



Exploring How Mindfulness Links to Work Outcomes: Positive Affectivity and Work-Life Enrichment

Laurel A. McNall¹  · Jamie M. Tombari^{1,2} · Melissa M. Brown¹

Received: 6 September 2018 / Accepted: 26 July 2019 / Published online: 3 August 2019
© The International Society for Quality-of-Life Studies (ISQOLS) and Springer Nature B.V. 2019

Abstract

As evidence accumulates about the link between mindfulness and well-being, organizational scholars have begun to ask *how* and *why* mindfulness results in positive change among employees. Drawing on Conservation of Resources Theory and Work-Family Enrichment Theory, we explored the underlying mechanisms that may explain the relationship between mindfulness and work outcomes. Using a community-based sample of 117 employed adults, we found evidence for a serial multiple mediation model of positive affectivity and work-life enrichment in the relationship between mindfulness and work outcomes (i.e., job satisfaction, emotional exhaustion, turnover intentions). These results lend initial support for mindfulness as a psychological resource that helps employees accrue more positive work outcomes through higher positive affectivity and work-life enrichment. Practically speaking, this research suggests that mindful employees may be better equipped at leveraging positive affect, work-life enrichment, and work outcomes. As such, organizations may want to consider offering mindfulness interventions as one possible avenue for boosting employee resources.

Keywords Mindfulness · Positive affectivity · Enrichment · Turnover · Job satisfaction · Burnout

Mindfulness is the ability to be present in the moment through attention and awareness (Brown and Ryan 2003), and although mindfulness has existed for centuries through

This research was previously presented at the Annual Conference of the Society for Industrial Organizational Psychology in Chicago, IL.

✉ Laurel A. McNall
lmcnall@brockport.edu

¹ Department of Psychology, The College at Brockport, State University of New York, Brockport, NY 14420, USA

² Present address: Department of Psychology, California State University at San Bernardino, San Bernardino, CA, USA

Buddhist tradition, it has more recently made its debut in Western Culture (Kabat-Zinn 1990). There is a growing interest in mindfulness among both organizational practitioners and scholars alike. For example, Google, Aetna, General Mills, Intel and Target have implemented programs to cultivate mindfulness in the workplace (Schaufenbuel 2014), while researchers in the field of organizational psychology study the potential value of mindfulness on a variety of work-related outcomes (Dane 2011; Glomb et al. 2011). In particular, Allen and Paddock (2015) argued that mindfulness has implications for how individuals manage both work and personal roles, but only a handful of studies have examined the link between mindfulness and work-life variables. With 89% of American workers reporting that work-life balance is a problem (Gurchiek 2010), it is more critical than ever to look for ways to help employees alleviate stress and help manage multiple role memberships. Mindfulness may be one possible antidote.

Individuals can vary in their baseline levels of mindfulness (e.g., Brown and Ryan 2003), but mindfulness can also be fostered through interventions. For example, Roeser et al. (2013) found that teachers who completed a mindfulness training reported feeling less stressed, anxious, depressed, exhausted, and burned out due to their jobs than those who did not complete the training. Similarly, Fortney et al. (2013) found in a sample of primary care clinicians that a mindfulness intervention significantly reduced burnout, depression, anxiety, and stress. More recently, calls have been made to investigate mindfulness as a way to alleviate work-family stressors (Morganson et al. 2015), and initial mindfulness intervention studies show promise (e.g., Kiburz et al. 2017; Michel et al. 2014) at reducing work-family conflict. While mindfulness intervention studies are important, the current study is focused on mindfulness as the frequency and ease in which the individual maintains attention to the present moment (Brown and Ryan 2003), regardless of how that tendency arose – whether from an individual difference variable or through contemplative practice such as yoga or meditation.

Given the vast literature on the beneficial impact of mindfulness, scholars have “recently shifted focus from asking *if* mindfulness improves well-being to *how* and *why* it results in change” (Christie et al. 2017, p. 368). That is, what are the underlying mechanisms by which mindfulness positively impacts employees? The purpose of the current study is to test the potential benefits of mindfulness through the lens of Conservation of Resources (COR) Theory (Hobfoll 2002) and Work-Family Enrichment Theory (Greenhaus and Powell 2006). Mindfulness may be a key personal resource (Kroon et al. 2015) that helps employees leverage other resources that serve the interests of the employee and organization alike. Specifically, we explored the possible serial mediation model of positive affectivity and work-life enrichment on the relationship between mindfulness and three important work outcomes: job satisfaction, emotional exhaustion, and turnover intentions.

In doing so, we answer Allen and Paddock’s (2015) call to examine the link between mindfulness and work-family experiences. In general, the work-family literature has generally been more focused on conflict between work and family roles, whereas our research contributes not only to the newer, positive side of the work-family interface, but also answers the call to expand beyond “work-family” to the more inclusive “work-life” domain. Moreover, Nicklin et al. (2018a) urged researchers to empirically test *how* psychological resources like mindfulness may help employees thrive, and we examined two potential mediating mechanisms (positive affectivity and work-life enrichment).

