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The Impact of Mindfulness and Assertiveness on Well-being: A Structural Equation Modeling Analysis

Bilinçli Farkındalık ve Atılganlığın İyi Oluş Üzerine Etkisi: Bir Yapısal Eşitlik Modellemesi Analizi

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ABSTRACT

Mindfulness is a positive psychological concept that has a crucial impact on individuals' wellbeing and mental health. The literature cites a considerable number of studies exploring the impact of mindfulness on various forms of wellbeing and documenting the relationship between mindfulness and other constructs. In order to obtain a complete understanding of the concept, an examination of potential mediators in the relationship between mindfulness and well-being is needed. In this regard, the current study aims to explore the influence of mindfulness on resilience, subjective wellbeing, and psychological well-being through assertiveness. In a sample of 400 university students, participants completed the Mindful Attention and Awareness Scale (MAAS), Rathus Assertiveness Schedule (RAS), Brief Resilience Scale (BRS), Positive and Negative Affect Schedule (PANAS), Satisfaction with Life Scale (SWLS) and Psychological Well-being Scale (SPWB) and results demonstrated that assertiveness, mindfulness, positive affect, life satisfaction, and the dimensions of psychological well-being scores were found to be positively correlated with assertiveness and reversely associated with negative affect, as expected. Structural equation modeling analyses demonstrated that assertiveness mediated the relationship between mindfulness and resilience, subjective well-being, and psychological well-being. In conclusion, the results show that mindfulness contributes to some of the well-being indices, such as resilience, subjective well-being, and psychological well-being through assertiveness. Implications are discussed further.

Article Information**Keywords**

Mindfulness
Assertiveness
Resilience
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Anahtar Kelimeler

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ÖZET

Bilinçli farkındalık, bireylerin ruh sağlığı ve iyi oluşları üzerinde çok önemli bir etkiye sahip olan bir pozitif psikoloji kavramıdır. Literatür, bilinçli farkındalığın çeşitli iyi oluş biçimleri üzerindeki etkisini araştıran ve bilinçli farkındalık ile diğer kavramlar arasındaki ilişkiyi belgeleyen önemli sayıda çalışmaya atıfta bulunmaktadır. Kavramın tam olarak anlaşılması için, bilinçli farkındalık ve iyi oluş arasındaki ilişkide potansiyel araçların incelenmesi gerekir. Bu bağlamda, mevcut çalışma, bilinçli farkındalığın psikolojik sağlık, öznel iyi oluş ve psikolojik iyi oluş üzerindeki etkisini atılganlık yoluyla keşfetmeyi amaçlamaktadır. 400 üniversite öğrencisinden oluşan bir örnekleme, katılımcılar Bilinçli Farkındalık Ölçeği (MAAS), Rathus Atılganlık Ölçeği (RAS), Psikolojik Sağlık Ölçeği (BRS), PANAS, Psikolojik İyi Oluş Ölçeği (SPWB) ve Yaşam Doyumu Ölçeği'ni (SWLS) tamamlamıştır. Bulgular, atılganlık, bilinçli farkındalık, olumlu duygulanım, yaşam doyumu ve psikolojik iyi oluş puanlarının boyutlarının girişkenlik ile pozitif yönde ilişkili ve beklendiği gibi olumsuz duygulanım ile ters ilişkili olduğunu göstermiştir. Yapısal eşitlik modelleme analizleri, atılganlığın, bilinçli farkındalık ve psikolojik sağlık, öznel iyi oluş, psikolojik iyi oluş arasındaki ilişkiye aracılık ettiğini göstermiştir. Sonuçlar, bilinçli farkındalığın, psikolojik sağlık, öznel iyi oluş ve psikolojik iyi oluş gibi bazı iyi oluş endekslerine girişkenlik yoluyla katkıda bulunduğunu göstermektedir. Bulgular tartışılmıştır.

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Ethical Statement: The study procedure was approved by Bursa Uludag University Ethics Board.

