

Flourishing Mindfully: Mindfulness Moderates the Associations of Stress, Psychopathology, and Grit with Flourishing

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Abstract

Dispositional mindfulness includes greater present-moment attention and lower maladaptive responses to experience. Thus, theory proposes that dispositional mindfulness may be related to functional flourishing through greater engagement in valued activities, as well as less reactivity to the states that interfere with them (e.g., stress). This cross-sectional study tested the concurrent relationships proposed in these hypotheses. A random sample of 394 undergraduate students completed a survey that included the Cognitive and Affective Mindfulness Scale Revised, the Perceived Stress Scale, The Patient Health Questionnaire for Anxiety and Depression 4, the Short Grit Scale, and the Flourishing Scale. We used multiple linear regression to analyze a single combined model in which functional flourishing was predicted by mindfulness, stress, anxiety/depression, grit's subfactors, and the interactions of mindfulness with each predictor. Higher mindfulness was significantly associated with higher functional flourishing. Higher mindfulness also significantly moderated the influence of stress and anxiety/depression on flourishing, weakening their negative associations. Lastly, mindfulness significantly strengthened the positive association between flourishing and perseverance, a grit subfactor. As theorized, mindfulness may be 1) associated with higher functional flourishing, 2) weaken the negative influence of aversive experiences on flourishing, and 3) strengthen the positive influence of beneficial traits on flourishing.

Keywords: Mindfulness, flourishing, stress, anxiety, depression, grit.

Recent decades have seen a substantial increase in the study and application of mindfulness (Goldberg et al., 2018; Grossman & Van Dam, 2011). A core focus of this interest has been the impact of mindfulness on mental health. Mindfulness-based interventions for psychopathology have proliferated, along with support for their efficacy (see Goldberg et al., 2018 for a meta-analysis). Although definitions of mindfulness vary, one common definition is 'the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment' (Kabat-Zinn, 2003). Broadly,

the processes of mindfulness include flexible regulation of attention and a stance of nonjudgmental acceptance (Bishop et al., 2004). These processes are theorized to be associated with less reactivity and less attachment to maladaptive thoughts and feelings (Coffey et al., 2010). Consequently, greater mindfulness is associated with lower stress, negative affect, and psychopathology (e.g., Hofmann et al., 2010; Prazak et al., 2012). Yet mental health is not solely defined by the *absence* of symptoms. Mental health also requires the presence of *positive* functioning (Keyes, 2002; WHO, 2004). Mindfulness may influence both the negative and

positive aspects of mental health in beneficial ways. It may not only reduce aversive symptoms, but improve the desirable components of mental health as well.

Mindfulness Promotes Flourishing

Flourishing is one important element of positive mental health. Although flourishing has several conceptualizations, Diener et al. (2010) define it as ‘social-psychological prosperity’—functioning positively while meeting important psychological needs. For clarity among varying definitions, we will refer to this type of flourishing as ‘functional flourishing.’ Functional flourishing encompasses self-perceived achievement outcomes such as generativity, contribution to humanity, positive relationships, and performing well by one’s own standards. Mindfulness may contribute to functional flourishing by 1) fostering lower reactivity and lower attachment to cognitive-emotional states that may interfere with success (e.g., rumination, worry, stress), while also 2) facilitating full present-moment engagement in tasks, relationships, and valued activities. For example, acceptance and commitment therapy (ACT)—a psychotherapy rooted in mindfulness—trains clients to accept negative internal experiences while mindfully participating in actions consistent with their values (Hayes et al., 2012). An ability to accept and detach from negative mental states while investing in meaningful activities may engender flourishing, even in the context of psychopathology. Accordingly, both dispositional mindfulness and mindfulness-based interventions have been significantly associated with greater flourishing (Akin & Akin, 2015; Bailey et al., 2018; Catalino & Fredrickson, 2011; Coffey et al., 2010; Feicht et al., 2013; Prazak et al., 2012; Satici et al., 2013). Yet mindfulness may also influence the relationships between flourishing and other psychological factors. Three well-studied predictors of flourishing are stress, symptoms of anxiety and depression, and grit (‘passionate perseverance’). Mindfulness may affect each of these relationships with flourishing.

Mindfulness May Weaken Relationships Between Stress, Psychopathology, and Flourishing

In general, higher levels of perceived stress are associated with lower flourishing (Denovan & Macaskill, 2016). When individuals feel less burdened by stress and its negative effects (see McEwan, 2008), they may be more prone to flourishing through productive activities and relationships. Higher flourishing is also linked to lower symptoms of anxiety and depression, such as worry, rumination, and negative affect (Schotanus-Dijkstra et al., 2016). In general, these distressing thoughts and emotions may hinder successful engagement in meaningful tasks and interactions. The interfering cognitive, emotional, and behavioral effects of psychopathology may prevent individuals from reaching the prosperity goals inherent to flourishing. Although stress and psychopathology may often prevent flourishing, healthy *responses* to these symptoms may allow flourishing to occur regardless. When one responds to symptoms with less reactivity and attachment, symptoms may cause less interference in functioning. In other words, mindfulness may moderate the strength of the relationships between stress and flourishing and between psychopathology and flourishing.