Mindfulness, Positive Affectivity and Work-Life Enrichment

Researchers have spent the past few decades exploring ways to minimize work-family conflict (i.e., when role demands stemming from one domain are incompatible with the role demands stemming from another domain; Greenhaus and Beutell 1985), and a small number of studies have integrated the mindfulness literature with work-family conflict. For example, Michel et al. (2014) found that those in a mindfulness-based intervention group were better able to psychologically detach from work and experienced less strain-based work-family conflict. Similarly, Kiburz et al. (2017) found that a one-hour mindfulness-based workshop increased mindfulness and decreased work-to-family conflict (when work interferes with the family domain). Surprisingly, the training was not effective in reducing family-to-work conflict (when family interferes with the work domain), perhaps because of participants' low base rate of family-to-work conflict, or that it may take longer to see changes in family-to-work conflict. Importantly, Montes-Maroto et al. (2017) examined both spillover and crossover effects among dual-earner couples. They found that employees' mindfulness at work resulted in higher relationship satisfaction and lower work-family conflict as reported by the spouse, and this relationship was partially mediated by employee happiness levels. These studies have begun to show evidence that mindfulness may be a powerful tool to alleviating the stressor of work-family conflict, and Morganson et al. (2015) proposed that this may be especially important for certain types of people, such as "integrators", or individuals with little boundary between work and family, like telecommuters or entrepreneurs, or individuals who work in jobs high in emotional labor who may also benefit from mindfulness as a means to recover from their work.

Fortunately, managing multiple life domains are not always a source of stress but may operate synergistically. Greenhaus and Powell (2006) introduced the theory of work-family enrichment, defined as the extent to which experiences in one role improve the quality of life in another role. Work-to-family enrichment occurs when work experiences improve the quality of family life, and family-to-work enrichment occurs when family experience improves the quality of work life. In the current paper, we are interested in the work-to-life direction because previous research has demonstrated that work-to-family enrichment is more closely associated with work outcomes than the family-to-work enrichment (McNall et al. 2010; Shockley and Singla 2011; Zhang et al. 2018), and our interest is the relationship between mindfulness and work outcomes.

In their theory of work-family enrichment, Greenhaus and Powell (2006) proposed that "the generation of resources is a crucial driver of the enrichment process" (p. 80). They offered five categories of resources that may be acquired through various role experiences via an instrumental (direct) or affective path (indirect), including skills and perspectives (e.g., interpersonal skills), psychological and physical resources (e.g., self-efficacy), social-capital resources (e.g., networking), flexibility (e.g., flexible work arrangements), and material resources (e.g., money). This framework draws on the *role accumulation* perspective (Marks 1977; Sieber 1974), which argues that resources acquired in one role (e.g., work) create energy and can be invested in another role (e.g., family), which ultimately improves the experiences in that other role. Similarly,

Hobfoll's (2002) COR Theory states that individuals attempt to "obtain, retain, and protect resources" (p. 312), and resources can generate new resources, which Hobfoll called *resource caravans*. This accumulation of resources helps provide a buffer when stress occurs. Indeed, previous research has found that resources such as flexible work arrangements (McNall et al. 2010) and personal resources such as openness to experience, extraversion, agreeableness, consciousness (Wayne et al. 2006), proactive personality (McNall and Michel 2011), optimism (Aryee et al. 2005), and core-self evaluations (McNall et al. 2011) are positively associated with enrichment. Indeed, Lapierre et al.'s (2017) meta-analysis found evidence of resource-providing and resource-depleting contextual characteristics related to work-family enrichment, such as social support, autonomy, and role overload.

Drawing on COR theory (Hobfoll 2002) and Greenhaus and Powell's (2006) categories of resources, Nicklin et al. (2018a) argued that mindfulness may be an example of a psychological resource that can drive work-life enrichment and ultimately lead to enhanced well-being. A small number of recent studies have begun to test this empirically. In a study of 231 employed graduate students, Nicklin et al. (2018b) found that trait mindfulness was negatively related to stress via perceptions of enrichment. Allen and Kiburz (2012) found among a sample of working adults that trait mindfulness was positively associated with work-family balance, sleep quality, and vitality; and that sleep quality and vitality mediated the relationship between mindfulness and work-family balance. Zivnuska et al. (2016) found that mindfulness at work helped employees develop resources in the form of higher work-family balance and job engagement. Taken together, this research provides initial evidence that mindfulness is one of Greenhaus and Powell's psychological resources that may promote greater enrichment and balance, and in turn other important outcomes, but more work is needed to test the underlying mechanism by which mindfulness relates to enrichment.

Scholars have found some preliminary evidence that mindfulness not only impacts the work-family interface, but also emotion regulation. Mindfulness shortens the lifecycle of emotions, reduces reactivity to emotional stimulus, and changes the emotional tone for the better (see Good et al. 2016 for a review). Indeed, Allen and Paddock (2015) argued that mindfulness links to work-family experiences through several pathways that ultimately result in improved self-regulation. For example, mindful individuals experience greater attention, awareness and focus on their roles, manage emotion regulation better, and optimize important resources such as time and energy more effectively, all of which should help in the management of work and non-work roles. Indeed, both trait mindfulness (Brown and Ryan 2003) and mindfulness-based training (Eberth and Sedlmeier 2012) have been associated with increased positive and decreased negative mood states.

Taken together, this suggests that mindful individuals may experience more positive affectivity. For example, Malinowski and Lim (2015) found that positive affect mediated the relationship between mindfulness and both work engagement and well-being. Mandal et al. (2012) found that mindfulness successfully reduced psychological distress through increasing positive affectivity. In addition, positive affectivity has been associated with work-family enrichment. For example, McNall et al. (2015) found that human service employees high in positive affectivity were more likely to experience both directions of enrichment. Daniel

and Sonnentag (2014) found that positive affect mediated the relationship between work engagement and WLE among German employees.

These results fit with Greenhaus and Powell's (2006) theory of work-family enrichment. Recall that this theory posits that resources in one role can have an indirect effect on performance in a second role through positive affect. Mindful individuals may have more psychological resources to draw upon, so they "may be better able to utilize the affective pathway of work-family enrichment" (Allen and Paddock 2015, p. 223). Simply put, we predict that mindfulness may be one of Greenhaus and Powell's (2006) psychological resources that promotes work-life enrichment via the affective pathway. In turn, work-life results in important outcomes.

