The Confluence of Authenticity and Mindfulness: Principal Component Analysis of the Authenticity Scale and the Five-Facet Mindfulness Questionnaire

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The concepts of authenticity and mindfulness have recently attracted much empirical research. Although these concepts appear to represent different phenomena and are regarded as independent research foci with their own theoretical heritage and research trajectory, they also share considerable empirical convergence. This led us to speculate that measures of these two aspects of human experience, although using different language, are in fact measuring similar phenomena. To investigate their similarity, 530 participants completed the Five-Facet Mindfulness Questionnaire (Baer et al., 2006) and the Authenticity Scale (Wood et al., 2008). Principal component analysis of the eight subscales from these two measures suggested two components that indicate the possibility of a useful confluence of these seemingly different lines of research inquiry. We suggest that there are specific ways in which a person who is authentic is also mindful and someone who is mindful is also authentic, but also the possibility that other ways of being mindful, such as observing (in the context of low levels of nonjudging), do not by themselves imply authenticity.

Public Significance Statement
This study ($n = 530$) was conducted to test possible conceptual convergence between authenticity and mindfulness. The Principal Component Analysis was run for the eight subscales of two questionnaires, namely the Authenticity Scale and the Five-Facet Mindfulness Questionnaire. The results of this analysis confirmed the hypothesis by demonstrating a two-component model which comprised of internal and external authentic awareness. The first component implies the ability to look inwards to fully appreciate the meaning of one's own sensations, whereas the second component signifies one's attitudes towards the outside world. Furthermore, the points where an authentic person is

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mindful, and a mindful person is authentic, are identified, as are the divergent points where a mindful person is inauthentic. This study is the initial investigation into the common structural characteristics of authenticity and mindfulness.

There has been growing empirical interest in the concepts of authenticity and mindfulness over the past 2 decades. Authenticity and mindfulness each have their own strand of theory and empirical research, with scholars such as Harter (2002), Kernis and Goldman (2006), Wood et al. (2008), and Joseph (2016) pioneering the development of our understanding of authenticity and scholars such as Kabat-Zinn (1994), Brown and Ryan (2003), Baer et al. (2006), and Feldman et al. (2007) pioneering our understanding of mindfulness. These two strands of research have remained in relative isolation from each other. However, there are such potential similarities between these two concepts that we wonder if, in a metaphorical sense, they are tributaries of the same river or even one river observed from two different banks. Our aim was to investigate the components of authenticity and mindfulness to determine whether they can be considered as two separate constructs.

Etymologically, the term "authenticity" is derived from the Greek word *authentikos*, which means "principal, genuine" (Oxford Dictionaries, 2021). Although empirical interest in authenticity is relatively recent, the tradition of research into inner self-knowledge is well established in humanistic psychology (Medlock, 2012), most notably by Rogers (1959), who used the term "congruence" to describe what we might refer to today as authenticity. According to Rogers (1961), the opposite of congruence is defensiveness. Defensiveness arises when one's experiences are perceived as threatening to the self-structure (Rogers, 1961). For Rogers (1961), it is possible to be more authentic by observing and moving away from automated, conditioned self-protective processes in precisely the same manner advocated by mindfulness as we learn to experiment and act in harmony with our present experience. Rogers (1961) expressed this as "a fluid process, not a fixed and static entity; a flowing river of change, not a block of solid material; a continually changing constellation of qualities, not a fixed quantity of traits" (p. 122). The congruent or authentic person interacts intensely and honestly with their experience, possessing curiosity, an ability to be a detached observer, and a tendency to accept things as they are (see Beitel et al., 2014; Cohen, 2014). Any cognitive attempt to hide feelings may cause incongruence and deeper emotional blindness (Sheldon, 2009). Put simply, a state of congruence underlies knowing where one is emotionally, and this genuine connection creates harmony between experience at the gut level and displayed behavior in an atmosphere of realness (Rogers, 1980).