There is substantial evidence that mindfulness is associated with lower stress. This association is found both when mindfulness is studied as a dispositional trait and when used as an intervention (in fact, a prominent mindfulness therapy is termed ‘mindfulness-based stress reduction;’ Baer, 2003; Bailey et al., 2018; Carmody & Baer, 2008; Chiesa & Serretti, 2009; Grossman et al., 2004). Mindfulness also ameliorates anxiety and depression symptoms in those with psychological disorders, as well as healthy adults (Goldberg et al., 2018; Hofmann et al., 2010). The negative effect of stress and psychopathology on flourishing may be eased by mindfulness. Engaging an accepting, present-moment awareness is theorized to reduce counterproductive responses to external stimuli (such as stressors) and internal stimuli (such as thoughts and emotions). These unhelpful responses include under-engagement and over-engagement with stress and psychopathology,

including experiential avoidance and thought suppression (under-engagement) and worry and rumination (over-engagement; Feldman et al., 2007). Open attention with acceptance frees up rigid attachment to maladaptive thoughts and feelings (Coffey et al., 2010). When one is not 'caught up' in bothersome thoughts and emotions, one can focus on, perform in, and benefit from rewarding activities. Through non-attachment and flexible awareness, mindfulness may alter both unhelpful responses to symptoms and the symptoms themselves. In this way, mindfulness may weaken the impact of stress and psychopathology on flourishing.

Mindfulness May Strengthen Relationships Between Grit and Flourishing

In addition to easing hinderances on flourishing, mindfulness may also amplify the effects of traits that enhance flourishing. Grit may be one such trait—a construct defined by perseverance and passion for long-term goals (Duckworth et al., 2007). When one can maintain strenuous work and consistent interest towards a distal aim, the eventual 'prosperity' of functional flourishing may be more likely. Grit has been linked to outcomes that factor into one's sense of functional flourishing, including higher academic performance, academic productivity, and level of education (e.g., Duckworth et al., 2007; Hodge et al., 2018; Reraki et al., 2015). Consistent with this finding, higher grit has been shown to predict higher flourishing (Datu et al., 2018). Yet grit's proposed nature as a unique and unitary construct has been challenged. A recent meta-analysis by Crede et al. (2017) found that grit better predicts success and performance when its two subfactors are considered separately. They argue that grit should be conceptualized as two separate constructs—perseverance and consistency of interest—rather than one. The results of other psychometric studies have recommended the same division (Midkiff et al., 2017). Even so, a recent study suggests both perseverance and passion *in combination* are important to the association of grit with functional success outcomes (Jachimowicz et al., 2018). Both perseverance and passion have been shown to be positively associated with present-moment attention

constructs that facilitate success. These constructs include level of task engagement, orientation toward engagement (as opposed to distraction, absent-mindedness, or avoidance), and immersion (one's 'intensity of focus;' Jachimowicz et al., 2018; Peterson et al., 2007; Von Culin et al., 2014). Higher mindfulness may strengthen the positive effect of grit on functional flourishing by helping to increase and sustain present-moment engagement. When people can immerse their attention in meaningful activities and relationships more mindfully, their perseverance and passion may reap greater prosperity.

The Current Study

Thus, mindfulness may facilitate functional flourishing by helping individuals to engage in productive action while detaching from present-moment negative experience. The current study seeks to examine whether dispositional mindfulness shows these concurrent moderation relationships with functional flourishing and its predictors in a non-clinical undergraduate student sample. Following from the rationales and findings presented above, we proposed several hypotheses related to this thesis. First, we expected to replicate demonstrated associations between functional flourishing and its positive and negative predictors within a single model. We hypothesized that functional flourishing would be positively associated with mindfulness and grit, while also negatively associated with stress and severity of anxiety/depression symptoms. Second, we hypothesized that dispositional mindfulness would concurrently moderate the strengths of the relationships between functional flourishing and stress, anxiety/depression symptom severity, and grit. Specifically, we expected that higher mindfulness would be associated with a weaker negative influence of stress on functional flourishing. We also expected that higher mindfulness would be associated with a weaker negative influence of anxiety and depression symptom severity on functional flourishing. Lastly, we expected that higher mindfulness would be associated with a stronger positive influence of both components of grit—perseverance and consistency of interest—on functional flourishing. Results may bear

implications regarding the effects of cultivating higher dispositional mindfulness levels, promoting positive mental health outcomes like functional flourishing.