Three meta-analyses support the link between work-life enrichment and important work, non-work, and health-related outcomes (McNall et al. 2010; Shockley and Singla 2011; Zhang et al. 2018). In the most comprehensive meta-analysis to date, Zhang et al. found that work-family enrichment lead to better outcomes in the work domain (i.e., higher job satisfaction, organizational commitment, work engagement, in-role performance, and organizational citizenship behaviors, and lower turnover intentions and burnout), family domain (i.e., higher family satisfaction and family performance) and overall well-being (i.e., higher life satisfaction and better overall health, with lower stress). In general, these relationships are typically stronger when the source of the enrichment is consistent with the outcome. For example, work-to-family enrichment is more strongly associated with job satisfaction than family-to-work enrichment.

One explanation for these findings relates to Social Exchange Theory (Blau 1964). Social exchange theory states that when favorable treatment is perceived by one party, the other reciprocates, leading to favorable outcomes for both (Rhoades and Eisenberger 2002). Applying this to the work-family interface, when employees perceive that their organizations are helping them obtain benefits from the work role, the norm of reciprocity obliges the return of favorable treatment often in form of favorable attitudes, such as more positive feelings about the job and the organization (Aryee et al. 2005; Wayne et al. 2006). In other words, WLE should produce better work outcomes in the form of higher job satisfaction and lower emotional exhaustion and turnover intentions.

Proposed and Alternative Model

Taken together, our proposed model (see Fig. 1) depicts a model of positive affectivity and then WLE as sequential mediators between mindfulness and work outcomes. As mentioned earlier, this fits with both Hobfoll's COR theory and Greenhaus and Powell's (2006) work-family enrichment model: when individuals have resources (e.g., mindfulness), the affective pathway results in higher positive affect in the given role, which in turn facilitates their function in the other role, resulting in higher WLE, and subsequently better work outcomes. However, an alternate model is possible whereby WLE and then positive affectivity are sequential mediators between mindfulness and work outcomes (see Fig. 2). In this competing model, mindfulness results in higher WLE, which in turn produces positive affect, and then better work outcomes.

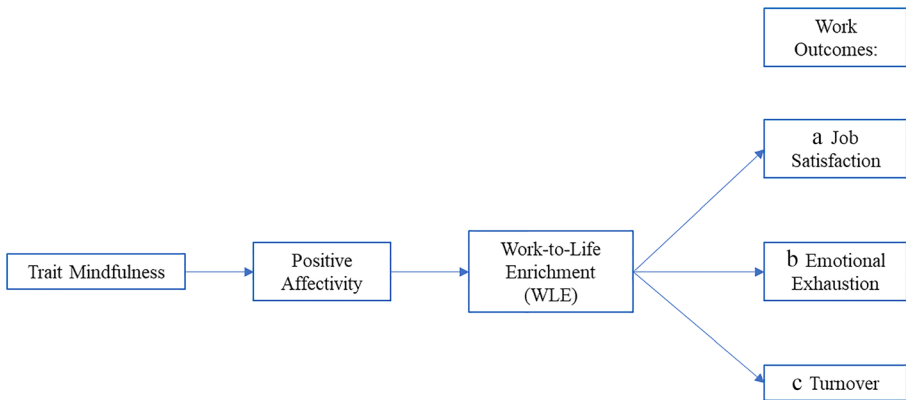


Fig. 1 The proposed model of positive affectivity and then WLE as sequential mediators between trait mindfulness and work outcomes

Method

Participants

Participants included a sample of 117 employed adults (30 male, 87 female) ranging in age from 18 to 67 ($M = 34.95$, $SD = 16.17$). The sample consisted mostly of Caucasian adults (94%) with a variety of occupations including office/administrative (37%), customer service (24%), education (12%), healthcare support services (9%), food preparation/service (7%), skilled trade/laborer (6%), media services/sales (4%), and other (2%). The majority of participants held at least a bachelor's degree or higher (57%), were single (51%), had no children (68%), and made less than \$50,000 per year (68%).

Procedure

This study was part of a larger data collection effort that examined the mindfulness of individuals engaged in meditation, yoga, or no practice with contemplative

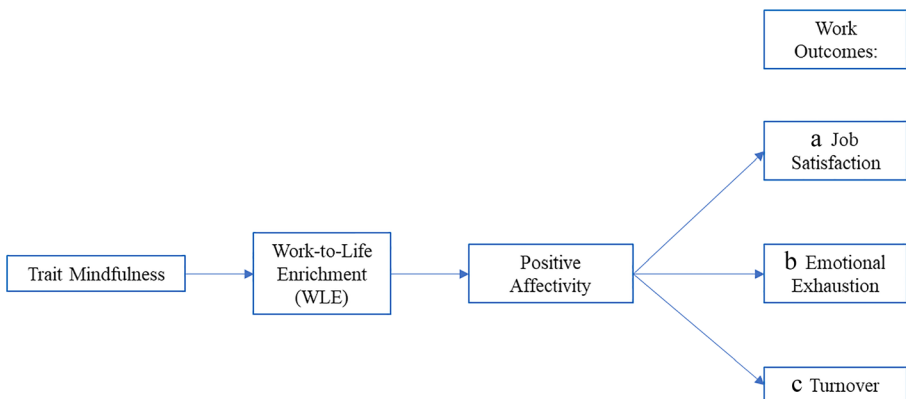


Fig. 2 The alternate model of WLE and then positive affectivity as sequential mediators between trait mindfulness and work outcomes

activities. As such, participants were recruited via community and snowball sampling methods. Flyers were posted in yoga studios, meditation centers, and community centers throughout the local community in a town located in the Northeastern United States. Interested participants were asked to take a flyer that contained a link to the online survey. Sixty-two participants (whom we refer to as “practitioners”) read and agreed to an informed consent page prior to proceeding to the online survey that included the measures below. Next, our participants who engaged in yoga and/or meditation were asked to take a flyer that contained the same survey link and invite a friend or family member who did not engage in either activity to participate in the study. Fifty-eight participants (whom we refer to as “non-practitioners”) agreed to participate in this study. Taken together, a total of 120 participants completed the online survey, yet three participants were dropped due to being unemployed. In exchange for their participation, each participant received a \$10 [Amazon.com](https://www.amazon.com) gift card. A total of 117 participants (58 practitioners and 59 non-practitioners) were included in the analyses.