INTRODUCTION

With the “burgeoning” of the positive psychology movement, examination of the influence of positive psychological constructs on wellbeing has captured considerable research attention (Seligman, 2002). Mindfulness is evidently one of these significant positive psychological constructs associated with significant positive life outcomes. Mindfulness refers to state encompassing awareness of present moments (Brown, Ryan & Creswell, 2007), acceptance of thoughts and emotions (Baer et al., 2006), being present in the moment (Brown & Ryan, 2003), and the ability to be present at the moment through attention and awareness (Bishop et al., 2004).

Theoretical and empirical studies highlight the strong association between mindfulness and various forms of wellbeing. For instance, mindfulness theories suggest that mindfulness reduces the attachment to internal and external phenomena, thereby facilitating emotion regulation (Kumar, Feldman, & Hayes, 2008). Empirical studies also document the impact of mindfulness on different indices of mental health, including general well-being (Jin, Zhang, Wang, & An, 2020; Şahin, 2019), coping (Uygur, 2019), psychological wellbeing (Deniz, Erus, & Büyükcebeci, 2017; Stevenson, Millings & Emerson, 2019; Voci, Veneziani & Fuochi, 2019), spiritual wellbeing (e.g., Ramadas & Simões, 2019), occupational health (e.g., Braun et al., 2019), resilience (Sünbül & Güneri, 2019) and subjective wellbeing (e.g., Ge, Wu, Li & Zheng, 2019; Hanley, Warner & Garland, 2015; Schutte & Malouff, 2011).

Connections Between Mindfulness and Well-being

Mindfulness and well-being research is well-documented. Studies demonstrated that mindfulness is associated with two prominent models of well-being, namely subjective and psychological well-being. Subjective well-being is rooted in “hedonic” tradition and primes on the current state of happiness, pleasure attainment, and avoidance of pain (Ryff, 2014). Thus, well-being is assessed based on elated current positive feelings and lessened negative feelings in addition to cognitive evaluation of satisfaction with life. In this regard, hedonic well-being encompasses constructs such as positive affect, negative affect, and life satisfaction (Ryan & Deci, 2001). Several studies reported that greater levels of mindfulness are linked with increased levels of positive affect and decreased levels of negative affect (Schutte, & Malouff, 2011), and greater levels of life satisfaction (Hanley, Warner, & Garland, 2015). Thus, awareness of the present moments, non-judgemental attitude toward thoughts and emotions appears to contribute to experience positive feelings more frequently, lessened negative feelings, and greater satisfaction with life.

Likewise, one line of research focuses on the association between mindfulness and psychological well-being. Contrary to subjective well-being, psychological well-being or “eudaimonic” tradition considers well-being as possessing purposes and goals in life, finding meaning, and reaching one’s true capacity (Ryff, 2014). Thus, psychological well-being is viewed as composed of six components: autonomy, environmental mastery, personal growth, positive relations with others, self-acceptance, and purpose in life (Ryff, 1989; Ryff & Keyes, 1995). Empirical studies document that greater levels of mindfulness are related to increased psychological well-being and studies reported small to medium associations between mindfulness and dimensions of psychological well-being (Whitehead, Bates, Elphinstone, Yang, & Murray, 2019).

Resilience

Resilience refers to positive growth and adaptation in the face of serious life challenges and adversity (Walsh, 2016). The concept captured immense research attention as a considerable number of studies documented the association between resilience and negative psychological symptoms such as psychological distress (Bacchi, & Licinio, 2017), burnout (Bernabé, & Botia, 2016), and positive psychological concepts including hope (Satici, 2016), emotion expression and subjective well-being (Eldeleklioglu & Yildiz, 2020), emotional intelligence (Ramos-Díaz, Rodríguez-Fernández, Axpe, & Ferrara, 2019) and adjustment (Fogarty, Wood, Giallo, Kaufma, & Hansen, 2019). One line of this research focuses on the relationship between resilience and mindfulness as both constructs conceptually overlap one to another. On a conceptual level, mindfulness is characterized as the awareness of the present moment, thoughts, and emotions in a non-judgmental and accepting way (Brown, Creswell, & Ryan, 2015). Likewise, resilience is identified as the acceptance of the hardships and growth out of the hindrances and handicaps. Thus, both of the constructs appear conceptually interrelated. Empirically, a number of studies indicated the strong associations between mindfulness and resilience (e.g., Freligh, & Debb, 2019; Senders et al. 2014; Thompson et al. 2011; Wang, & Kong, 2019). Furthermore, intervention studies demonstrated that mindfulness-based interventions increased the levels of resilience of the participants in a sample of children and youths indicating the possible causal relationship between the concepts (Zenner et al., 2014).