Method

The current study used multiple linear regression to examine concurrent associations between dispositional study variables as self-reported by participants at a single point in time without intervention.

Participants

Participants were all undergraduate students of Dartmouth College, an Ivy League university in the northeastern United States. The final sample included 394 participants after listwise deletion for missing data. Regarding gender, 269 identified as women, 122 as men, and 9 as another gender identity. The average age was 20 years old. Regarding ethnicity, 3.5% identified as Native American, 22.8% as Asian, 4.5% as Black (non-Hispanic), 58.8% as White (non-Hispanic), 8.0% as Latinx, and 2.4% as another ethnicity.

Measures

The Cognitive and Affective Mindfulness Scale Revised (CAMS-R; Feldman et al., 2007). The CAMS-R is a measure of the primary facets of mindfulness, including attention regulation, orientation to present-moment experience, awareness of experience, and an attitude of nonjudgmental acceptance. We used the 10-item version of the measure that removes construct contamination in two of its original items, as recommended by Feldman et al. (2007). Items are rated on a 4-point Likert scale. Studies have demonstrated that the CAMS-R has good model fit (e.g., CFI = .95), acceptable internal consistency ($\alpha = .74-.81$), and good convergent and discriminant validity, including high correlations with other measures of mindfulness (Baer et al., 2006; Feldman et al., 2007). The CAMS-R was chosen for this study because it uses language and a format best fit for assessing

naturalistic mindfulness (i.e., it does not restrict its use to the context of intervention). It also examines a multi-faceted conceptualization of mindfulness consistent with the theoretical models of mindfulness used in our hypothesis formation and rationale.

The Flourishing Scale (FS; Diener et al., 2010). The FS is an 8-item scale of the respondent's "self-perceived success" in a variety of life domains, such as social relationships, daily activities, and achieving purpose/meaning in life. Its items are rated on a 7-point Likert scale. We have chosen to use the FS to measure what we term "functional flourishing," or high prosperity, functioning, and competency in important life domains as determined by the respondent's own point of view. This type of flourishing may be considered distinct from other models of flourishing, which emphasize emotional elements of well-being (e.g., high positive emotions and low negative emotions, etc.) to a greater degree than self-perceived functioning-related outcomes. Several studies have shown the FS to have good internal consistency ($\alpha = .81-.89$), good temporal stability, acceptable model fit (CFI = .95), and good convergent and divergent validity (Bailey et al., 2018; Diener et al., 2010; Howell & Buro, 2015).

The Perceived Stress Scale (PSS; Cohen & Williamson, 1988). The PSS is the most widely-used self-report measure of the degree to which respondents appraise their lives to be stressful. The current study used the 10-item version of the PSS due to its superior psychometric properties relative to other scale versions. It uses a 5-point Likert scale to assess how often respondent's find their lives overwhelming and uncontrollable (Cohen & Williamson, 1988). A review of 19 psychometric studies of the PSS concluded the measure had consistent evidence of acceptable internal consistency, test-retest reliability, factorial (structural) validity, and criterion validity (Lee, 2012).

The Patient Health Questionnaire for Depression and Anxiety (PHQ-4; Kroenke et al., 2009). The PHQ-4 is a brief 4-item measure of core depression and anxiety symptoms across a range of severity. It combines two ultra-brief measures of depression (the PHQ-2) and anxiety (the GAD-2), both of which have been well-validated

(Kroenke et al., 2009). These items ask how often respondents have been bothered various depression and anxiety symptoms over the past two weeks on a 4-point scale. Studies have found it to have good internal consistency ($\alpha = .78 - .85$), factorial validity (high factor loadings and acceptable fit for a one-factor solution; TLI = .94; CFI = .92), criterion validity, convergent validity, and divergent validity (Khubchandani et al., 2016; Kroenke et al., 2009; Lowe et al., 2010). The PHQ-4 has been shown to have good sensitivity and specificity for identifying clinical anxiety diagnoses (AUC = .84) and clinical depression diagnoses (AUC = .79) in a college student sample (Khubchandani et al., 2016).

The Short Grit Scale (Grit-S; Duckworth & Quinn, 2009). The Grit-S is an 8-item measure of perseverance of effort and consistency of interest toward long-term goals. Respondents rate items assessing their passion and perseverance on a 5-point scale. Studies suggest the Grit-S is well-fit, yet is best fit in a two-factor model consisting of Perseverance of Effort and Consistency of Interest (CFI = .95; Duckworth & Quinn, 2009; Midkiff et al., 2017). As previously stated, recent studies recommend the subfactors of grit be considered separately (Crede et al., 2017; Midkiff et al., 2017). Each Grit-S subscale has adequate internal consistency reliability ($\alpha = .70$ and $\alpha = .77$). A variety of studies have established its convergent, divergent, and criterion validity (Crede et al., 2017; Duckworth & Quinn, 2009; Midkiff et al., 2017).