Measures

Measures were rated on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*) unless noted otherwise. Scale reliabilities are in Table 1.

Demographic Variables Participants’ age, gender, race, occupation, education, salary, relationship status, number of children, and hours worked in an average week were collected.

Trait Mindfulness The 15-item Mindful Attention Awareness Scale, trait version (MAAS; Brown and Ryan 2003) was used to measure participants’ levels of trait mindfulness. Participants were instructed to use a 6-point scale from 1 (*almost always*) to 6 (*almost never*) to indicate the frequency of their day-to-day experiences. A sample item is “I find it difficult to stay focused on what’s happening in the present” (reverse coded so that higher scores indicated higher levels of mindfulness).

Table 1 Descriptive statistics and correlations among main variables ($n = 117$)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Mindfulness	58.56	12.37	(0.89)					
2. Positive Affect	3.24	0.79	0.19*	(0.90)				
3. Enrichment	29.36	6.07	0.24*	-0.51***	(0.91)			
4. Job Satisfaction	11.37	2.80	0.03	0.43***	0.59***	(0.87)		
5. Emotional Exhaustion	10.35	4.66	-0.27*	-0.24**	-0.42***	0.39***	(0.82)	
6. Turnover Intentions	7.65	3.85	-0.07	-0.24*	-0.46***	-0.50***	0.39***	(0.93)

Turnover ($n = 116$)

Reliabilities of measures (α) are listed in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Positive Affectivity The 10-item Positive Affect Scale (PANAS; Watson et al. 1988) was used to measure participants' affect. Participants were given ten adjectives and asked to indicate the extent to which they felt each either right now or in the past week on a scale of 1 (*very slightly or not at all*) to 5 (*extremely*). Sample items included "Interested" and "Excited".

Work-Life Enrichment Nine items from a modified version of the work-family enrichment scale (Carlson et al. 2006) were used to assess work-life enrichment. A modification to the wording of the items was made from "family member" to "person". A sample item was "My involvement in my work puts me in a good mood and this helps me be a better person".

Job Satisfaction Three items from Spector et al. (2007) were used to measure job satisfaction. A sample item was "In general, I like my work."

Emotional Exhaustion Three items from the Maslach Burnout Inventory (MBI; Maslach and Jackson 1981) were used to assess emotional exhaustion. Participants were asked to indicate how often each statement describes the way they feel about working on a scale of 1 (*never*) to 7 (*everyday*). A sample item was "I feel emotionally drained from my work."

Turnover Intentions Three items from Michaels and Spector (1982) were used to measure turnover intentions (e.g., "I am planning to leave my job for another in the near future").

Control Variables Age, gender, relationship status, and hours worked were used as control variables. Hours worked was based on the following eight options: 8–15, 16–20, 21–25, 36–30, 31–35, 36–40, 40+. Relationship status was coded with 0 = single, 1 = in a relationship/married. Gender was coded with 1 = male and 2 = female.

Results

Table 1 displays means, standard deviations, coefficient alphas, and correlations for all study variables. Mindfulness was significantly positively related to positive affectivity and WLE, and significantly negatively related to emotional exhaustion. As expected, both positive affectivity and WLE were significantly positively correlated with job satisfaction, and significantly negatively correlated with emotional exhaustion and turnover intentions. However, mindfulness was not significantly correlated with job satisfaction or turnover intentions.

We ran independent sample *t*-tests contrasting practitioners' versus non-practitioners' self-reported mindfulness, positive affectivity, work-life enrichment, job satisfaction, burnout, and turnover intentions. Although the means were in the expected direction toward an advantage for practitioners over non-practitioners, the practitioners were only significantly different from the non-practitioners in terms of greater positive affectivity ($t = -2.05$, $p < .05$) and work-life enrichment ($t = .02$, $p < .05$), but

surprisingly not different on mindfulness ($t = -1.70, p = .09$), job satisfaction ($t = -0.44, p = 0.66$), burnout ($t = 0.77, p = 0.45$), or turnover intentions ($t = 1.08, p = 0.28$).

Serial mediation analyses using ordinary least squares path analysis as recommended by Hayes (2013) tested the model that mindfulness influences work outcomes indirectly and sequentially through positive affectivity and then enrichment. Non-standardized coefficients are reported in Table 2 and Fig. 3. Non-standardized coefficients, unlike Betas, have the advantage of making no assumptions about normality, thereby decreasing Type I error due to the violation of the normality assumption and increasing power. As can be seen in Fig. 3, mindfulness significantly predicted positive affect, which predicted WLE, which in turn is significantly related to each of the three employment outcomes, all in the predicted direction. Bias-corrected bootstrap confidence intervals based upon 10,000 bootstrap samples were calculated for all possible paths. As can be seen in Table 3, the serial mediated paths from mindfulness to positive affect to WLE to each of the three employment outcomes were significant whereas the direct paths and single mediator paths were not, which supports our proposed model.

