The Benefits of Trait Mindfulness and Flow During a Period of Stressful Preparation

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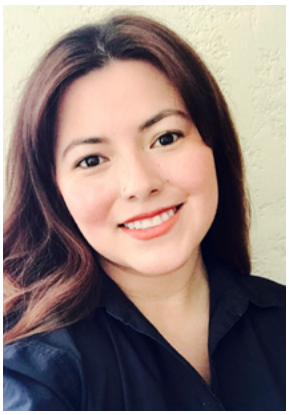
ABSTRACT

Preparing for an important performance such as a test or job interview can be quite stressful. Considerable evidence reveals that mindfulness meditation (a focus on the present moment) and flow (engaging in activities that fully capture one's attention) are effective strategies for bolstering well-being in stressful situations, including the wait for uncertain news about a performance outcome. However, less research has examined whether mindfulness and flow buffer well-being while preparing for the performance. Ninety-four law graduates preparing to take the 2019 California bar exam completed a survey assessing trait mindfulness, trait flow, well-being, and coping strategies two weeks prior to the exam. Results revealed that trait mindfulness (controlling for flow) consistently predicted well-being as participants studied for the exam, whereas trait flow (controlling for mindfulness) consistently predicted reduced use of several coping strategies (e.g., bracing, proactive coping). These results suggest that cultivating mindfulness may be an effective way to reduce unpleasant emotions while preparing for a performance, whereas flow may facilitate the use of coping strategies that could indirectly affect well-being.

KEYWORDS: *Stress; Exam Preparation; Anticipation; Bar Exam; Well-Being; Coping*



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INTRODUCTION

Applying for a new job, working on a difficult homework assignment, undergoing a medical procedure, such a biopsy, and taking a difficult exam are all examples of situations in which people have to wait for uncertain feedback or results. Anyone who has ever been in a similar situation can attest to the stress they felt while waiting. Considerable evidence suggests that waiting for news can provoke anxiety, and in turn, this anxiety can result in poorer health and well-being (Howell & Sweeny, 2016; Morin et al., 2003). During waiting periods, people can engage in several strategies in an attempt to minimize distress. Evidence suggests that mindfulness meditation (guided focus on the present with nonjudgmental thoughts) and engaging in flow-inducing activities (activities that capture attention) can be effective in reducing distress in these moments (Rankin, Walsh, & Sweeny, 2019; Sweeny & Howell, 2017). Still, less is known about the period leading up to a stressful life event. The purpose of this study is to examine whether trait mindfulness and flow can buffer well-being while preparing for a stressful performance.

STRESSFUL UNCERTAINTY

In a situation where a person must wait for news, levels of certainty and control are low. This combination can result in physical and psychological distress (Howell & Sweeny, 2016), and people may not have the appropriate tools to navigate this process successfully. In fact, even when people use various strategies, research suggests they are usually unsuccessful at coping effectively with stressful periods of uncertainty (Sweeny et al., 2016). Nonetheless, two specific strategies can relieve distress during uncertain periods. Mindfulness meditation (a guided focus on the present with nonjudgmental thoughts) and engaging in flow-inducing activities (activities that capture attention) are effective ways of reducing distress and promoting well-being when people face acute periods of uncertainty (Joye & Bolderdijk, 2015; Rankin et al., 2019; Sweeny & Howell, 2017).

The findings just described address the waiting period that comes after a performance (e.g., a job interview or exam) but before receiving feedback. Far less research has focused on the time leading up to an important but stressful event, hereafter referred to as the *preparation period*. Although both periods—preparation and waiting—have similar characteristics, one of the main ways in which they differ is in the individual's sense of control over the outcome (Sweeny & Krizan, 2013). Further, a recent study comparing the role of personality while preparing for an exam and during the wait for exam results found that participants experienced more negative emotion during the preparation period than during the waiting period (Sweeny, Howell, & Kwan, 2020). This finding is in line with past research suggesting that stress levels are higher during the month leading up to a stressful life event than during the month following the event (in this case, a dissertation defense; Laethem et al., 2017). If stress levels are higher during the preparation period, it stands to reason that well-being in response to said stress would be poorer.