Procedure

This study analyzed data from the Dartmouth College HealthMatters study. In this study, a random selection of 50% of all undergraduate student email addresses were obtained from the academic administration office ($n = 2000$). The sampling strategy included representation from each class year. Students were invited via email to participate in a survey study to understand sources of stress on campus, as well as the association between stress and academic and psychological wellbeing. Study invitation prompts were distributed on three separate occasions over the course of the study period, March to May 2016.

The invitation response rate was 35.7% (714 responders). Students who completed the survey were offered to the opportunity to enter a raffle for a local \$50 gift card. The study was approved by the Dartmouth College institutional review board. Informed consent was obtained from all participants.

Planned Statistical Analyses

We used multiple linear regression to examine a single model in which functional flourishing was predicted by mindfulness, perceived stress, anxiety/depression symptoms, grit sub-factors of perseverance and consistency of interest, and the interaction terms of mindfulness with each of these variables (see Figure 1). All predictors were centered at their means. Interaction terms were then calculated by multiplying centered predictors. The direction of interaction effects was interpreted graphically at values one standard deviation above and below the mean (see Figures 2-4). Graphs should be interpreted with caution, as all study variables are continuous—not categorical. Effects sizes were converted to Cohen's d using the formula $d = \frac{2*t}{\sqrt{(N-1)}}$ (Dunst et al., 2004).

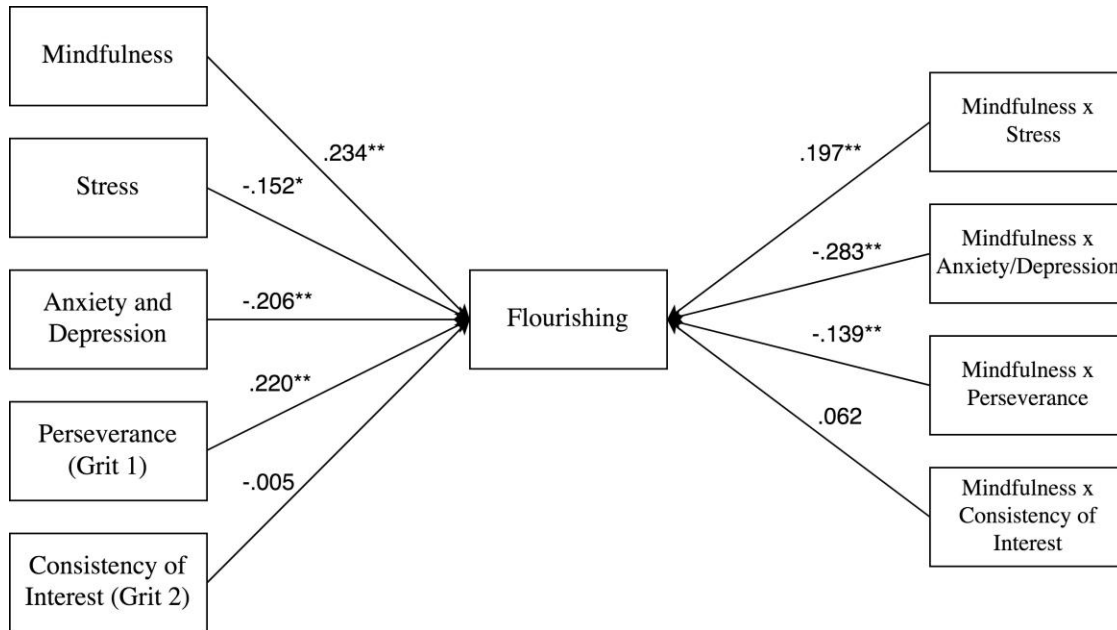


Figure 1. Statistical model of main effect (left boxes) and interaction (right boxes) terms predicting flourishing by multiple linear regression. Numerical values are unstandardized regression coefficients. * significant at $\alpha = .05$; **significant at $\alpha = .01$.

Results

Descriptive and regression results are depicted in Table 1. Zero-order correlations between model variables are presented in Table 2. Correlational results showed that each study variable was significantly correlated with each other variable at $p = .003$ or lower (see Table 2). The overall regression model accounted for 39.1% of the variance in functional flourishing ($R^2 = .391$). As hypothesized, greater mindfulness and greater perseverance both significantly predicted greater functional flourishing (see Table 1). Also as

hypothesized, greater perceived stress and higher anxiety and depression severity significantly predicted lower functional flourishing. Contrary to expectations, consistency of interests was not significantly associated with functional flourishing after accounting for the other study variables. Thus, both greater mindfulness and greater perseverance (a component of grit) were independently associated with higher levels of social-psychological prosperity. Both higher stress and psychopathology were associated with lower prosperity.