Assertiveness as a Mediator Variable

As the literature documents, mindfulness and well-being are strongly linked. Several studies investigated the mechanisms involved in the relationship between mindfulness and well-being and pointed out that mindfulness can contribute to one's level of well-being directly (e.g., Wilson, Weiss, & Shook, 2020) or through mediators (e.g., Stevenson, Millings, & Emerson, 2019). In order to provide a better understanding of mindfulness, possible other mediator variables are needed to be examined. In this regard, assertiveness is one potential construct as a mediator in the relationship between mindfulness and wellbeing. Assertiveness is defined as individuals' expression of feelings, thoughts, personal rights without disregarding the rights and feelings of others (Speed, Goldstein, & Goldfried, 2018), and one's ability to express one's interests without anxiety (de Acedo Lizarraga et al., 2003). Several studies reveal that acting assertively is linked to the wellbeing of individuals (e.g., Sarkovaet al., 2013). Furthermore, one study significantly demonstrates the effectiveness of assertiveness training on subjective wellbeing and academic achievement (Paezy, Shahraray & Abdi, 2010). Findings of this study revealed that the assertiveness training program effectively increased participants' levels of subjective wellbeing between pre-and post-test and increased academic achievement levels at the follow-up stage.

Although assertiveness and well-being association was investigated, literature documenting the relationship between assertiveness and mindfulness is scarce. In this regard, two conference papers investigated such a relationship and the first study reported that assertiveness mediated the relationship between unidimensional mindfulness and resilience and life satisfaction (Belen, 2019). In the study, mindfulness is examined via one of the prominent unidimensional mindfulness scale (MAAS; Brown, & Ryan, 2003). The second study reported that assertiveness mediated the relationship between components of mindfulness and positive and negative affect (Belen & Yıldırım, 2019) employing a multidimensional mindfulness measure (CAMS-R; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007). Although the findings of these studies are pivotal, no studies have provided information on

whether assertiveness is involved in the relationship between mindfulness and eudaimonic well-being, leading to an incomplete understanding of the concepts. As noted, eudaimonic well-being (PWB; Ryff, 1995) conveys the longer-term aspect of well-being including possessing purposes, aims in life, finding meaning, and reaching one's true potential. As no studies per se examined such a relationship, the influence of mindfulness and assertiveness on longer-term well-being indices is needed to be investigated. Thus, the purpose of this study is to extend the study by Belen (2019) and examine whether assertiveness mediates the relationship between unidimensional mindfulness, resilience, subjective wellbeing, and psychological well-being within the same model. It was hypothesized that

H₁) Assertiveness, mindfulness, resilience, subjective well-being, and psychological well-being significantly and positively correlated

H₂) Assertiveness accounts for a significant amount of variance in the relationship between mindfulness, resilience, subjective well-being, and psychological well-being.

METHOD

Research Model

Current study was designed as a correlational research. Its first aim includes testing the mediator role of assertiveness in the relationship between mindfulness and resilience, subjective well-being and psychological well-being.

Study Group

400 participants ($M=20.327 \pm 1.71$) were recruited from Bursa Uludag University Educational Science Department Psychological Counseling and Guidance students. The study was administered with voluntary participation and informed consent standard. Test administration was carried out via online software for the exchange of course credit. Participants were ensured about anonymity and confidentiality of the information.

Ethical Statement

Current study procedure was approved by Bursa Uludag University Ethics Board (15/06/2020-92662996-044/E.17586).

