikologlar Derneği Yayınları*, 24, 34-72.
22. Evans, C. E. (2004). *The effect of spirituality on the physical, emotional, social, and occupational wellness of African American working women*. Texas Southern University.
23. Fessell, D., & Cherniss, C. (2020). Coronavirus disease 2019 (COVID-19) and beyond: micropractices for burnout prevention and emotional wellness. *Journal of the american college of radiology*, 17(6), 746.
24. Field, A. P. (2005). Is the meta-analysis of correlation coefficients accurate when population correlations vary? *Psychological methods*, 10(4), 444.
25. Finch, RA and Krackowsky, K, (2010) editors. An Employer's Guide to Workplace Emotional Wellness. Washington, DC: Center for Prevention and Health Services, National Business Group on Health.
26. Guta, B. T.b (2022). Dimensions of wellness and Socio-demographic Characteristics of Teachers at Nekemte College of Teacher Education. *International Journal of Applied Science and Research* 05(04):119-138
27. Hasançebi, B., Terzi, Y., & Küçük, Z. (2020). Madde güçlük indeksi ve madde ayırt edicilik indeksine dayalı çeldirici analizi. *Gümüşhane Üniversitesi Fen Bilimleri Dergisi*, 10(1), 224-240.
28. Hermon, D. A., & Davis, G. A. (2004). College student wellness: A comparison between traditional-and nontraditional-age students. *Journal of College Counseling*, 7(1), 32-39.

29. Hettler, W. (1976). The Six Dimensions of Wellness. National Wellness Center. <https://cdn.ymaws.com/www.nationalwellness.org/resource/resmgr/pdfs/sixdimensionsfactsheet.pdf>
30. Hey, W. T., Calderon, K. S., & Carroll, H. (2006). Use of body-mind-spirit dimensions for the development of a wellness behavior and characteristic inventory for college students. *Health Promotion Practice*, 7(1), 125-133.
31. Hurley, A. E., Scandura, T. A., Schriesheim, C. A., Brannick, M. T., Seers, A., Vandenberg, R. J., & Williams, L. J. (1997). Exploratory and confirmatory factor analysis: Guidelines, issues, and alternatives. *Journal of organizational behavior*, 667-683.
32. Kagaari, J., Munene, J. C., & Mpeera Ntayi, J. (2010). Performance management practices, employee attitudes and managed performance. *International Journal of Educational Management*, 24(6), 507-530.
33. Karaman, M. (2023). Keşfedici Ve Doğrulayıcı Faktör Analizi: Kavramsal Bir Çalışma. *Uluslararası İktisadi ve İdari Bilimler Dergisi*, 9(1), 47-63.
34. Kaveh, M. H., Ostovarfar, J., Keshavarzi, S., & Ghahremani, L. (2016). Validation of perceived wellness survey (PWS) in a sample of Iranian population. *The Malaysian Journal of Medical Sciences: MJMS*, 23(4), 46.
35. Khatri, P., & Gupta, P. (2017). Workplace spirituality: A predictor of employee wellbeing. *Asian Journal of Management*, 8(2), 284-292.
36. Kline, P. (1994). *An easy guide to factor analysis*. Routledge.
37. Kılıçer, K., & Odabaşı, H. F. (2010). Bireysel yenilikçilik ölçeği (BYÖ): Türkçeye uyarlama, geçerlik ve güvenirlik çalışması. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 38(38), 150-164.
38. Koslouski, J. B., Ruiz, O., Marcy, H.M., and Chafouleas, S.M. (2023). Emotional well-being: How do we measure it? Storrs, CT: UConn Collaboratory on School and Child Health. Available from: <https://csch.uconn.edu/wp-content/uploads/sites/2206/2023/07/CSCH-M3EWB-Emotional-Well-being-Brief-No-3.pdf>
39. Kurtulmuş, M., Kaçire, İ., Karabıyık, H., & Yiğit, B. (2015). Üniversite Yabancılaşma Ölçeği Geçerlik Güvenirlik Çalışması. *Elektronik Eğitim Bilimleri Dergisi*, 4(7).
40. LaFountaine, J., Neisen, M., & Parsons, R. (2006). Wellness factors in first year college students. *American Journal of Health Studies*, 21(3/4), 214.
41. Leech, N. L., Barrett, K. C., & Morgan, G. A. (2014). *IBM SPSS for intermediate statistics: Use and interpretation*. Routledge.
42. Leech, N. L., Barrett, K. C., & Morgan, G. A. (2005). *SPSS for intermediate statistics: Use and interpretation (Second Edition)*. New Jersey: Lawrence Erlbaum Ass.
43. Lo, L. S., & Herman, B. (2017). An investigation of factors impacting the wellness of academic library employees. *College & Research Libraries*, 78(6).
44. Macdonald, P., & Paunonen, S. V. (2002). A Monte Carlo comparison of item and person statistics based on item response theory versus classical test theory. *Educational and psychological measurement*, 62(6), 921-943.
45. Marianti, S., Rufaida, A., Hasanah, N., & Nuryanti, S. (2023). Comparing item-total correlation and item-theta correlation in test item selection: A simulation and empirical study. *Jurnal Penelitian dan Evaluasi Pendidikan*, 27(2), 133-145.
46. McElligott, D., & Turnier, J. (2020). Integrative Health and Wellness Assessment Tool. *Critical Care Nursing Clinics of North America*, 32(3), 439-450.