Table 1.

Results of multiple linear regression model regressing flourishing on main effects and interaction terms. Variable means and standard deviations are also included.

Predictor	<i>M</i> (<i>SD</i>)	β	<i>t</i>	<i>p</i>	<i>d</i>
Mindfulness	26.519	.237	4.723	.000**	.476

		(5.110)				
Stress		2.791 (.663)	-.152	-2.476	.014*	-.250
Anxiety/Depression		3.187 (2.967)	-.206	-3.467	.001**	-.350
Perseverance (Grit 1)		15.178 (2.553)	.220	4.485	.000**	.452
Consistency of Interest (Grit 2)	--	--	-.005	-.102	.918	-.010
Mindfulness X Stress	--	--	.197	3.187	.002**	.322
Mindfulness Anxiety/Depression	X --	--	-.283	-4.478	.000**	-.452
Mindfulness Perseverance	X --	--	-.139	-2.861	.004**	-.270
Mindfulness Consistency of Interest	X --	--	.062	1.377	.169	.139
Flourishing		5.671 (.937)	--	--	--	--

Table 2.

Zero-order correlations between model variables after pairwise deletion.

	1	2	3	4	5
1. Mindfulness					
2. Perceived Stress	-.525**				
3. Anxiety/Depression Severity	-.414**	.681**			
4. Perseverance (Grit 1)	.413**	-.280**	-.203**		
5. Consistency of Interest (Grit 2)	.302**	-.238**	-.150*	.439**	
6. Flourishing	.445**	-.450**	-.384**	.439**	.215**

Note. * = $p < .01$. ** = $p < .001$.

Regarding interaction results, the hypothesis that mindfulness would beneficially moderate the effects of other predictors on flourishing was

largely supported. There was a significant interaction between mindfulness and perceived stress for predicting flourishing (See Table 1).

Greater mindfulness weakened the negative relationship between stress and flourishing such that higher mindfulness ameliorated the negative impact of stress on flourishing. At lower levels of mindfulness, higher stress is associated with less functional flourishing (see Figure 2). Yet at higher levels of mindfulness, there is no difference in

flourishing between those with lower and higher stress. When one's mindfulness is relatively high, flourishing is high *regardless* of the person's perceived stress in life.