Data Collection Tools

Mindful Attention and Awareness Scale. MAAS is a unidimensional scale that is comprised of 15 items and rated based on a 6-point Likert scale from 1 (almost always) to 6 (almost never)(MAAS; Brown & Ryan, 2003). The total score of the scale is obtained by calculating the mean score of the participants' responses of 15 items. Higher scores on the scale convey the higher levels of dispositional mindfulness. Psychometric properties of the scale revealed good internal consistency in a student sample with a coefficient α of .82, in a sample of adults with α of .87, and test-retest reliability ($r=.81$). Validity and reliability studies of Turkish adaptation of the scale yielded good psychometric qualities (Catak, 2011) and the current study reports good alpha reliability of .86.

Rathus Assertiveness Schedule. RAS is a 30-item scale to assess typical assertive (14 items) and non-assertive (16 items) behavior based on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree)(Rathus, 1973). Higher scores on the scale indicate higher levels of assertiveness. Voltan

(1980) validated the Turkish form of the scale and reported Cronbach's alpha of .70 and test-retest validity quotient of .92. The present study reports a coefficient alpha of .85.

Brief Resilience Scale: The Brief Resilience Scale is a 6-item scale based on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) (BRS; Smith et al., 2008). The scale score is obtained the mean score of all scale items with reverse coding the negatively worded items. Higher scores yield a higher ability to bounce back from adversity and setbacks. Reliability and validity studies of the Turkish form of the scale were conducted by Doğan (2015) and revealed satisfactory evidence for psychometric properties and the present study reports a coefficient alpha of .89.

Positive and Negative Affect Schedule. PANAS is a 20-item self-report schedule to assess how individuals have been feeling for the last two weeks based on a 5-point Likert scale ranging from 1 (very slightly or not at all) to 5 (extremely) (Watson, Clark & Tellegen, 1988). The schedule is comprised of 10 adjectives reflecting positive affect (e.g. inspired) and 10 items for negative affect (e.g. distressed). Watson et al. reported (1988) internal reliability coefficients ranging from .85 to .90 and the current study reports a coefficient alpha of .85 for positive affect and .82 for negative affect. Turkish adaptation of the scale was validated by Gencöz (2000) and yielded Cronbach's alphas of .83 and .86, and test-retest reliability of .40, .54 for positive and negative affect, respectively.

Satisfaction with Life Scale. SWLS is a 5-item self-report scale rated based on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) (Diener, Emmons, Larsen, & Griffin, 1985). The scale score is obtained via the sum of the item scores and higher scores indicate higher levels of life satisfaction. Reliability and validity studies of the Turkish adaptation of the scale were conducted by Durak, Senol-Durak & Gencoz (2010) and revealed satisfactory evidence for the psychometric properties of the scale and the present study reports Cronbach's alpha of .85 for internal consistency reliability.

Psychological Well-being. SPWB is an 18-item scale designed to assess dimensions of psychological well-being, namely autonomy, environmental mastery, personal growth, positive relations with others, self-acceptance, and purpose in life (Ryff & Keyes, 1995). The items are rated based on a 5-point Likert scale and higher scores on each respective domain convey higher levels of psychological well-being. In terms of the psychometric properties, Turkish adaptation of the scale yielded good psychometric qualities, Cronbach's alpha ranging from .87 to .96 for the dimensions (Imamoğlu, 2004).

Data Analysis

Prior to the main analyses, data were screened in terms of normality, multicollinearity, and outliers. Skewness and kurtosis statistics were used to examine the assumptions of normality. As Table 1 demonstrates, skewness and kurtosis values fall between -/+1 indicating no violation of the normal hypothesis (Hair et al., 2017). The collinearity analyses between constructs showed that the variance inflation factor values for all constructs were less than 5 indicating no multicollinearity between the constructs (ranged from 1,316 to 1,559). The presence of outliers was tested by calculating Mahalanobis distance ($p < .001$) and two cases were removed from the analyses based on the calculation (Tabachnick, & Fidell, 2001). Bivariate correlations were computed between the study variables.