A second serial mediation analysis was conducted reversing the order of the proposed mediators to test a competing model in which WLE precedes positive affect in the effect of mindfulness on work outcomes. As shown in Table 4, the serial mediator path was not significant, but the single mediator path from mindfulness through enrichment was for each of the three employment outcomes. Additionally, the direct path from mindfulness to emotional exhaustion was also significant.

Discussion

The aim of the current study was to explore the relationship between mindfulness and work outcomes through the mediators of positive affectivity and WLE. Our proposed model suggested that positive affectivity and then WLE were responsible for the relationship between mindfulness and outcomes based on the affective pathway of enrichment proposed by Greenhaus and Powell (2006). The results supported our proposed model, and several key findings emerged. First, our results offer empirical evidence for mindfulness as a psychological resource that aids in the management of multiple life domains (Nicklin et al. 2018a) and this supports previous studies indicating associations between mindfulness and the work-life interface (e.g., Allen and Kiburz 2012; Nicklin et al. 2018b; Zivnuska et al. 2016). Second, the proposed model with the sequential relationship between positive affectivity and then WLE fully mediated the relationship between mindfulness and three work outcomes (job satisfaction, emotional exhaustion, and turnover intentions) was supported, and we ruled out an alternate model in the study where mindfulness impacted work outcomes via WLE, and then positive affectivity. In other words, our results indicate that positive affectivity drives WLE in the pathway from mindfulness to work outcomes, and not the other way around. These results help answer not only how mindfulness links to outcomes, but also the sequence. It seems that mindful individuals reap greater benefits from work and life domains due to improved self-regulation and affect (Allen and Paddock 2015). Lastly, WLE is a robust proximal predictor of higher job satisfaction and lower emotional exhaustion and turnover intentions, which fits with the findings of meta-analyses such as Zhang et al. (2018) and McNall et al. (2010).

Table 2 Unstandardized regression coefficients, standard errors and model summary information for the proposed serial mediator model

Consequent	M ₁ Positive Affect			M ₂ Enrichment			Y ₁ Job Satisfaction			Y ₂ Emotional Exhaustion			Y ₃ Turnover		
	Coeff	SE	p	Coeff	SE	p	Coeff	SE	p	Coeff	SE	p	Coeff	SE	p
Antecedent															
X Mindfulness	0.01	0.01	.031	0.07	0.04	.107	-0.03	0.02	.140	-0.05	0.04	.152	0.04	0.03	.100
M ₁ Positive Affect				3.75	0.62	<.001	0.61	0.31	.049	-0.141	0.59	.813	-0.22	0.44	.618
M ₂ Enrichment							0.23	0.04	<.001	-0.30	0.08	<.001	-0.26	0.06	<.001
C ₁ Gender	0.15	0.17	.368	2.21	1.12	.051	0.80	0.49	.105	1.08	0.94	.251	-0.04	0.70	.952
C ₂ Age	-0.00	0.01	.969	0.03	0.04	.501	0.02	0.02	.307	-0.05	0.03	.150	-0.11	0.03	<.001
C ₃ Relationship	-0.14	0.19	.472	1.12	1.24	.367	-0.28	0.53	.606	1.17	1.02	.258	0.60	0.78	.447
C ₄ Hours	0.01	0.05	.862	-0.64	0.33	.847	0.07	0.14	.640	0.14	0.27	.604	-0.10	0.20	.640
Constant	2.21	0.50	<.001	8.02	3.56	.026	2.15	1.57	.173	21.41	3.01	<.001	17.30	2.23	<.001
	R ² = 0.06			R ² = 0.33			R ² = 0.42			R ² = 0.23			R ² = 0.38		
	F (5, 110) = 1.28, p = .276			F (6, 109) = 8.90, p < .001			F (7, 108) = 11.06, p < .001			F (7, 107) = 4.68, p < .001			F (7, 107) = 9.48, p < .001		

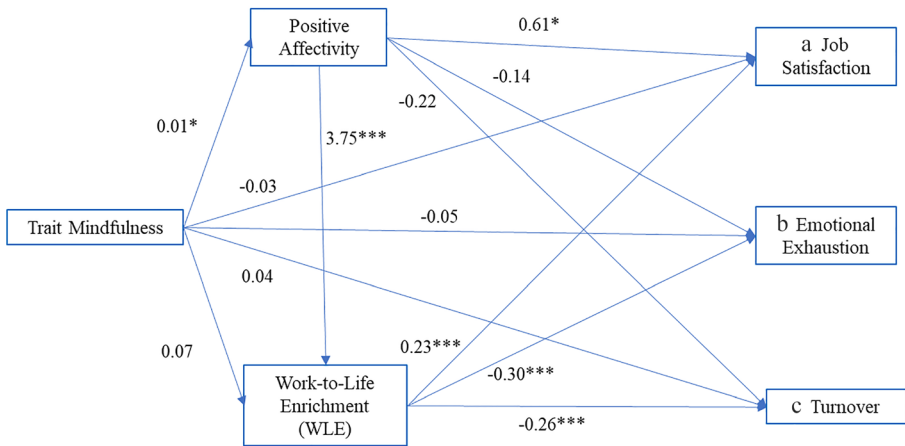


Fig. 3 Serial-multiple mediation of positive affectivity and work-life enrichment in the relationship between trait mindfulness and work outcomes with non-standardized beta values. * $p < .05$, ** $p < .01$, *** $p < .001$

