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Focusing on Future Forecasts: A Comprehensive Examination of Performance
Expectations

A Dissertation submitted in partial satisfaction
of the requirements for the degree of

Doctor of Philosophy

in

Psychology

by

Angelica R. Falkenstein

June 2018

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The Dissertation of Angelica R. Falkenstein is approved:

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University of California, Riverside

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Reflecting on my journey through higher education, it is easy to dwell on the hard work and sacrifices that were required to reach this point. However, it is far more rewarding to think of the people who have shown kindness and provided the invaluable support that helped me accomplish my goals.

My partner, Seena Haddad, saw me through every twist and turn of my PhD program – every high and low. His unshakeable confidence in me was at times the only thing that motivated me to move forward and persist. His unwavering support and enthusiasm made every accomplishment even more elating. Seena was understanding of my frustrations and hesitations, even if he could not specifically relate, and our relationship was a source of constant joy and laughter. I cannot imagine a better person to have in my corner.

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I wish she could write this one down. My family's pride and encouragement gave me a sense of meaning when it was easy to get wrapped up in the unimportant.

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DEDICATION

My dissertation is dedicated to my grandmother, Alice, who very much wanted a college education but was denied the opportunity. My accomplishments were only possible with her support at every step of the way, and she is dearly missed.

ABSTRACT OF THE DISSERTATION

Focusing on Future Forecasts: A Comprehensive Examination of Performance
Expectations

by

Angelica R. Falkenstein

Doctor of Philosophy, Graduate Program in Psychology
University of California, Riverside, June 2018
Dr. Kate Sweeny, Chairperson

Performance expectations presumably serve to guide sound decision making and behavior. However, expectations are complex phenomena that arise from more than just situational factors and objective probabilities. Although expectations have received extensive attention from researchers, relatively few studies have focused on expectation management over time in the context of prolonged uncertainty. Among studies that have examined expectations prior to a performance or in the face of important news, it is difficult to piece together a comprehensive understanding of expectations across varied outcomes, study contexts, and populations. The current study examined the antecedents, correlates, and consequences of performance expectations as undergraduates ($N = 131$) prepared their first academic paper for a difficult course and awaited their paper scores. Throughout the preparation period, participants completed daily and weekly surveys documenting outcome expectations, effort toward the paper, and indicators of well-being.

With the exception of effort, participants reported the same experiences during the waiting period. Among individual differences, optimistic expectations were most robustly and reliably related to dispositional optimism and grit. Expectations related to indicators of hedonic well-being, such that optimistic expectations were associated with more positive emotion, less negative emotion, and less worry. However, expectations did not share fully reciprocal relationships with emotional experiences. Expectations also related to indicators of eudaimonic well-being such that students with more optimistic expectations about their paper assignment also reported more fundamental need fulfillment, a greater sense of meaning, and more frequent flow states than their pessimistic counterparts. Furthermore, bracing shared fully reciprocal relationships with relatedness and meaning in life, and more flow at one time point predicted less bracing at the next time point. More optimistic expectations were associated with better self-reported health and less sleep disturbance, but no reciprocal relationships were observed. Expectations and effort were not reliably related. Expectations tended to shift over time, such that score estimates decreased in a quadratic fashion and bracing increased in a linear fashion. Thus, expectations are dynamic phenomena that are reliably associated with indicators of hedonic, eudaimonic, and physical well-being. The present study provides some preliminary evidence for causal relationships with the potential to inform interventions.

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Focusing on Future Forecasts: An Examination of the Antecedents, Correlates, and Consequences of Performance Expectations

Future forecasting is an integral part of everyday life. People must learn how to accurately anticipate the future to make sound decisions and navigate their environments effectively (Roesse & Sherman, 2007). In addition to the mundane expectations people form to make routine decisions (e.g., “Traffic is bad on Mondays so I must leave for work ten minutes earlier”), people experience situations of prolonged uncertainty throughout every stage of their lives and form expectations to guide their behavior. Children, adolescents, and young adults grow up in schools where they routinely prepare for academic performances and await news of those performances. Adults maintain careers in which any kind of lateral, upward, or inter-organizational mobility typically involves preparing for an interview and awaiting a hiring decision. Even hobbies such as running relay races, frequenting the local horse show circuit, or competing in bake-offs involve preparing for performance and waiting for subsequent results. Some situations of uncertainty are more important than others, even within the same context. For example, waiting for the results of a breast biopsy is clearly more anxiety-provoking than awaiting the results of a blood pressure test. However, people encounter situations of prolonged uncertainty with surprising frequency, and as in daily life, future forecasting is related to subjective experience and behavior. The present study provides a broad examination of performance expectations as people navigate prolonged uncertainty.