The concept of mindfulness takes it linguistic roots from the Pali word *sati* and Sanskrit word *smrti*, which refer to a cultivation of pure awareness and both recalling and developing the real "I" via present-moment focus (Bodhi, 2000; Eriksen & Ditrich, 2015; Sellman & Buttarazzi, 2020). According to Kabat-Zinn (1994), mindfulness is a process of self-exploration and self-knowledge arising from moment-to-moment self-observation. Baer (2003) defined mindfulness as "the nonjudgmental observation of the ongoing stream of internal and external stimuli as they arise" (p. 125). This is not a superficial identification with the self, but rather something more surgical. It relates to a sense of an unconditioned self where there is the spaciousness to simply be. This awareness also allows deep connection to others and the ethical

implications of such recognition. In addition to this, when one is "actively engaged in the present," it is easier to free oneself from a "single, rigid perspective" that hinders alternative ways of knowing and accepting oneself (Langer, 2000, p. 220). It is crucial to awakening from the mindless habits of thought since individuals can perceive oneself as "a work in progress" instead of immutable characteristics.

Two intriguing questions arise. Is it possible to be mindful without being authentic? Is it possible to be authentic without being mindful? The notion of a real "I" offers particular potential for convergence. It might be expected that those who are more authentic are more mindful and those who are more mindful are more authentic because they are deeply aware of this real "I." Kabat-Zinn (1994), one of the first contemporary scholars to augment the introduction of mindfulness to Western nonspiritual contexts, expressed how authenticity is experienced as an act of mindfulness:

> I like to think of mindfulness simply as the art of conscious living. You do not have to be a Buddhist or a yogi to practice it. In fact, if you know anything about Buddhism, you will know that the most important point is to be yourself and not to try to become anything that you are not already. . . .. It [mindfulness] is simply a practical way to become more in touch with the fullness of your being through a systematic process of self-observation, self-inquiry and mindful action. (pp. 6–7)

More recently, Carson and Langer (2016) have discussed the importance of authenticity to mindfulness. For them, the mindful person is authentic "in that they are fully engaged with the environment" and are fully able to "notice novel aspects of the situation, rather than devoting attentional resources toward winning the approval of others" (p. 31), and the authentic person lives mindfully "engaged in the experience of the moment rather than in attempts to enhance his or her perceived appearance" (p. 33). Other contemporary researchers have written about the theoretical similarity between authenticity and mindfulness (e.g., Beitel et al., 2014; Felder et al., 2014; Joseph et al., 2016; Ryback, 2006), and some empirical research has now been conducted to test their relationship.

A positive correlation has now been shown between authenticity and mindfulness in several studies. For example, Lakey et al. (2008) reported a correlation of $r(101) = .48, p < .01$, between the Mindful Attention Awareness Scale (Brown & Ryan, 2003) and the Authenticity Inventory (Goldman & Kernis, 2004). The Authenticity Inventory also consists of four subscales: Awareness, Unbiased Processing, Authentic Behavior, and Relational Orientation. Mindfulness was found to be correlated with Awareness, $r(101) = .46, p < .01$, Unbiased Processing, $r(101) = .37, p < .01$, Authentic Behavior, $r(101) = .40, p < .01$, and Relational Orientation, $r(101) = .28, p < .01$. In a similar study, Allan et al. (2015) reported that the Mindful Attention Awareness Scale (Brown & Ryan, 2003) was correlated with the Awareness, $r(305) = .33, p < .01$, Unbiased Processing, $r(305) = .45, p < .01$, Authentic Behavior, $r(305) = .34, p < .01$, and Relational Orientation, $r(305) = .30, p < .01$, subscales of the Authenticity Inventory (Kernis & Goldman, 2006).

Other studies using the Authenticity Scale (AS; Wood et al., 2008) have also found evidence for an association. Chen and Murphy (2019) also showed that higher scores on the Mindful Attention Awareness Scale (Brown & Ryan, 2003) were correlated with higher scores on the AS, $r(165) = .54, p < .01$. The AS consists of three subscales: Self-Alienation, Accepting External Influence, and Authentic Living. Vess et al. (2016) found that higher scores on the Cognitive and Affective Mindfulness Scale (Feldman et al., 2007) were associated with lower scores on Self-Alienation, $r(93) = -.47, p < .01$, higher scores on Authentic Living, $r(93) = .29, p < .01$, and lower scores on Accepting External Influence, $r(93) =$

−.33, $p < .01$. In line with these results, Tohme and Joseph (2020) reported a strong correlation of $r(197) = .61$, $p < .001$, between the Kentucky Inventory of Mindfulness Skills (Baer et al., 2004) and the AS. The Kentucky Inventory of Mindfulness Skills includes four subscales: Observing, Describing, Acting With Awareness, and Accepting Without Judgment. The total score for the AS was found to be correlated with Observing, $r(197) = .30$, $p < .001$, Describing, $r(197) = .52$, $p < .001$, Acting With Awareness, $r(197) = .30$, $p < .001$, and Accepting Without Judgment, $r(197) = .46$, $p < .001$.