Theoretical and Practical Implications

From a theoretical perspective, the current study supports the notion of mindfulness as not only a psychological resource, but perhaps a key resource, which ten Brummelhuis and Bakker (2012) defined as personality traits “that facilitate the selection, alteration, and implementation of other resources” (p. 548). This fits with the basic tenets of COR theory (Hobfoll 2002) such that individuals seek to not only acquire, but also protect resources. Once obtained, resources like mindfulness may create *gain spirals*, which allow resources to accumulate. Mindful individuals may be able to experience greater positive affectivity, as one of the ways in which mindfulness impacts human functioning is through emotions (Good et al. 2016). Indeed, our practitioners who engaged in contemplative activities experienced greater positive affectivity and WLE. More specifically, our results fit with Allen and Paddock (2015), who suggested that improved affective regulation

Table 3 95% Confidence intervals for the direct and indirect effects for the proposed serial mediation model

Effects	Employment Outcomes					
	Job Satisfaction		Emotional Exhaustion		Turnover	
	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
Mindfulness	-0.064	0.009	-0.121	0.019	-0.009	0.095
Mindfulness to Enrichment	0.000	0.028	-0.026	0.019	-0.023	0.011
Mindfulness to Positive Affect	-0.004	0.042	-0.061	0.004	-0.048	0.004
Mindfulness to Enrichment to Positive Affect	0.002	0.032	-0.047	-0.002	-0.034	-0.004

Bolded intervals are those which do not include 0, indicating statistical significance, $p < .05$

Table 4 95% Confidence intervals for the direct and indirect effects for the alternative serial mediation model

Effects	Employment Outcomes					
	Job Satisfaction		Emotional Exhaustion		Turnover	
	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
Mindfulness	-0.064	0.009	-0.162	-0.016	-0.009	0.095
Mindfulness to Enrichment	0.006	0.060	-0.087	-0.006	-0.068	-0.006
Mindfulness to Positive Affect	-0.002	0.018	-0.019	0.007	-0.016	0.004
Mindfulness to Enrichment to Positive Affect	0.000	0.018	-0.016	0.010	-0.014	0.006

Bolded intervals are those which do not include 0, indicating statistical significance, $p < .05$

is a key pathway by which mindfulness influences work-family variables. Indeed, mindfulness may trigger the affective pathway of work-life enrichment (Greenhaus and Powell 2006), which in turn results in greater functioning at work. Surprisingly, our non-practitioners of contemplative activities were not different from our practitioners as far as mindfulness, but we do not know about the quality of these activities as participants came from a number of different studios and instructors, nor do we know the extent to which these contemplative activities actually promoted mindfulness.

From a practical perspective, our results highlight the relationship between mindful employees and important work-related outcomes through positive affectivity and WLE. Given that “mindfulness at work is thought to be a naturally occurring human capacity that can be learned and developed” (Zivnuska et al. 2016, p. 109), organizations may wish to consider offering training to employees on cultivating mindfulness as a means for increasing personal resources, and thereby leveraging greater positive affectivity and work-life enrichment, but more research is needed to support this claim. In turn, such training investments may help to maximize job satisfaction and minimize emotional exhaustion and turnover intentions, which fits with previous research (Fortney et al. 2013; Roeser et al. 2013), but also improve employee mood and work-life balance (Allen and Kiburz 2012). With 61% of Americans reporting work as among the top sources of stress (American Psychological Association 2017) and the cost of job stress climbing to \$300 billion per year (American Institute of Stress), the cost of mindfulness training may offer a strong return on investment. For example, even a one-hour mindfulness-based workshop followed by behavioral self-monitoring for 13 days had an influence on participants’ mindfulness and work-family conflict (Kiburz et al. 2017).

Limitations and Future Research

As with any study, there are limitations in the present study that must be acknowledged. First, the sample size of the current study is small, and the majority of participants were well educated Caucasian females without children. The extent to which these results apply to participants with a broader array of demographic

variables must be examined in future research. In addition, with half of our participants recruited from yoga studios, meditation centers, and community centers, self-selection bias is possible. In fact, practitioner participants had greater positive affectivity and WLE than the non-practitioners, suggesting that participants engaged in contemplative activities may have had additional resources to experience more positive mood and enrichment. However, this is counteracted by the remaining half of our participants whom did not participate in contemplative activities. Although differences exist between our groups, the nature of our design prevents us from ruling out pre-existing attributes of the practitioners as a source of these differences. Future research is needed to determine the generalizability of our findings but this is the case for all research (Dipboye 1990).

Second, the data presented here is based on self-report, which may inflate common method bias. The data were correlational in nature and based on a single source, so conclusions about causality cannot be made. In addition, we measured participant perceptions at one point in time. In the future, perceptions of WLE could be captured over time and ideally from more than one source (e.g., supervisor, partner), following the lead of Montes-Maroto et al. (2017). Furthermore, future research should explore how mindfulness impacts not only WLE, but also life-to-work enrichment (LWE) and important life outcomes (e.g., community involvement, life satisfaction, friendships, participation in hobbies) and/or family outcomes (e.g., partner relationship quality, family satisfaction). We opted to focus on work outcomes because the effects of WLE on consequences in the work domain are stronger (McNall et al. 2010; Zhang et al. 2018), but the effects of life-to-work enrichment on the non-work domain should be stronger. Lastly, it would be helpful to examine other key traits like optimism (ten Brummelhuis and Bakker 2012), resilience and self-compassion (Nicklin et al. 2018a) that would help employees experience greater work-life enrichment.

Conclusion

The current study focused on mindfulness, which can be a stable trait, but also modifiable through practice (Brown and Ryan 2003). Regardless of the approach, our results found that mindful individuals experience greater positive affectivity, and this facilitates the affective pathway of work-to-life enrichment (not the other way around). These results could be used to test a mindfulness-based training as a tool to promote the accumulation of resources that aid in effective work-life management, which is more critical than ever before. Moreover, these preliminary results, if supported in actual interventions, also demonstrate that employers can also reap the benefits of mindful employees.