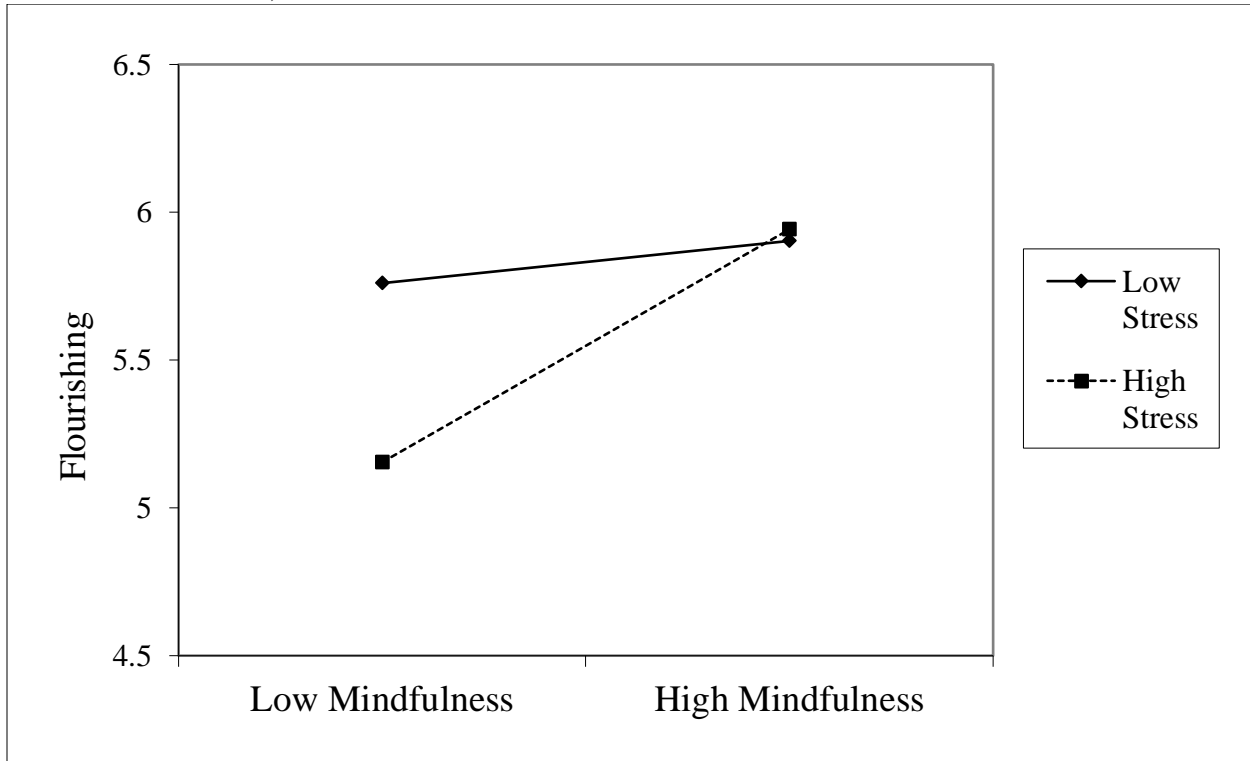


Figure 2. The interaction between mindfulness and perceived stress predicting flourishing after centering predictors. All variables are continuous. Predicted values (end points) are graphed at one standard deviation above and below the mean for both mindfulness and perceived stress.

There was also a significant interaction between mindfulness and symptoms of anxiety and depression for predicting flourishing in the expected direction (See Table 1). At higher levels of mindfulness, the association between psychopathology and flourishing was weaker. According to graphical results, lower psychopathology was *not* associated with higher flourishing if mindfulness was low as well (see Figure 3). A person may need *both* low psychopathology *and* high mindfulness in order to achieve high flourishing. Higher mindfulness was associated with higher flourishing when symptom severity was lower, rather than when severity was higher.



Figure 3. The interaction between mindfulness and anxiety and depression symptom severity predicting flourishing after centering predictors. All variables are continuous. Predicted values (end points) are graphed at one standard deviation above and below the mean for both mindfulness and symptoms.

Consistent with expectations, higher mindfulness strengthened the positive relationship between perseverance and flourishing. The greater one's mindfulness, the stronger the positive impact of perseverance on flourishing (see Figure 4). Our hypothesis that there would be an interaction between mindfulness and consistency of interests was not supported. There was no effect for the mindfulness by consistency of interest interaction for predicting flourishing.