As the review of the pertinent studies has shown, a two-step procedure using structural equation modeling (SEM) has been employed for mediation analyses (Anderson & Gerbing, 1988). In the current study in SEM models, assertiveness and mindfulness were represented by three parcels in order to improve the psychometric properties of the variables and diminish inflated measurement error. For both

assertiveness and mindfulness, items were assigned to the parcels based on the factorial algorithm technique (Matsunaga, 2008). This technique is utilized for parceling the items of unidimensional scales and parcels are created with respect to the magnitude of factor loadings based on factor analysis. Furthermore, subjective well-being was represented in the model with three observed variables, namely positive affect, negative affect, and life satisfaction. Finally, psychological well-being was represented by its dimensions of autonomy, environmental mastery, personal growth, positive relations with others, self-acceptance, and purpose in life.

Firstly, the measurement model was tested by performing a confirmatory factor analysis in order to estimate the extent to which each latent variable is represented by its indicators. Secondly, the hypothesized causal model was examined by conducting structural equation modeling (SEM) using the maximum likelihood estimation method, and 95 % bias-corrected bootstrap was employed to examine the significance of the mediating effect. As required in SEM analyses, the goodness of fit indexes was analyzed in order to evaluate the final model (Kline, 2011). Overall model fit was evaluated according to the thresholds recommended by Hu & Bentler (1999). In terms of the threshold, insignificant and lower values for Chi-Square are preferable though this value is mostly affected by sample size (Tabachnick, & Fidell, 2001). Comparative Fit Index (CFI), Incremental Fit Index (IFI), and Tucker-Lewis Index (TLI) scores equal or greater than .95 conveys a good model-data fit while scores between .90 and .95 indicate an adequate fit. A model is considered to be a good fit for the data when $CMIN/DF < 3$ and $RMSEA \leq 0.06$ (MacCallum et al, 1996). All analyses were conducted by using SPSS AMOS 23 (Arbuckle, 2014).

RESULTS

Descriptive statistics including minimum, maximum, mean, standard deviation, skewness, kurtosis values for the study variables are presented in Table 1.

Table 1. Descriptive statistics for the study variables

| | α | Min | Max | M | SD | Skewness | Kurtosis |
|--------------------------|----------|-------|--------|--------|-------|----------|----------|
| Mindfulness | .85 | 1.20 | 5.87 | 3.98 | .82 | -.42 | -.20 |
| Assertiveness | .86 | 51.00 | 152.00 | 109.59 | 17.95 | -.15 | -.08 |
| Resilience | .90 | 1.00 | 5.00 | 3.07 | .95 | -.17 | -.54 |
| Subjective Well-being | .69 | 12.00 | 49.00 | 33.82 | 7.81 | -.41 | -.29 |
| Psychological Well-being | .76 | 10.00 | 45.00 | 23.89 | 7.50 | .44 | -.40 |
| Mindfulness Parcel 1 | .74 | 5.00 | 30.00 | 21.89 | 4.76 | -.51 | -.17 |
| Mindfulness Parcel 2 | .71 | 7.00 | 35.00 | 23.47 | 5.63 | -.36 | -.32 |
| Mindfulness Parcel 3 | .70 | 5.00 | 30.00 | 18.79 | 4.87 | -.55 | .03 |
| Assertiveness Parcel 1 | .75 | 14.00 | 58.00 | 39.97 | 7.84 | -.18 | -.22 |
| Assertiveness Parcel 2 | .70 | 16.00 | 67.00 | 45.87 | 8.50 | -.16 | .07 |
| Assertiveness Parcel 3 | .75 | 13.00 | 53.00 | 36.09 | 7.73 | -.13 | -.16 |

In terms of testing intercorrelations between study variables, bivariate correlation analyses were conducted. As Table 2 demonstrates, assertiveness correlated positively with mindfulness, resilience, positive affect, life satisfaction, and dimensions of psychological well-being; whilst correlated negatively with negative affect, as expected.