In another study using a different authenticity measurement, Zheng et al. (2020) reported a correlation between the short form of the Five-Facet Mindfulness Questionnaire (FFMQ; Hou et al., 2014) and the Integrated Authenticity Scale (Knoll et al., 2015). The Integrated Authenticity Scale has two subscales: Authentic Self-Awareness and Authentic Self-Expression. Authentic Self-Awareness was found to be correlated with the Describing, $r(331) = .44$, $p < .01$, Acting with Awareness, $r(331) = .29$, $p < .01$, and Non-Reactivity, $r(331) = .13$, $p < .05$, subscales of the FFMQ, whereas Authentic Self-Expression correlated with the Describing, $r(331) = .35$, $p < .01$, Acting with Awareness, $r(331) = .42$, $p < .01$, Non-Judging, $r(331) = .19$, $p < .01$, and Non-Reactivity, $r(331) = .14$, $p < .01$, subscales. More recently, Roemer et al. (2021) also demonstrated the existence of a strong correlation between the Integrated Authenticity Scale (Knoll et al., 2015) and the FFMQ (Baer et al., 2006), $r(301) = .63$, $p < .01$.

As such, the literature indicates the likelihood of a moderate to strong association between authenticity and mindfulness warranting further investigation. Existing research has tended to operationalize authenticity and mindfulness as independent variables in studies, looking to find their association, often with the aim of developing an understanding of how interventions to increase one will affect the other (e.g., Leroy et al., 2013). However, our reading of relevant literature and accompanying theoretical issues raises the question of whether these two constructs should be considered separable or whether they are in fact similar phenomena but conceptualized and described in different ways.

For example, Tohme and Joseph (2020) suggested that mindfulness is an emergent property of authenticity, if understood as from Rogers' (1961) theory of congruence. Indeed, this resemblance between authenticity and mindfulness within the Rogerian framework can also be explained by their philosophical alliance. Similar to the concept of mindfulness that originated from Eastern forms of thought, Rogerian understanding of self-actualization also has striking parallels with the sage of Taoism and the enlightened person of Zen Buddhism, who perceive reality with completely open awareness, behave genuinely, and realize their full potential (Bazzano, 2011; Chang & Page, 1991). Furthermore, the fact that Rogers (1973) stated that he enjoyed reading about the techniques of Zen Buddhism and Taoism also makes the philosophical analogy behind the concepts of mindfulness and authenticity more understandable (Hermsen, 1996). Therefore, the aim of this study was to investigate the components of authenticity and mindfulness as assessed using two well-established and widely used multidimensional measures of these constructs.

For the purpose of this study, we conceptualize authenticity from the perspective of Rogers' description of congruence. The AS (Wood et al., 2008) was specifically developed on the basis of Rogers' description of congruence. The AS provides a score for authenticity comprised of three dimensions such that high levels of authenticity are defined by low levels of self-alienation, low levels of the need to seek acceptance and be influenced by others, and high levels of feeling that one is living in a way that is true to oneself.

Our conceptualization of mindfulness is taken from Baer et al. (2006), who proposed that mindfulness has a multidimensional structure composed of five dimensions: observation, description, acting with awareness, nonjudgment, and nonreaction. The first dimension—observation—refers to attentive openness to senses, feelings, and thoughts that are

experienced in our internal and external world. The second dimension—description—represents identifying and labeling the thoughts and feelings that emerged as a result of experiences. The third dimension—acting with awareness—implies sidestepping away from the busyness of the mind and being fully present. The fourth dimension—nonjudgment—stands for evaluating thoughts and feelings from an objective perspective and showing kind acceptance to oneself. The last dimension—nonreaction—denotes stepping back from emotional triggers and negative thoughts to create space for calm responses. With the intention of assessing these five constructs of mindfulness, the FFMQ was developed (Baer et al., 2006).