Acknowledgments This research was supported in part by a grant from the Summer Undergraduate Research Program at The College at Brockport, State University of New York.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

References

- Allen, T. D., & Kiburz, K. M. (2012). Trait mindfulness and work–family balance among working parents: The mediating effects of vitality and sleep quality. *Journal of Vocational Behavior*, *80*, 372–379. <https://doi.org/10.1016/j.jvb.2011.09.002>.
- Allen, T. D., & Paddock, E. L. (2015). How being mindful impacts individuals' work–family balance, conflict, and enrichment: A review of existing evidence, mechanisms and future directions. *Mindfulness in Organizations: Foundations, Research, and Applications*, 213.
- American Psychological Association (2017). *Stress in America: The State of Our Nation*. Stress in American survey. Retrieved from <http://www.apa.org/news/press/releases/stress/2017/state-nation.pdf>. Accessed 15 June 2018.
- Aryee, S., Srinivas, E. S., & Tan, H. H. (2005). Rhythms of life: Antecedents and outcomes of work–family balance in employed parents. *Journal of Applied Psychology*, *90*, 132–146. <https://doi.org/10.1037/0021-9010.90.1.132>.
- Blau, P. M. (1964). *Exchange and power in social life*. Transaction Publishers.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*, 822–848. <https://doi.org/10.1037/0022-3514.84.4.822>.
- Carlson, D. S., Kacmar, K. M., Wayne, J. H., & Grzywacz, J. G. (2006). Measuring the positive side of the work–family interface: Development and validation of a work–family enrichment scale. *Journal of Vocational Behavior*, *68*, 131–164. <https://doi.org/10.1016/j.jvb.2005.02.002>.
- Christie, A. M., Atkins, P. W., & Donald, J. N. (2017). The meaning and doing of mindfulness: The role of values in the link between mindfulness and well-being. *Mindfulness*, *8*(368), 378–378. <https://doi.org/10.1007/s12671-016-0606-9>.
- Dane, E. (2011). Paying attention to mindfulness and its effects on task performance in the workplace. *Journal of Management*, *37*, 997–1018. <https://doi.org/10.1177/0149206310367948>.
- Daniel, S., & Sonnentag, S. (2014). Work to non-work enrichment: The mediating roles of positive affect and positive work reflection. *Work & Stress*, *28*, 49–66. <https://doi.org/10.1080/02678373.2013.872706>.
- Dipboye, R. L. (1990). Laboratory vs. field research in industrial and organizational psychology. *International Review of Industrial and Organizational Psychology*, *5*, 1–34.
- Eberth, J., & Sedlmeier, P. (2012). The effects of mindfulness meditation: A meta-analysis. *Mindfulness*, *3*(3), 174–189. <https://doi.org/10.1007/s12671-012-0101-x>.
- Fortney, L., Luchterhand, C., Zakletskaia, L., Zgierska, A., & Rakel, D. (2013). Abbreviated mindfulness intervention for job satisfaction, quality of life, and compassion in primary care clinicians: A pilot study. *The Annals of Family Medicine*, *11*, 412–420. <https://doi.org/10.1370/afm.1511>.
- Glomb, T. M., Duffy, M. K., Bono, J. E., & Yang, T. (2011). *Mindfulness at work*. Research in Personnel and Human Resources Management. Emerald Group Publishing Limited.
- Good, D. J., Lyddy, C. J., Glomb, T. M., Bono, J. E., Brown, K. W., Duffy, M. K., Baer, R. A., Brewer, J. A., & Lazar, S. W. (2016). Contemplating mindfulness at work: An integrative review. *Journal of Management*, *42*, 114–142. <https://doi.org/10.1177/0149206315617003>.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, *10*, 76–88. <https://doi.org/10.5465/amr.1985.4277352>.
- Greenhaus, J. H., & Powell, G. N. (2006). When work and family are allies: A theory of work–family enrichment. *Academy of Management Review*, *31*, 72–92. <https://doi.org/10.2307/20159186>.
- Gurchiek, K. (2010). Survey: Work/life balance off-kilter in US. Society for Human Resource Management. Retrieved from <http://www.shrm.org/Publications/HRNews/Pages/WorkLifeOffKilter.aspx>. Accessed 15 June 2018.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, *6*, 307–324. <https://doi.org/10.1037/1089-2680.6.4.307>.
- Kabat-Zinn, J. (1990). *Full catastrophe living*. New York: Bantam Books.
- Kiburz, K. M., Allen, T. D., & French, K. A. (2017). Work–family conflict and mindfulness: Investigating the effectiveness of a brief training intervention. *Journal of Organizational Behavior*, *38*(7), 1016–1037. <https://doi.org/10.1002/job.2181>.
- Kroon, B., Menting, C., & van Woerkom, M. (2015). Why mindfulness sustains performance: The role of personal and job resources. *Industrial and Organizational Psychology*, *8*(4), 638–642. <https://doi.org/10.1017/iop.2015.92>.