Table 2. Intercorrelations among study variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-----|----|
| 1.A | 1 | | | | | | | | | | | |
| 2.M | .30** | 1 | | | | | | | | | | |
| 3.R | .40** | .26** | 1 | | | | | | | | | |
| 4.PA | .35** | .21** | .33** | 1 | | | | | | | | |
| 5.NA | -.43** | -.50** | -.46** | -.33** | 1 | | | | | | | |
| 6.LS | .23** | .26** | .33** | .55** | -.40** | 1 | | | | | | |
| 7.AUT | .43** | .18** | .32** | .25** | -.30** | .22** | 1 | | | | | |
| 8.EM | .48** | .44** | .44** | .53** | -.52** | .62** | .33** | 1 | | | | |
| 9.PG | .33** | .31** | .24** | .30** | -.30** | .28** | .16** | .34** | 1 | | | |
| 10.PR | .37** | .32** | .29** | .27** | -.35** | .32** | .25** | .37** | .29** | 1 | | |
| 11.SA | .41** | .40** | .41** | .45** | -.49** | .62** | .29** | .59** | .40** | .36** | 1 | |
| 12.PI | -.02 | .20** | -.05 | .07 | -.09 | .08 | .01 | .06 | .19** | .14** | .09 | 1 |

Note. A= Assertiveness, M= Mindfulness, R=Resilience, PA=Positive Affect, NA=Negative Affect, LS=Life Satisfaction, AUT=Autonomy, EM=Environmental Mastery, PG=Personal Growth, PR=Positive Relations, SA= Self-Acceptance, PI= Purpose in Life, $p^* < .05$. $p^{**} < .01$. $p^{***} < .001$

Measurement Model

The measurement model was tested by conducting confirmatory factor analyses (CFA) in order to explore whether the model adequately fits the data. In the measurement model, assertiveness, mindfulness, resilience, subjective well-being, and psychological well-being were determined as correlated latent variables. Table 3 demonstrates the statistics of fit indices for the measurement model of the current study.

Table 3. Measurement model fit summary

| Name of Category | Name of Index | Measurement Level | Comments |
|--------------------------|------------------------|---------------------------------|--------------------------------|
| | Chi-Square (CMIN) | $p\text{-value} = 0.000 < 0.05$ | Required level is not achieved |
| Absolute Fit Indices | RMSEA | $RMSEA = 0.06 \leq 0.06$ | Required level is achieved |
| Incremental Fit Indices | CFI | $CFI = 0.925 > 0.90$ | Required level is achieved |
| | TLI | $TLI = 0.908 > 0.90$ | Required level is achieved |
| | IFI | $IFI = 0.926 > 0.90$ | Required level is achieved |
| Parsimonious Fit Indices | Chi-Square/DF(CMIN/DF) | $CMIN/DF = 2.66 < 3$ | Required level is achieved |

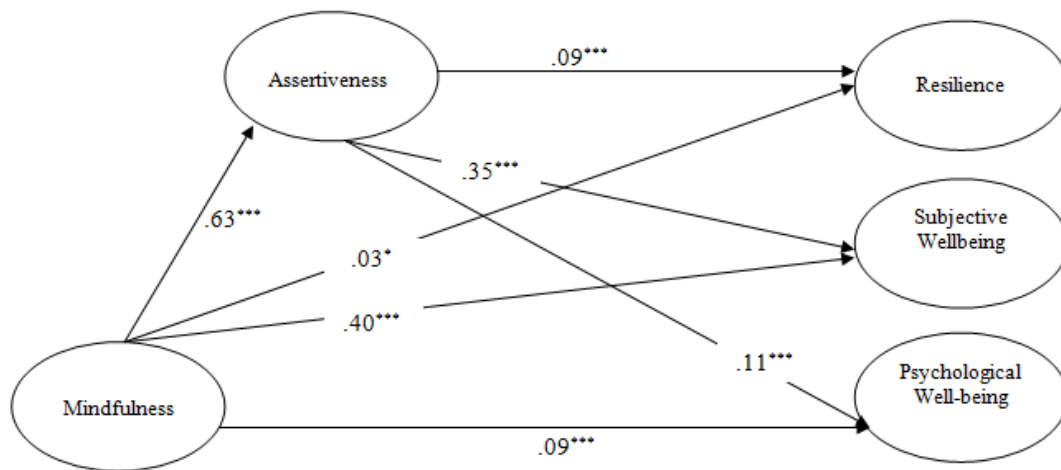
Table 4. Fit Statistics for Model 1 and Model 2