Our objective was to use principal component analysis to explore the structure of the subscales of the AS and FFMQ. If authenticity and mindfulness are truly separate constructs, as measured in this way, then it might be expected that the subscales on both the AS and the FFMQ would load on two separate components, but if they are indeed assessing similar phenomenon, then we might expect them to load on the same component.

Method

Participants and Procedure

Data were collected from 530 Turkish-speaking participants: 152 men (28.7%), 374 women (70.6%), and four identifying as "other" (0.8%), the latter being an option given to respondents who prefer not to describe themselves as female or male. The participants ranged in age from 18 to 76 years ($M = 34$, $SD = 11.6$). Most participants were full-time employees (48.3%), 14.2% were freelancers, 4% were part-time employees, 17.5% were students, 6.2% were retired, 3.2% looked after their families, and the remaining 6.6% of the sample were unemployed.

Measures were made accessible on the web via Bristol Online Surveys, now Online Surveys, a U.K.-based online survey tool for the academic community, which meets high ethical and data protection standards. The informed consents were provided by all participants, and the study was approved by the university department's ethics committee. A demographic form was also administered. Initial participants were recruited utilizing a "snowballing technique," starting with friends and acquaintances. No incentives were used for recruitment, and the subjects participated in this study voluntarily.

Measures

The AS (Wood et al., 2008) is a 12-item self-report measure that consists of three subscales: Self-Alienation (e.g., "I do not know how I really feel inside"), Authentic Living (e.g., "I am true to myself in most situations"), and Accepting External Influence (e.g., "Other people influence me greatly"). Each item is rated on a 7-point Likert scale from 1 (*does not describe me at all*) to 7 (*describes me very well*). Each of the subscales was found to possess satisfactory internal consistency reliability, ranging from .69 to .78 (Wood et al., 2008). For the Turkish version, Cronbach's alpha was found to be adequate, ranging from .62 to .79 (İlhan & Özdemir, 2013).

The FFMQ (Baer et al., 2006) is a 39-item self-report measure that contains five subscales: Observing (e.g., "I notice how foods and drinks affect my thoughts, bodily sensations, and emotions"), Describing (e.g., "I can easily put my beliefs, opinions, and expectations into words"), Acting with Awareness (e.g., "It seems I am 'running on automatic' without much awareness of what I'm doing"; reverse-scored item), Non-Judging of inner experience (e.g., "I think some of my emotions are bad or inappropriate and I shouldn't feel them"; reverse-scored item), and Non-Reactivity to inner experience (e.g., "In difficult situations, I can pause

without immediately reacting"). The items are rated on a 5-point Likert scale ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*). Nineteen of the 39 items are reverse scored. Cronbach's alpha reliability coefficients were found to range from .75 to .91. For the Turkish version, Cronbach's alpha values were found to range from .67 to .85 (Kınay, 2013).

Results

All statistical calculations were computed using SPSS Version 24. Internal consistencies and intercorrelations for the subscales from the AS and FFMQ are presented in Table 1. Internal consistency alpha coefficients ranged from .59 to .88. Pearson correlation coefficient was used for the first phase of data analysis. There was a statistically significant strong positive correlation between the total AS and the total FFMQ scores, $r(530) = .58$, $p < .01$. Examining the correlations between the three subscales of the AS and five subscales of the FFMQ showed that greater authenticity was moderately associated with greater mindfulness, with two exceptions. No association was found between Non-Judging and Authentic Living or between Observing and Self-Alienation.

In the second stage of data analysis process, the three subscales of the AS and five subscales of the FFMQ were subjected to exploratory principal component analysis with oblimin rotation. Before running principal component analysis, the factorability of data was examined. Correlation matrix inspection verified that all variables had at least one correlation coefficient .30 or above. Also, the overall Kaiser-Meyer-Olkin measure (.789) and Barlett's test of sphericity ($p < .0005$) indicated adequate results for factorizability of data. Two components had eigenvalues greater than 1, accounting for 37.4% and 15.4% of total variance, respectively.

Visual inspection of the scree plot suggested that either a one-factor or two-factor solution was appropriate (see Figure 1). Consequently, both one- and two-component solutions were examined for the total sample (see Table 2). For ease of visual inspection, loadings greater than .40 are marked in bold. Setting the cutoff at .40 is regarded as the lowest acceptable factor loading (Matsunaga, 2010). Loadings on the one-component solution ranged from −.77 to .56. It can be seen that for the one-component solution, all three of the AS subscales and three of the FFMQ subscales, Describing, Acting with Awareness, and Non-Reactivity, loaded above .40 on the single component. For the two-component solution, loadings ranged from −.79 to .51 on Component 1 and from .43 to .81 on Component 2. These results would suggest that a two-component solution may be preferable as all subscales of the FFMQ loaded above .40 on one of the components.