THE CALIFORNIA BAR EXAM

In July 2019, nearly 8000 people took the California bar exam and only half of them passed (State Bar of California, 2019). Although many people take the bar exam every year, it is still a relatively uncommon stressor not experienced by most of the population. However, because this exam is very challenging—judging from the passing percentage—the stress experienced while preparing for it shares features of job-related stress people can experience in any highly demanding job (Demerouti et al., 2001; Shrout, Herman, & Bolger, 2006).

We know from past research that acute stress, which is the kind of stress someone preparing for the bar exam likely experiences, prompts feelings of exhaustion (de Rijk, Schreurs, & Bensing, 1999; Scott, Brandberg & Oehman, 2001), among other well-being deficits. What could make this situation better? The only research we know of to address this question identified social support as a means of ameliorating the negative effects of stress (see Cohen & Wills, 1985; Thoits, 1982), and specifically while preparing for the bar exam (although providing effective support is challenging; Shrout, Herman, & Bolger, 2006). Beyond those findings, we know little about what might increase well-being during this stressful time. Drawing from literature on the positive effects of mindfulness and flow during waiting periods (Joye & Bolderdijk, 2015; Rankin et al., 2019; Sweeny & Howell, 2017), the present study examined the role of trait mindfulness and flow on well-being during the preparation period for a bar exam. We broadly hypothesized that people who are dispositionally more mindful and more likely to find themselves in a state of flow would report better well-being during the weeks leading up to the California bar exam in July 2019. We further hypothesized that flow and mindfulness would reduce the use of most coping strategies, given previous studies showing that more distressed people tend to use coping strategies more (e.g., Sweeny et al., 2016).

METHOD

Participants

Recent law school graduates ($N = 94$; 66% female; 53% White, 26% Asian, 13% Latina/o/x, 1% Black, 7% other/multiple; $M_{age} = 28.78$, $SD_{age} = 5.56$) preparing to take the July 2019 California Bar Exam participated in this study. Due to the specific focus of our study, we

recruited participants by emailing the deans of law schools across the U.S. and student bar associations at various institutions. They forwarded our email to their students, and we enrolled those who were interested and preparing to take the California bar exam that summer.

Procedure

Within two weeks before the exam, participants completed a survey assessing trait mindfulness, trait flow, well-being, and use of various coping strategies. Each participant received an email with a link to the survey. They also completed surveys after the exam while they awaited their result, but those surveys are beyond the scope of this study. Participants received Amazon gift cards as compensation.

MEASURES

Mindfulness

Trait mindfulness was assessed with the 15-item Mindfulness Attention Awareness Scale (Brown & Ryan, 2003; Carlson & Brown, 2005; 1 = *almost never*, 5 = *almost always*). Sample items include, "I find myself preoccupied with the future or the past," and "I find myself doing things without paying attention" (M = 3.70, SD = .63, Cronbach's α = .86).

Flow

Trait flow was assessed with a 34-item revised version of the Dispositional Flow Scale (Jackson & Eklund, 2002; Jackson & Marsh, 1996; 1 = never, 5 = *always*). Sample items include, "I feel just the right amount of challenge, and "I have total concentration" (M = 3.02, SD = .52, α = .90).