| Model | χ^2 | DF | p | CMIN/DF | RMSEA | CFI | TLI | IFI |
|---------------------|----------|-----|------------|---------|-------|------|------|------|
| M1 (Full mediation) | 528.41 | 177 | $p < .001$ | 2.98 | 0.07 | 0.90 | 0.89 | 0.90 |
| M2 (Partial M) | 479.35 | 174 | $p < .001$ | 2.75 | 0.06 | 0.92 | 0.90 | 0.92 |

Structural Model

Structural equation modeling analyses were performed in order to test the mediator role of assertiveness. In this regard, two possible structural models have been examined in order to compare the alternative models and determine the most appropriate model in terms of the structural relations. First, a full mediation role of assertiveness, without the direct relationship between mindfulness and resilience, subjective well-being, and psychological well-being was tested as Model 1 (M1) and results revealed good

model-data fit with all paths being significant between latent and observed variables: χ^2 (177, N = 400) = 528.41, $\chi^2 / df = 2.98$, $p < .001$; CFI = .90; TLI = .89; IFI=.90; RMSEA = .07 (90% CI = .064–.078). Second, partial mediating effect of assertiveness between mindfulness and resilience, subjective well-being, and psychological well-being was examined with the aim of comparison alternative models (M2) and results demonstrated very satisfactory fit to the data: χ^2 (174, N = 400) = 479.35, $\chi^2 / df = 2.75$, $p < .001$; CFI = .92; TLI = .90; IFI=.92; RMSEA = .06 (90% CI = .059–.073). As Table 4 demonstrates, fit indices indicates a slight improvement for partial mediation model to full mediation model and paths between mindfulness and resilience, subjective well-being, and psychological well-being remain significant for Model 2 supporting the partial mediator role of assertiveness. In Model 2, mindfulness positively predicted assertiveness ($\beta = 0.63$, $p < 0.001$), resilience ($\beta = 0.03$, $p < 0.05$), subjective well-being ($\beta = 0.40$, $p < 0.001$), and psychological well-being ($\beta = 0.09$, $p < 0.001$). Assertiveness positively predicted resilience ($\beta = 0.09$, $p < 0.05$), subjective well-being ($\beta = 0.35$, $p < 0.001$) and psychological well-being ($\beta = 0.11$, $p < 0.001$) as Figure 1 demonstrates. More importantly, assertiveness mediated the



relationship between mindfulness, resilience, subjective and psychological well-being. 95 % bias-corrected bootstrapping procedure was applied to determine the significance of mediating effect and results indicated assertiveness significantly mediated in the relationship between mindfulness and resilience (95% CI=[0.036, 0.085]), subjective well-being (95% CI=[0.146, 0.356]), and psychological well-being (95% CI=[0.043, 0.112]).

Note. Path coefficients were standardized; $p < .05$. $p^{***} < .001$.

Figure 1. The proposed structural model demonstrating relationships between latent variables

DISCUSSION, CONCLUSION & SUGGESTIONS

Mindfulness is the ability to be fully present in the moment and awareness through paying attention on purpose (Kabat-Zinn, 2003). Concept mindfulness is associated with beneficial psychological and behavioral outcomes and particularly increased wellbeing and mental health. In order to obtain a better understanding of the concept, this study intends to examine the mediating effect of assertiveness in the association between mindfulness, resilience, subjective wellbeing, and psychological well-being. The study demonstrated a) significant and positive associations between assertiveness, mindfulness, resilience, subjective well-being, and psychological well-being. The main results of the study revealed that b)

assertiveness mediated the relationship between mindfulness and resilience, subjective well-being, and psychological well-being.