Surprisingly, rather than showing that the subscales from the authenticity and mindfulness questionnaires load separately on these two components, the subscales of Self-Alienation and Accepting External Influence from the AS and the subscales of Describing, Acting with Awareness, and Non-Judging from the FFMQ all loaded > −.40 on Component 1, and the subscale of Authentic Living from the AS and the subscales of Observing and Non-Reactivity from the FFMQ all loaded > −.40 on Component 2. The first component seems to represent authentic awareness as commensurate with an inner mental world that involves having clear insight and ownership with regard to sensations, feelings, emotions, and autonomy. The second component pertains to the external world and how the person acts in relation to the world around them.

Further analysis by biological sex was investigated (see Table 2). For women, the loadings of the one-component model varied from .41 to .74, which indicated almost acceptable values for the one-factor solution. For the two-component solution for women, all subscales except Observing loaded on Component 1. For men, the one-component solution model had

Table 1

*Pearson Correlations Between the Authenticity Scale and the Five-Facet Mindfulness Questionnaire*

Measures	1	2	3	4	5	6	7	8	9	10
1. Authentic Living	—									
2. Self-Alienation	-.378**	—								
3. Accepting External Influence	-.242**	.482**	—							
4. Observing	.189**	-.084	-.132**	—						
5. Describing	.304**	-.460**	-.287**	.312**	—					
6. Acting with Awareness	.334**	-.523**	-.394**	.166**	.394**	—				
7. Non-Judging	-.005	-.265**	-.254**	-.042	.209**	.245**	—			
8. Non-Reactivity	.234**	-.288**	-.284**	.365**	.261**	.353**	.071	—		
9. AS total	.644**	-.857**	-.770**	.166**	.467**	.557**	.247**	.354**	—	
10. FFMQ total	.339**	-.529**	-.436**	.570**	.717**	.713**	.502**	.596**	.580**	—
M	5.66	2.80	3.10	3.53	3.71	3.62	2.94	3.13	5.25	3.41
SD	.87	1.31	1.12	.59	.68	.71	.68	.63	.85	.41
α	.59	.80	.79	.77	.88	.86	.81	.75	.82	.87

Note. $N = 530$. AS = Authenticity Scale; FFMQ = Five-Facet Mindfulness Questionnaire.

** Correlation is significant at the .01 level (two-tailed).

Figure 1

Scree Plot Showing the Principal Components Analysis With Oblimin Rotation of the Subscales of the Authenticity Scale and the Five-Facet Mindfulness Questionnaire
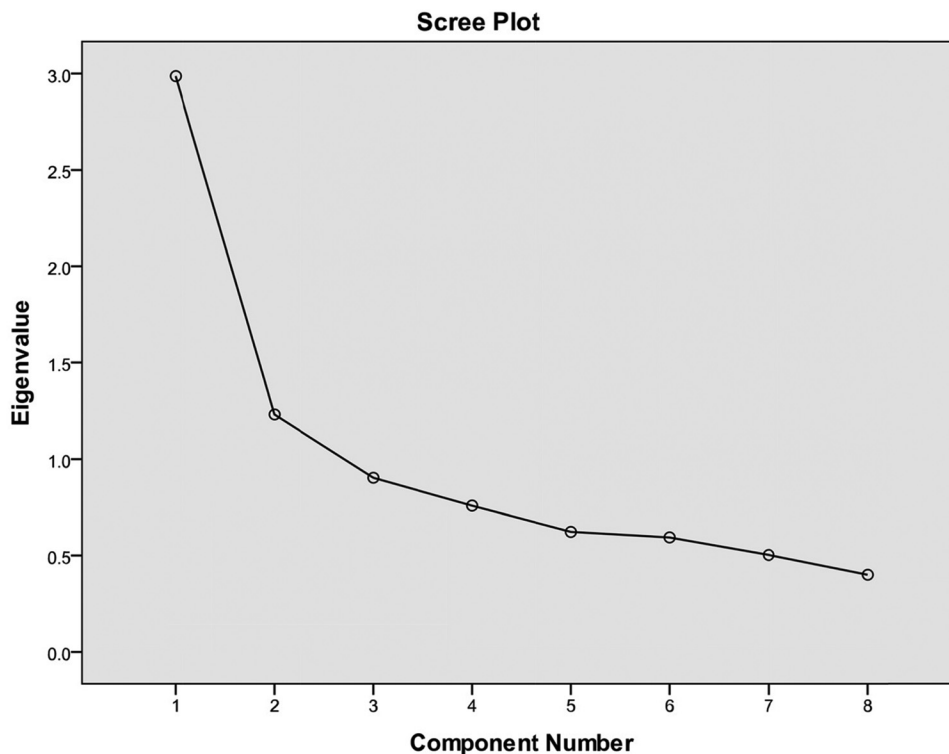
loadings that varied from .41 to −.83. For the two-component solution for men, all subscales except Observing and Non-Reactivity loaded on Component 1. The pattern of results was essentially the same for women and men as it was for the combined sample, with the two-component solution seeming preferable due to loadings above .40 for all subscales. Some cross-loadings were noted. Non-Reactivity loaded above .40 on both components for women. Non-Judging loaded above .40 on both components for both men and women.