- Lapierre, L. M., Li, Y., Kwan, H. K., Greenhaus, J. H., DiRenzo, M. S., & Shao, P. (2017). A meta-analysis of the antecedents of work–family enrichment. *Journal of Organizational Behavior*, 39(4), 385–401. <https://doi.org/10.1002/job.2234>.
- Malinowski, P., & Lim, H. J. (2015). Mindfulness at work: Positive affect, hope, and optimismmediate the relationship between dispositional mindfulness, work engagement, and well-being. *Mindfulness*, 6, 1250–1262. <https://doi.org/10.1007/s12671-015-0388-5>.
- Mandal, S. P., Arya, Y. K., & Pandey, R. (2012). Mental health and mindfulness: Mediation role of positive and negative affect. *Journal of Projective Psychology & Mental Health*, 19, 150–159.
- Marks, S. R. (1977). Multiple roles and role strain: Some notes on human energy, time and commitment. *American Sociological Review*, 42, 921–936.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior*, 2, 99–113.
- McNall, L. A., & Michel, J. S. (2011). A dispositional approach to work–school conflict and enrichment. *Journal of Business and Psychology*, 26, 397–411. <https://doi.org/10.1007/s10869-010-9187-0>.
- McNall, L. A., Nicklin, J. M., & Masuda, A. D. (2010). A meta-analytic review of the consequences associated with work–family enrichment. *Journal of Business and Psychology*, 25, 381–396. <https://doi.org/10.1007/s10869-009-9141-1>.
- McNall, L. A., Masuda, A. D., Shanock, L. R., & Nicklin, J. M. (2011). Interaction of core self-evaluations and perceived organizational support on work-to-family enrichment. *The Journal of Psychology*, 145, 133–149. <https://doi.org/10.1080/00223980.2010.542506>.
- McNall, L. A., Scott, L. D., & Nicklin, J. M. (2015). Do positive affectivity and boundary preferences matter for work–family enrichment? A study of human service workers. *Journal of Occupational Health Psychology*, 20, 93–104. <https://doi.org/10.1037/a0038165>.
- Michaels, C. E., & Spector, P. E. (1982). Causes of employee turnover: A test of the Mobley, Griffeth, hand and Meglino model. *Journal of Applied Psychology*, 67, 53–59. <https://doi.org/10.1037/0021-9010.67.1.53>.
- Michel, A., Bosch, C., & Rexroth, M. (2014). Mindfulness as a cognitive–emotional segmentation strategy: An intervention promoting work–life balance. *Journal of Occupational and Organizational Psychology*, 87, 733–754. <https://doi.org/10.1111/joop.12072>.
- Montes-Maroto, G., Rodríguez-Muñoz, A., Antino, M., & Gil, F. (2017). Mindfulness beyond the individual: Spillover and crossover effects in working couples. *Mindfulness*, 9, 1258–1267. <https://doi.org/10.1007/s12671-017-0868-x>.
- Morganson, V. J., Rotch, M. A., & Christie, A. R. (2015). Being mindful of work–family issues: Intervention to a modern stressor. *Industrial and Organizational Psychology: Perspectives on Science & Practice*, 8, 682–689.
- Nicklin, J.M., McNall, L.A., & Janssen, A. (2018a). An examination of positive psychological resources for promoting work-life balance. Chapter accepted in J.M. Nicklin (Ed.), *Work-Life Balance in the 21st Century: Perspectives, Practices and Challenges*. Nova Publishers.
- Nicklin, J. M., Meachon, E., & McNall, L. A. (2018b). Balancing work, school, and personal life among graduate students: A positive psychology approach. *Applied Research in Quality of Life*. <https://doi.org/10.1007/s11482-018-9650-z>.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87, 698–714. <https://doi.org/10.1037//0021-9010.87.4.698>.
- Roeser, R. W., Schonert-Reichl, K. A., Jha, A., Cullen, M., Wallace, L., Wilensky, R., Oberle, E., Thomson, K., Taylor, C., & Harrison, J. (2013). Mindfulness training and reductions in teacher stress and burnout: Results from two randomized, waitlist-control field trials. *Journal of Educational Psychology*, 105, 787–804. <https://doi.org/10.1037/a0032093>.
- Schaufenbuel, K. (2014). Bringing mindfulness into the workplace. University of North Carolina at Chapel Hill: UNC. Retrieved from http://www.kenan-flagler.unc.edu/~media/Files/documents/executive-development/unc-white-paper-bringing-mindfulness-to-the-workplace_final.pdf. Accessed 15 June 2018.
- Shockley, K. M., & Singla, N. (2011). Reconsidering work—Family interactions and satisfaction: A meta-analysis. *Journal of Management*, 37, 861–886. <https://doi.org/10.1177/0149206310394864>.
- Sieber, S. D. (1974). Toward a theory of role accumulation. *American Sociological Review*, 39, 567–578. <https://doi.org/10.2307/2094422>.
- Spector, P. E., Allen, T. D., Poelmans, S. A. Y., Lapierre, L. M., Cooper, C. L., Michael, O., ... Widerszal-Bazyl, M. (2007). Cross-national differences in relationships of work demands, job satisfaction, and turnover intentions with work-family conflict. *Personnel Psychology*, 60, 805–835. doi:<https://doi.org/10.1111/j.1744-6570.2007.00092.x>.

- ten Brummelhuis, L. L., & Bakker, A. B. (2012). A resource perspective on the work–home interface: The work–home resources model. *American Psychologist*, *67*, 545–556. <https://doi.org/10.1037/a0027974>.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*, 1063–1070.
- Wayne, J. H., Randel, A. E., & Stevens, J. (2006). The role of identity and work–family support in work–family enrichment and its work-related consequences. *Journal of Vocational Behavior*, *69*, 445–461. <https://doi.org/10.1016/j.jvb.2006.07.002>.
- Zhang, Y., Xu, S., Jin, J., & Ford, M. T. (2018). The within and cross domain effects of work family enrichment: A meta-analysis. *Journal of Vocational Behavior*, *104*, 210–227. <https://doi.org/10.1016/j.jvb.2017.11.003>.
- Zivnuska, S., Kacmar, K. M., Ferguson, M., & Carlson, D. S. (2016). Mindfulness at work: Resource accumulation, well-being, and attitudes. *Career Development International*, *21*, 106–124. <https://doi.org/10.1108/CDI-06-2015-0086>.

Publisher’s Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.