Well-Being

We assessed psychological well-being in a number of ways. We measured perceived stress, which is a person's thoughts about how much stress they're experiencing at any given time, via the 4-item Perceived Stress Scale (PSS-4; Cohen, Kamarck, & Memelstein, 1983; e.g., "In the past few days, how often have you felt that you were unable to control the important things in your life?" "In the past few days, how often have you felt difficulties were piling up so high that you could not overcome them?" 1 = *never*, 5 = *very often*; M = 2.93, SD = .78, α = .70). We assessed worry about the bar exam with three items commonly used during stressful periods of uncertainty (e.g., Rankin & Sweeny, 2019; Rankin et al., 2019; Sweeny & Howell, 2017; "I feel anxious every time I think about my bar exam result," "I am worried about my bar exam result," "I can't seem to stop thinking about my bar exam result"; 1 = *strongly disagree*, 7 = *strongly agree*; M = 5.40, SD = 1.35, α = .82). We assessed positive and negative emotions with an adapted version of the GRID measure (Fontaine, Scherer, Roesch, & Ellsworth, 2007; 1 = *strongly disagree*, 7 = *strongly agree*), which includes 12 negative emotions (M = 4.57, SD = 1.16, α = .87) and 9 positive emotions (M = 4.83, SD = 1.03, α = .83). Finally, we assessed repetitive thought about the bar exam with four items designed to capture various manifestations of targeted ruminative thought (e.g., "How often in the past week have you brought up the bar exam in conversation with family members?" 1 = *not at all*, 7 = *almost constantly*; M = 5.40, SD = 1.30, α = .68).

We also assessed two forms of physical well-being with brief measures of health ("During the past week, would you say your health has been…" 1 = *poor*, 7 = *excellent*; M = 4.27, SD = 1.64) and sleep quality ("During the past week, how would you rate the quality of your sleep?" 1 = *extremely bad*, 7 = *extremely good*; M = 4.06, SD = 1.60).

Coping

We assessed a set of coping strategies outlined in the uncertainty navigation model (Sweeny & Cavanaugh, 2012), which is a theoretical framework for understanding how people manage the stress of uncertain situations (for all, 1 = *strongly disagree,* 7 = *strongly agree*): preventive action ("I'm putting effort toward trying to minimize problems that would arise if I fail the bar exam"; M = 4.25, SD = 1.85), proactive coping ("I'm thinking about how I'll cope if I fail the bar exam"; M = 3.98, SD = 1.93), distraction (4 items, e.g., "I've been spending time with others to distract myself from thinking about the bar exam"; M = 2.83, SD = 1.44, α = .82), emotion suppression (4 items, e.g., "I've been trying to suppress my feelings about the bar exam"; M = 3.76, SD = 1.43, α = .77), bracing for the worst ("I'm bracing for the worst when it comes to the bar exam," "I'm keeping my expectations low when it comes to the bar exam"; M = 4.49, SD = 1.84, α = .85), positive expectation management ("I'm trying to be optimistic when it comes to the bar exam," "I'm hoping for the best when it comes to the bar exam"; M = 5.67, SD = 1.30, α = .56), preemptive benefit finding (3 items, e.g., "I feel like I would grow as a person if I fail the bar exam"; M = 2.98, SD = 1.46, α = .79), and distancing (4 items, e.g., "The bar exam doesn't really measure anything important"; M = 4.94, SD = 1.44, α = .75).

RESULTS

We tested our hypotheses with a series of multiple regression analyses predicting well-being and coping from trait flow and mindfulness (both predictors in the same model). **Table 1** presents the results of these analyses. Although results were somewhat inconsistent across measures, our hypotheses were generally supported. As the table reveals, trait mindfulness (controlling for flow) consistently predicted better well-being as participants studied for the exam, whereas trait flow (controlling for mindfulness) more

consistently predicted the (reduced) use of coping strategies. Specifically, more mindful participants also reported less perceived stress, worry, negative emotion, repetitive thought, and bracing, and more positive emotion and better subjective health. Participants who were higher in trait flow reported less perceived stress, negative emotion, proactive coping, and bracing, and better subjective health, better sleep quality, and more positive expectation management.