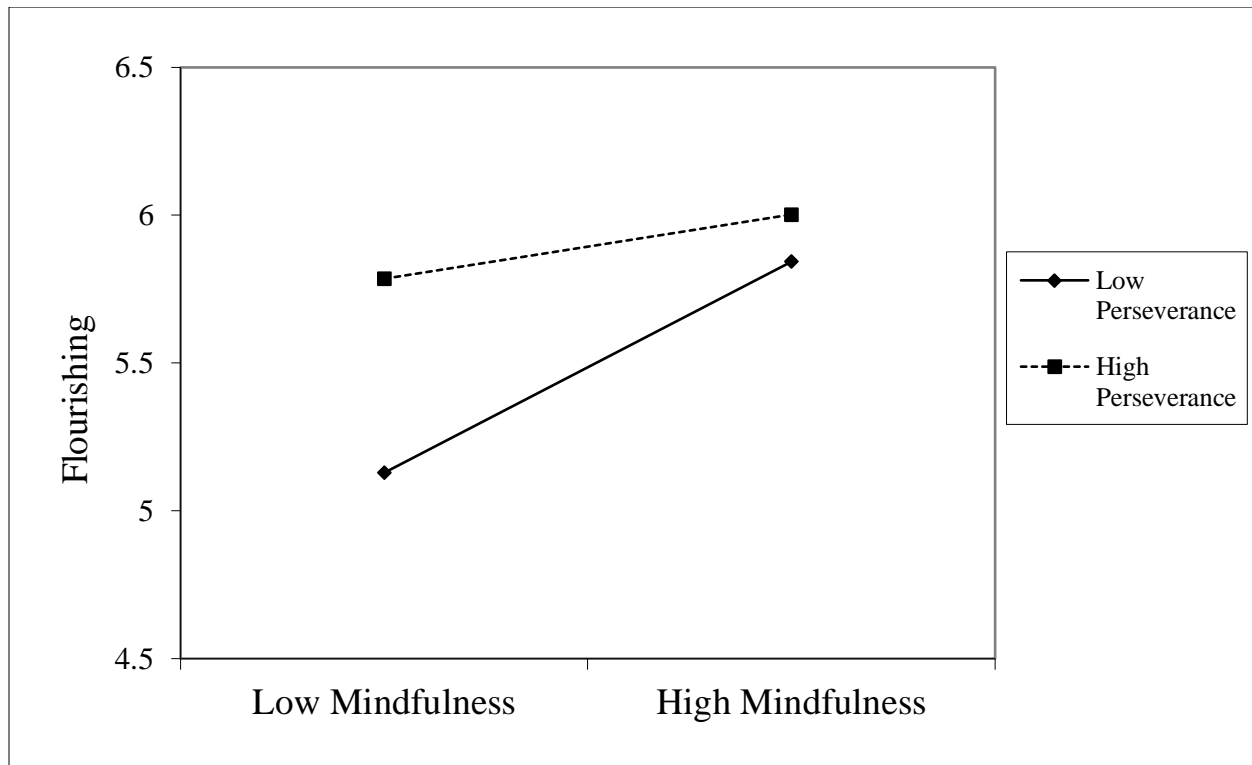


Figure 4. The interaction between mindfulness and perseverance (grit subfactor) predicting flourishing after centering predictors. All variables are continuous. Predicted values (end points) are graphed at one standard deviation above and below the mean for both mindfulness and symptoms.

Discussion

Higher dispositional mindfulness fosters lessened reactivity and attachment to maladaptive thoughts and emotion, as well as greater present-moment attention (Coffey et al., 2010). When a person is less influenced by his or her negative mental states, stress and psychopathology may interfere less with valued activities. By strengthening sustained present-moment attention, mindfulness may promote perseverant engagement in those activities. Consequently, dispositional mindfulness may predict higher functional flourishing, weaken the negative influence of aversive experiences on flourishing, and strengthen the positive influence of beneficial traits on flourishing. Our results supported each of these hypotheses. In a single combined model, mindfulness and perseverance (a sub-factor of grit) both significantly and independently predicted higher functional flourishing. In that

same model, stress and severity of depression and anxiety symptoms all significantly and independently predicted lower functional flourishing. Consistent with expectations, mindfulness significantly moderated the relationship between stress and flourishing. Higher mindfulness predicted a weaker negative relationship between stress and flourishing. Furthermore, mindfulness also significantly moderated the relationship between anxiety/depression and flourishing. Higher dispositional mindfulness predicted a weaker negative relationship between anxiety/depression and flourishing as well. As expected, higher mindfulness also predicted a stronger positive relationship between perseverance and flourishing, moderating their link. Contrary to hypotheses, the grit sub-factor “consistency of interest” did not predict flourishing after accounting for the other predictors. Accordingly, mindfulness did not moderate the relationship between consistency of

interests and flourishing. In summary, by promoting acceptance and engagement, dispositional mindfulness appeared to be associated with 1) buffered adverse effects of negative experience on flourishing and 2) augmented positive effects of perseverance on flourishing.

This study both replicates and extends the rich existing support for the benefits of mindfulness (e.g., Carmody & Baer, 2008). One of the most well-studied areas of this research is the inverse relation between mindfulness and stress. In our study, higher perceived stress was significantly correlated with lower mindfulness and lower flourishing. More importantly, there was a significant interaction between mindfulness and stress in predicting flourishing. Higher mindfulness appeared to mitigate the effects of high stress on social-psychological prosperity. Those with higher mindfulness had higher functional flourishing regardless of their level of stress. Stated differently, both participants with lower stress *and* higher stress had higher flourishing if they *also* had higher mindfulness. Yet if a person had higher stress but *lower* mindfulness, flourishing was lower. As theorized, mindfulness may allow individuals to “make peace” with stressful experiences, responding with acceptance and non-attachment. Such a response may lessen counterproductive reactions to stress (e.g., rumination, worry, maladaptive coping, etc.). If left unchecked by mindfulness, these reactions may hinder the quality of valued endeavors and relationships, reducing flourishing.

Like stress, higher severity of anxiety and depression was also associated with lower flourishing, as found in previous studies (Schotanus-Dijkstra et al., 2016). Yet despite this adverse link, mindfulness appeared to weaken the effects of psychopathology on flourishing. Our results suggested that when a person had lower mindfulness, flourishing was lower *regardless* of whether the person had lower or higher psychopathology. Those who had lower psychopathology did not have higher flourishing *unless* they had higher mindfulness. Additionally, those who scored highly on anxiety and depression had low functional flourishing regardless of their mindfulness level. Taken

together, these results suggest dispositional mindfulness may be necessary—but not sufficient—for high functional flourishing. This finding may only be true for dispositional mindfulness in the absence of active mindfulness training, a mindfulness-based psychotherapy, or personal mindfulness practices (such as meditation). A wealth of mindfulness-based clinical trials demonstrate that active mindfulness training *does* reduce anxiety and depression severity (Hofmann et al., 2010). Moreover, in our correlational findings, mindfulness was significantly negatively correlated with psychopathology, which was negatively correlated with flourishing. Even so, it may require active intervention in order to buffer the impediments to success brought on by anxiety and depression. Regardless, our data suggest that if one wants to achieve psychological prosperity, mindfulness may be an important facilitator—even when one is already psychologically healthy.