A main difference was that Authentic Living, which had cross loaded to an extent on the two components for the total sample, now loaded more strongly on Component 1 than for Component 2. It may be that in contrast to the other two authenticity subscales, Authentic Living captures both internal and external aspects of authenticity. To live authentically involves being in the world, but it also involves attending in. It is noteworthy that, for both women and men, none of the authenticity subscales loaded exclusively and above .40 on the second component, which consists of Observing, (low) Non-Judging, and Non-Reactivity. According to these results, it seems that some facets of mindfulness and authenticity may be considered as part of a single dimension but other facets of mindfulness exist on a second dimension.

Discussion

This research is an initial attempt to explore the underlying component structure of authenticity and mindfulness. These results suggest that authenticity and mindfulness, as

Table 2
Two-Component Solution of the Authenticity Scale and the Five-Facet Mindfulness Questionnaire

Subscale	One-component model (general population)	Two-component model (general population)		One-component model (female)	Two-component model (female)		One-component model (male)	Two-component model (male)	
		1	2		1	2		1	2
Eigenvalue	2.98	2.98	1.23	3.05	3.05	1.18	2.83	2.83	1.48
Percentage	37.33%	37.33%	15.40%	38.23%	38.23%	14.85%	35.39%	35.39%	18.50%
AS Authentic Living	**.56**	.32	**.43**	**.56**	**.50**	.25	**.56**	**.43**	.34
AS Self-Alienation	**-.77**	**-.79**	-.07	**-.74**	**-.79**	.16	**-.83**	**-.84**	-.06
AS Accepting External Influence	**-.65**	**-.69**	-.04	**-.65**	**-.67**	.02	**-.67**	**-.78**	.17
FFMQ Observing	.39	-.10	**.81**	**.41**	.21	**.75**	.32	.01	**.71**
FFMQ Describing	**.68**	**.51**	.34	**.68**	**.67**	.06	**.66**	**.50**	**.40**
FFMQ Acting with Awareness	**.74**	**.68**	.18	**.74**	**.74**	.02	**.75**	**.74**	.09
FFMQ Non-Judging	.36	**.68**	**-.44**	.38	**.54**	**-.60**	.27	**.52**	**-.52**
FFMQ Non-Reactivity	**.58**	.23	**.61**	**.63**	**.52**	**.45**	**.41**	.11	**.71**

Note. AS = Authenticity Scale; FFMQ = Five-Facet Mindfulness Questionnaire. Extraction method: principal component analysis. Rotation method: oblimin with Kaiser normalization. Rotation converged in nine iterations. Loadings greater than .40 are marked in bold.

operationally defined here, are structurally assessing similar phenomena. It would seem that for both men and women, authenticity is closely aligned with Describing and Acting with Awareness, which load exclusively on the same component. Observing (and Non-Reactivity for men), however, loads exclusively on a separate second component.