DISCUSSION

After finding that the literature on preparation periods was scarce, we asked a simple but novel question: Can the same strategies that promote well-being during waiting periods (mindfulness and flow) help during preparation periods? To answer this question, we used a sample of recent law school graduates preparing to take the California bar exam. We found that trait mindfulness predicted less perceived stress, worry, negative emotion, and repetitive thought,

Table 1. Results of Multiple Regressions Predicting Well-Being and Coping from Mindfulness and Flow

	MINDFULNESS β [$CI_{95\%}$]	*FLOW* β [$CI_{95\%}$]
PSYCHOLOGICAL WELL-BEING		
Perceived stress	-.44** [-.60, -.28]	-.45** [-.62, -.28]
Worry	-.38** [-.58, -.18]	-.10 [-.30, .11]
Negative emotion	-.31** [-.49, -.13]	-.44** [-.62, -.25]
Positive emotion	.24* [.03, .45]	.05 [-.17, .27]
Repetitive thought	-.38** [-.58, -.18]	-.07 [-.28, .14]
PHYSICAL WELL-BEING		
Subjective health	.28** [.08, .48]	.27* [.06, .48]
Sleep quality	.16 [-.05, .36]	.29** [.08, .50]
COPING STRATEGIES		
Preventive action	.07 [-.15, .29]	-.01 [-.24, .22]
Proactive coping	-.14 [-.35, .05]	-.33** [-.54, -.12]
Distraction	.16 [-.06, .37]	-.21^{+} [-.43, .01]
Suppression	.06 [-.16, .28]	-.19^{+} [-.42, .03]
Bracing	-.24* [-.45, -.04]	-.24* [-.45, -.03]
Positive expectation management	.18^{+} [-.03, .38]	.26* [.05, .47]
Preemptive benefit finding	.19^{+} [-.02, .40]	.04 [-.18, .26]
Distancing	-.14 [-.35, .07]	-.06 [-.28, .16]

Note: $^{**}p < .01$, $^{*}p < .05$, $^{+}p < .10$. Standardized betas with 95% confidence intervals in brackets.

all of which are detrimental to psychological well-being. Trait mindfulness also predicted higher levels of factors that promote both psychological and physical well-being, namely positive emotion and subjective health. Similarly, we found that a person's natural tendency to experience flow was beneficial, albeit in a slightly different way than mindfulness. Similar to trait mindfulness, trait flow predicted less perceived stress, less negative emotion, better sleep quality, and better subjective health. However, flow was more strongly and consistently associated with the reduced use of coping strategies—less proactive coping and bracing, and somewhat less distraction and suppression.

The bar exam allows researchers to study a large group of people preparing for a stressful performance at the same time. Having said that, it is only one example of a stressful situation that is accompanied by a preparation period. The results of this study are important because they can apply to people who are preparing for other exams, such as the Graduate Record Examination or Medical College Admissions Test, and to those preparing for a master's thesis or dissertation defense. Outside of academics, these findings might also apply to people preparing for job interviews, important speeches and presentations, and other important performances such as a play, dance, acting auditions, and so forth. Overall, the results of this study suggest that cultivating mindfulness may be effective for reducing unpleasant emotions while preparing for a performance. Trait flow, on the other hand, may guide people away from often-ineffective coping strategies (see Sweeny et al., 2016) and thus indirectly affect well-being.

LIMITATIONS AND FUTURE DIRECTIONS

A clear limitation of this study is the sample size. Although participants were recruited from law schools all over the U.S., we were only able to recruit just under 100 participants due to various logistical constraints. Future research can attempt to replicate these findings in a larger sample. Another limitation is the timeframe we used. It is unclear whether two weeks prior to the exam is the optimal time to assess mindfulness and flow and their associations with well-being. Past studies looking at stress while preparing for a performance assessed it either during the two weeks before the event (Sweeny, Howell, & Kwan, 2020) or during the month prior (Laethem, et al., 2017). Perhaps measuring the effects of trait mindfulness and flow for a longer period of time would more accurately reflect participants' general experiences during the preparation period.

Lastly, it is important to note that our findings addressed a person's natural predisposition to be mindful and experience flow states. Future studies would benefit from implementing interventions that induce both mindfulness and flow while students prepare to take the bar exam or in preparation for other important performances. If cultivating mindfulness and flow are effective ways to manage distress in these challenging moments, interventions to induce these two states could lead to reduced stress, and better well-being during preparation periods.

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