For the first hypothesis of the study, participants who reported higher levels of assertiveness and mindfulness also reported higher levels of resilience, subjective, and psychological well-being. Essentially, findings are in line with the literature. For instance, previous studies demonstrated that greater levels of mindfulness associates with greater levels of resilience (Freligh & Debb, 2019), positive affect (McLaughlin, Luberto, O'Bryan, Kraemer, & McLeish, 2019), negative affect (Keng & Ang, 2019), and life satisfaction (Wang & Kong, 2019). To the best of knowledge, no studies to date documented the relationship between assertiveness and psychological well-being (eudaimonic well-being). In this regard, the results of the study are noteworthy and in line with the conceptual framework of the concepts. Conceptually, assertiveness refers to asserting one's rights, interests, thoughts, and feelings without anxiety while psychological well-being conveys the longer term of the well-being involving in possession of purposes and aims in life, finding meaning and reaching one's true capacity (Ryff, 1995). Thus, the results suggest that individuals acting assertively also demonstrate the features that align with longer-term well-being. Regarding the dimensional levels, findings indicated that the most associated aspect of psychological well-being with assertiveness is the component of environmental mastery, revealing that participants with greater ability to express themselves also experience feelings of competency to cope with problems and adapt to situations without being overwhelmed by stress. In terms of the associations between assertiveness and other study variables, the results demonstrated that assertiveness correlates significantly and positively with mindfulness, positive affect, life satisfaction, resilience while negative correlations were found with negative affect. Although the results are in line with our hypotheses, the literature cites studies with contradictory findings. For instance, one study by Jagdish (1993) reported no association between assertiveness and none with positive or negative affect. On the contrary, Paezy, Shahraray and Abdi (2010) found that the assertiveness training program increased participants' levels of happiness, revealing the positive association between assertiveness and happiness, which is considered as an aspect of positive affect.

The main findings of the study derived from the mediation analysis. Structure equation modeling analyses demonstrated that assertiveness mediated the relationship between mindfulness, resilience, subjective well-being, and psychological well-being. The results show that being fully present at the moment directly influences individuals to experience greater levels of resilience, subjective, and psychological well-being. Additional to this path, high levels of mindfulness contribute to greater levels of assertiveness, which in turn contribute to high levels of resilience, subjective and psychological well-being. Thus, results speak that mindfulness contributes to various sorts of well-being through assertiveness and highlight the importance of the concept of individuals' well-being and mental health.

Given the scarcity of research on the relationship between assertiveness, mindfulness, resilience, subjective well-being, and psychological well-being, the results of this study are noteworthy as they highlight the notion of assertiveness as a mediator source on the relationship between mindfulness and an array of well-being indices. Although the current study sheds light on the underlying mechanism behind such a relationship, no study is devoid of limitations. First, the current study solely focused on university students which might restrict the generalizability of the results. Another limitation of the study emerged due to the cross-sectional nature of the study design. In this regard, replication of the study with longitudinal and experimental design might be fruitful for causal inferences.

Limitations notwithstanding, findings of the current study contributed to the literature on providing first-ever results in regards to the relationship between assertiveness, mindfulness, resilience, subjective well-being, and psychological well-being. First, the current findings indicated the positive and significant associations between assertiveness, mindfulness, resilience, positive affect, life satisfaction, and factors that contribute to psychological well-being while negative correlations were found between the same variables and negative affect, as hypothesized. Second, findings of the current study demonstrated that assertiveness accounted for a significant amount of variance in the relationship between mindfulness and resilience, subjective and psychological well-being.

Overall, the results speak that mindfulness contributes to some of the wellbeing indices through assertiveness. Although such a relationship does not imply causal inferences, the findings clearly indicate that assertiveness, an overlooked construct in psychology and counseling research, is important for the well-being of individuals. Thus, it might be fruitful to include assertiveness training in intervention studies aiming to improve mental health, such as resilience, subjective and psychological well-being. Especially in universities, counseling services may impact in supporting university students through mindfulness and assertiveness programs.

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