The reorganization of the structure of these two measurement tools of authenticity and mindfulness into two dimensions draws considerable support from the literature on the "self" within humanistic psychology, authenticity, mindfulness, and contemplative studies. The first component seems to refer to a bidirectional process, similar to that described by Spira (2017) of attending "in" and "out" (see also Ergas, 2017) as a means of accessing and engaging deeper awareness, which he posits as the real nature of the self. While "attending in," the process engages with the awareness that "sits beneath" all thoughts, emotions, and experiences much like the practices of self-inquiry/Advaita Vedanta described in classical spiritual literature or ego disidentification described in humanistic and secular mindfulness literature. While "attending out," deeper awareness is taken back out to experience in a practice much like that of Tantra in classical spiritual literature or authentic living and dispositional mindfulness in humanistic and secular mindfulness literature. The presence of the first component containing aspects of both mindfulness and authenticity suggests that, in these specific ways, a person who is authentic is also mindful and someone who is mindful is also authentic, but further research would need to establish the relationship using prospective methods of research. The second component, however, suggests the possibility that other facets of mindfulness do not imply authenticity. Observant and nonreactive processes may occur in people who are either authentic or inauthentic.

These results add a possible means of theorizing how authenticity and mindfulness may connect and warrants more detailed scrutiny in further research. While similar quantitative research is needed to replicate and extend these findings regarding the convergence of authenticity and mindfulness, we would also see an important role for future qualitative and experiential studies to contribute a greater depth of understanding into the lived experiences of mindfulness in high- and low-authentic groups.

Previous reports have shown that higher levels of authenticity correlate with higher levels of mindfulness (e.g., Tohme & Joseph, 2020), whereas true self-alienation (the feeling of being disconnected from what one truly is) is associated with mind wandering (Vess et al., 2016). On the other hand, the existing literature indicates that meditation fosters mindfulness experience (e.g., Moore & Malinowski, 2009) and reduces mind wandering (Mrazek et al., 2013). Based on all these results, it can be hypothesized that meditation may reduce true self-alienation and promote authenticity. Further investigations are required to explore whether meditation does indeed empower authenticity.

Whether any particular meditation technique is more effective than the others in terms of the degree it enables the nourishing of the authentic self could be another interesting research question. For instance, it may be that mantra-chanting practices are more effective, when compared to other practices, in controlling attention by diminishing mind wandering and cultivating a sense of true self-awareness (Vess, 2019). Insofar as authenticity is an indicator of more fully functioning behavior, the results of the present study also suggest the intriguing possibility that not all forms of mindfulness practice may be helpful in this way to the individual. Those mindfulness practices that cultivate describing and acting with awareness may be beneficial, but those that focus on observing may not be.

As such, future experimental study designs could also investigate the effects of a mindfulness-based stress reduction program (Kabat-Zinn, 2003) or mindfulness-based cognitive therapy (Segal et al., 2002) on the authenticity levels of participants (Meleo-Meyer, 2021). There is reported evidence that mindfulness-based interventions decrease levels of stress (e.g.,

Chiesa & Serretti, 2009; Hofmann & Gómez, 2017, Pillay & Eagle, 2021), anxiety (Hoge et al., 2013; John Lothes et al., 2021), and depression (e.g., Kenny, 2021; Kuyken et al., 2008; Teasdale et al., 2000) and increase levels of well-being (e.g., Godfrin & van Heeringen, 2010), self-compassion (e.g., Ondrejková et al., 2020), and psychological adjustment (Molefi-Youri, 2019). Along these lines, future qualitative research could include in-depth interviews or focus-group studies with the participants of mindfulness trainings to gauge the level of authenticity experienced. In such research, a combination of quantitative and qualitative methods could be used to reach a more accurate conclusion.

However, while interest in mindfulness is relatively new, and we are now asking about how mindfulness training may cultivate authenticity, we must also ask how traditional approaches in humanistic psychology concerned with the development of authenticity, such as Rogers' (1951) client-centered therapy, intrinsically promote mindfulness. Does the process of client-centered therapy, and client-centered therapy training, already cultivate mindfulness, and if not, would it be helpful to introduce some of the techniques from the extant literature on mindfulness?

Building on the results of this study, it is possible to argue that client-centered therapy, which aims to reduce the anxiety of clients by helping them harmonize with their authentic self, and mindfulness-based cognitive therapy, which aims to reduce clients' stress symptoms in a present-oriented and nonjudgmental atmosphere, are also based on similar conceptualizations. Another possible study could investigate the effect of mindfulness-based cognitive therapy on clients' experiences of authenticity, while comparative studies could identify the effectiveness of both types of therapy on authenticity and mindfulness. Results obtained from studies such as these are likely to suggest several courses of action for therapists in the creation of an optimum clinical environment.