Mindfulness not only weakened hindrances on flourishing, but also bolstered one of its promotive factors—perseverance—supporting previous findings (Datu et al., 2018). Higher mindfulness was linked to stronger associations between high perseverance and high flourishing. Mindfulness may magnify the advantages of resilience and drive. When “gritty” individuals can become fully absorbed in present tasks without domination by negative states, their engagement may be more fruitful and success more probable. Of course, this success is not restricted to work or academics. Many valued activities associated with flourishing may benefit from mindful perseverance, such as romantic partnerships, contribution to one’s community, meaningful leisure, and more. Mindfulness reduces avoidance and enhances intensity of focus—or “immersion”—during tasks (Jachimowicz et al., 2018; Peterson, Ruch, Beermann, & Seligman, 2007; Von Culin, Tsukayama, & Duckworth, 2014). With greater engagement comes more sustained listening, sustained attention to detail or delight, and sustained effort through adversity.

Unexpectedly, grit’s second subfactor—consistency of interest—did not predict flourishing, nor was its relation to flourishing moderated by mindfulness. These findings are

consistent with recent findings on the effects of grit's subfactors. For example, a meta-analysis by Crede et al. (2017) found that perseverance correlated with four academic performance criteria substantially better than consistency of interest. In general, this meta-analysis found perseverance to be the driving predictor of success within grit. Consistency of interests may not influence functional flourishing, leaving mindfulness without a relationship between them to moderate. Given that mindfulness reduces overly rigid attachment to ideas and desires, those higher in mindfulness may not become overly attached to one interest long-term.

These results may bear implications for how mindfulness promotes positive mental health outcomes like functional flourishing. There is an abundance of data that mindfulness reduces psychopathology. Our findings suggest it may simultaneously increase positive well-being, partly by cushioning the effects of psychopathology symptoms and boosting the power of perseverance. Many mindfulness-related therapies have theorized as much, describing this process as a rationale for treatment. In particular, ACT proposes that the key to well-being is mindfully allowing symptoms while immersing oneself in value-driven pursuits (Hayes et al., 2012). Mindfulness-based stress reduction and other methods make similar claims (Kabat-Zinn, 2003). Our study lends support to this idea. Furthermore, our findings also suggest flourishing can increase *independently* of symptom change. When one is mindful, one can flourish even while experiencing high stress. Accordingly, clinical trials and psychotherapists should track engagement and success in valued activities in addition to symptoms. Among the mindful, well-being can increase *even* if aversive symptoms remain stable. In general, psychotherapies may enhance positive well-being despite unchanged psychopathology—a benefit many practitioners may not be monitoring.

These findings should be interpreted in light of our study's limitations. First, our sample is comprised of undergraduate students at a competitive university. Results may not be representative of broader populations. Even so, the flourishing scores of our sample did not exceed norms. The

mean Flourishing Scale score in our sample was 45.03 ($SD = 8.19$). In Diener et al.'s (2010) norm data for the scale, a score of 46 fell at the 53rd percentile. Although one may assume our sample would be higher achieving than the average person, our participants did not appear to have higher self-perceived flourishing than is usual. Furthermore, our sample may not be as economically advantaged as one may expect. Participant self-report showed that 52.1% of the students in our sample received financial aid and 65% had a job during college. Our sample also had higher ethnic diversity than most undergraduate samples. Even so, the sample is still limited in its ethnic representation of the U.S. population. It is also important to recognize that our sample was not selected for clinical severity, nor for diagnoses. In addition, note we are examining *dispositional* mindfulness in this study, not the influence of an active mindfulness intervention. Our self-report data reflects participants' perceptions of their level of attention, awareness, and acceptance. Whether they have had mindfulness training or a personal practice was not assessed. Of course, strict causal interpretations cannot be made with our data, as each variable was assessed at a single timepoint without experimental control. Future research would do well to examine the causal effects of active mindfulness training on flourishing and the predictors of flourishing. Experiments and longitudinal trials are important next steps. Lastly, future studies should continue to examine not only how mindfulness reduces problems, but how it promotes positive-well-being. This is a key frontier for mental health research in general.

Several studies suggest one can have *both* high positive functioning *and* high symptoms of psychopathology within the same timeframe (Eklund et al., 2010; Peter et al., 2011; Teng et al., 2015). If replication favors this conclusion, mindfulness may be one means to facilitate positive experience amidst strife. When we can let go of struggle, we can embrace life. Flourishing may follow.

Disclosure and Data Availability Statement:

The authors declare that they have no conflicts of interest or financial disclosures related to this manuscript. Human participants were involved in this study's research. The study was approved by the Institutional Review Board of Dartmouth College. All participants completed informed consent.

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