47. Moon, K. J. (2021). Addressing emotional wellness during the COVID-19 pandemic: the role of promotores in delivering integrated mental health care and social services. *Preventing Chronic Disease*, 18.
48. Myers, J. E., Luecht, R. M., & Sweeney, T. J. (2004). The factor structure of wellness: Reexamining theoretical and empirical models underlying the wellness evaluation of lifestyle (WEL) and the five-factor wei. *Measurement and Evaluation in Counseling and Development*, 36(4), 194-208.
49. Myers, J. E., Sweeney, T. J., Witmer, J. M., & Hattie, J. A. (1998). The wellness evaluation of lifestyle. *Greensboro, NC: Authors*.
50. Nakiboneka, B. G. (2018). Employee emotional wellness, organisational commitment and intentions to stay among employees at St. Francis Nsambya Hospital.
51. National Wellness Institute (NWI). (2023). The six dimensions of wellness, introduction and summery. Retrieved from <https://cdn.ymaws.com/members.nationalwellness.org/resource/resmgr/tools2/6dimensionssummary.pdf>

52. Navarro, D. J., & Foxcroft, D. R. (2019). Learning statistics with jamovi: A tutorial for psychology students and other beginners (Version 0.70). *Tillgänglig online: <http://learnstatswithjamovi.com> [Hämtad 14 december]*.
53. Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling procedures: Issues and applications*. sage publications.
54. Nikolis, L., Wakim, A., Adams, W., & DO, P. B. (2021). Medical student wellness in the United States during the COVID-19 pandemic: a nationwide survey. *BMC medical education, 21*, 1-9
55. Ohiri, S. C., Ihebom, D., & Nnennaya, C. (2024). Psychometric properties of a test: An overview. *International Journal of Research Publication and Reviews, 5*(2), 2217-2224.
56. Ohuruogu, B., Chinyere, A. R., & BO, B. N. (2019). The role of nutrition in health and wellness. *Nutrition, 9*(24).
57. Orçan, F., (2018). Exploratory and confirmatory factor analysis: which one to use first? *Journal of Measurement and Evaluation in Education and Psychology, 9*(4), 413-421. DOI: 10.21031/epod.394323
58. Owen, F. K., & Kaymak, D. A. (2023) Pandemi Döneminde Üniversite Öğrencilerinin İyilik Halleri. *Millî Eğitim Dergisi, 52*(240), 2441-2472.
59. Oguz-Duran, N., & Tezer, E. (2009). Wellness and self-esteem among Turkish university students. *International Journal for the Advancement of Counselling, 31*, 32-44
60. Özdemir, Z. (2018). Sağlık bilimlerinde likert tipi tutum ölçeği geliştirme. *Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi, 5*(1), 60-68.
61. Özyer, K. K. (2021). Ölçek geliştirme ve güvenirlik analizleri: Jamovi uygulaması. *Turkish Academic Research Review, 6*(5), 1330-1384.
62. Priebe, D. R. (2018). *Does Perceived Wellness Influence Employee Work Engagement? Examining the Effects of Wellness in the Presence of Established Individual and Workplace Predictor Variables* (Doctoral dissertation, The Ohio State University).
63. Rachele, J. N., Washington, T. L., Cockshaw, W. D., & Brymer, E. (2013). Towards an operational understanding of wellness. *Journal of Spirituality, Leadership and Management, 7*(1), 3-12.
64. Rehman, R., Nadeem, S., Hussain, M., Khan, R., & Katpar, S. (2015). Exploring emotional wellness: The art of being cheerful about life at medical campus. *European Journal of Psychology & Educational Studies, 2*(2).
65. Renger, R. F., Midyett, S. J., Soto Mas, F. G., Erin, T. D., McDermott, H. M., Papenfuss, R. L., ... & Hewitt, M. J. (2000). Optimal Living Profile: An inventory to assess health and wellness. *American journal of health behavior, 24*(6), 403-412.
66. Roscoe, L. J. (2009). Wellness: A review of theory and measurement for counselors. *Journal of Counseling & Development, 87*(2), 216-226.
67. Suhr, D. (2006). Exploratory or Confirmatory Factor Analysis? Proceedings of the 31st Annual SAS? Users Group International Conference. Cary, NC: SAS Institute Inc., Paper Number: 200-31.
68. Schafer, M. L. (2012). *Assessing soldiers' wellness holistically: An evaluation of instruments applicable to primary care*. The University of Arizona.
69. Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online, 8*(2), 23-74.
70. Sequeira, C. A., & Borges, E. M. (2024). Enhancing Statistical Education in Chemistry and STEAM Using JAMOVİ. Part 2. Comparing Dependent Groups and Principal Component Analysis (PCA). *Journal of Chemical Education*.
71. Stewart, J. L. (1998). *Reliability and validity of the Testwell: Wellness Inventory-High School Edition*. Middle Tennessee State University.
72. Strout, K. A., & Howard, E. P. (2012). The six dimensions of wellness and cognition in aging adults. *Journal of Holistic Nursing, 30*(3), 195-204.
73. Tabachnick, B. G., & Fidell, L. S. (1996). *Using Multivariate Statistics* 3rd edition Harper Collins. New York.
74. Travis, J. W., & Ryan, R. S. (1988). *The wellness workbook*. (No Title).
75. Watkins, M. W. (2018). Exploratory factor analysis: A guide to best practice. *Journal of black psychology, 44*(3), 219-246
76. Xie, D., & Cobb, C. L. (2020). Item analysis. *The Wiley encyclopedia of personality and individual differences: Measurement and assessment*, 159-163.