We would also suggest that possible convergence of authenticity and mindfulness has implications not only for therapy but also for developments in humanistic and positive education, in which mindfulness is already widely used (e.g., Zenner et al., 2014). These results suggest that not all forms of mindfulness practice may cultivate authenticity and echo previous concerns that holism in mindfulness practice needs safeguarding (Sellman & Buttarazzi, 2020). Future educational investigations are needed to address the following questions: Does the student-centered approach, which places the development of students' authentic selves at the center, enhance the mindfulness levels of the students? Do mindfulness-based education programs (e.g., Etty-Leal, 2021; Hyland, 2014) increase students' awareness of their intrinsic motivation sources? It is hoped that the data provided by these future studies would help identify areas where both pedagogical approaches are able to contribute to each other, as well as to the development of effective techniques. To illustrate, student-centered classrooms could integrate mindfulness practices into their curriculum with the aim of encouraging students to notice their thoughts, feelings, and sensations and so improve knowledge of themselves for self-actualization (Kazanjian, 2020). Similarly, mindfulness-based education programs could use methods used in the student-centered approach to enhance the inner awareness of the students.

In conclusion, this is the first investigation into the structural architecture of authenticity and mindfulness. There are several limitations to disclaim. First, ours was a Turkish-speaking sample. We do not know if our results will generalize to other populations, and there is a need for further research to replicate the findings with different cultural groups. While the theory underpinning this research (Rogers, 1959) suggests that authenticity is a universal construct across all cultures, it is also the case that perceptions and expressions of what it means to be true to oneself vary among cultures. This suggests that investigating diverse operations of authenticity within different cultures is important for the generalization of findings. Such

research is essential for the provision of culture-specific interventions. We would also add that by collecting data from Turkish-speaking participants, we hope to contribute to existing research in terms of making the literature less ethnocentric; a criticism of studies in the field of psychology is that they are generally carried out in WEIRD (Western, educated, industrialized, rich, democratic) cultures.

Second, our sample consisted of mostly women. As such, the generalizability of these findings is uncertain, and replication is needed with other samples. Third, these data were collected using self-report measures, which by definition attempt to assess difficult-to-measure constructs. Clearly, there are debates regarding how such concepts as authenticity and mindfulness can be measured in the first place given their ineffability and the impact both definitional issues and context may have on such an approach (Baumeister, 2019; Nelson, 2012). The AS in particular requires participants to have sufficient insight into themselves, and it may be that those lacking in authenticity may not recognize this in themselves. It is also possible that the least authentic participants may be the most likely to rate themselves highly or inaccurately. It was also noted that the AS defines authenticity in large part by items designed to assess an *absence* of self-alienation and external pressures as opposed to the *presence* of self-awareness and self-direction. This would seem to be a limitation of the scale. In addition, we used a translated version of the AS, and while its reported psychometric characteristics appear robust, it is possible that some of the meaning of the original is lost in translation. As such, replication with other measures and using behavioral indices, if possible, would be desirable. Fourth, both authenticity and mindfulness are positively valued traits, and for this reason the results may have been influenced by their social desirability. Future research might include social desirability scales in order to control for such effects.

These exploratory results are intriguing and suggest new lines of research that recognize the potential confluence of these two lines of research inquiry. To conclude, the aim of investigating the possible similarities between the constructs of authenticity and mindfulness has been fulfilled, and it appears there is initial evidence that they may be, to a large extent, one river that is being observed from different banks.

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Author Note

Correction to Toper et al. (2022)

The article "The Confluence of Authenticity and Mindfulness: Principal Component Analysis of the Authenticity Scale and the Five-Facet Mindfulness Questionnaire" by Aydan Toper, Edward Sellman, and Stephen Joseph (*The Humanistic Psychologist*, advance online publication, November 10, 2022, https://doi.org/10.1037/hum0000304) is being made available open access under the CC-BY license following the University of Nottingham opt-in to the Jisc/ APA Read and Publish agreement. The correct copyright is "© 2022 The Author(s)" and the CC-BY license disclaimer is below. All versions of this article have been corrected.

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