Distress in the Face of Prolonged Uncertainty

Situations of prolonged uncertainty can vary in meaningful ways. For example, job applicants can practice and prepare in anticipation of an interview, but once the interview has passed, they can do nothing more than sit by the proverbial phone. Both situations are characterized by uncertainty, but they differ in notable ways. To distinguish these experiences, I use the term *preparation period* to refer to the time leading up to an important performance, such as an academic exam, job interview, or diagnostic medical test. *Waiting periods* are the stretches of uncertainty that can often occur after a performance but prior to news of that performance, such as the period of time it takes a professor to post grades. Although preparation and waiting periods differ in key respects, characteristics of how people manage their expectations during these experiences are surprisingly similar (Sweeny & Krizan, 2013), as are characteristics of other cognitive and emotional experiences.

Whether preparing for an important performance or waiting for important news, prolonged periods of uncertainty are distressing, particularly when the performance or news in question is imminent. Uncertainty alone can be anxiety-provoking (Behar, 2001; Knyazev, Savostyanov, & Levin, 2005; Penrod, 2001), and self-relevant uncertainty prompts particularly high levels of anxiety (Sweeny, 2012; Sweeny, Shepperd, & Carroll, 2009). A good illustration of this emotional phenomenon comes from two studies that specifically compared the negative emotions that arise while waiting for news with the negative emotions that arise in response to bad news. These studies found that people report more anxiety while waiting than following bad news, when emotions such as

disappointment, sadness, and regret best characterized responses—leading to the counterintuitive result that failing an exam was an anxiety-reducing event (Sweeny & Falkenstein, 2015).

Turning to anxiety that precedes a performance, performance anxiety can be rooted in fear of social evaluation, self-relevant feedback, and the pressure that comes from the potential of “choking” (Mesagno, Harvey, & Janelle, 2011). Similarly, the anxiety that characterizes waiting for important news stems from the possibility of an undesirable outcome (Sweeny & Cavanaugh, 2012). In other words, people experience significant distress only when they anticipate that a poor performance or bad news could be on the horizon—and in fact, uncertainty surrounding an exclusively positive event can even facilitate positive mood (Wilson, Centerbar, Kermer, & Gilbert, 2005; Shepperd, Carroll, & Sweeny, 2008). In contrast, the anxiety that comes with uncertainty surrounding an important outcome that might turn out poorly is notable and can exceed clinical thresholds (Lampic, Thurfjell, Bergh, & Sjoden, 2001; Poole et al., 1999) indicating that even brief periods of prolonged uncertainty can have a meaningful impact on day-to-day functioning.

The Role of Expectations

Despite significant uncertainty, people often make best guesses as to what the future holds and then navigate the present in a way that is informed by their expectations. That is, expectations relate to people’s cognition, emotions, and behavior (Roese & Sherman, 2007; Sweeny & Andrews, 2014; Sweeny, Reynolds, Falkenstein, Andrews, & Dooley, 2016). Expectations as a general term refer to any kind of future forecast,

whether it be a vague anticipation of some distant event (e.g., “I will have a family someday”) or a detailed prediction of how an event will turn out (e.g. “My child will score at least a 1300 on the SAT”). Expectations are complex cognitive phenomena that often serve to guide decision making, and ultimately, behavior. In their simplest form, expectations can be thought of as “if X then Y” conditionals (Seligman, Railton, Baumeister, & Spirada, 2013) or what will likely happen given a particular set of circumstances. Over time, individuals demonstrate consistency in how they anticipate the future, and tendencies in expectations relate to important life outcomes. Generalized positive expectancies, such as dispositional optimism, are linked with positive mood, adaptive coping strategies, and strong immune function (Segerstrom, Taylor, Kemeny, & Fahey, 1998). In contrast to the dispositionally pessimistic, people who generally expect positive outcomes cope better with life stressors (Nes & Segerstrom, 2006) and are more likely to complete college, earn higher salaries, and have higher marital well-being in their first year of marriage (Carver & Scheier, 2014).

Although expectations can pertain to any future occurrence, including how other people will behave (Mollering, 2005) and when events will take place (Thomaschke, Kunchulia, Dreisbach, 2015), the current investigation focuses on expectations for proximal, self-relevant outcomes that could turn out either positively or negatively. Like general tendencies in future forecasting, specific expectations for imminent events are related to various aspects of subjective experience. For example, several studies following law school graduates awaiting their bar exam results have found optimistic outcome predictions to be associated with less anxiety and rumination (Sweeny &

Andrews, 2014; Sweeny et al., 2016). In contrast, more pessimistic predictions are associated with greater anxiety and rumination while waiting (Sweeny & Andrews, 2014; Sweeny et al., 2016). A potential explanation for the relationships between expectations and distress is that expectations are to some extent informed by impressions of preparation efforts or impressions of performance, as are cognitive and emotional experiences such as anxiety and rumination. Put another way, people who have reason to expect the best tend to do so and tend to feel better as a result. For example, researchers found relatively optimistic predictions to be associated with positive affect in undergraduates preparing for an exam, but this relationship disappeared when actual exam performance was accounted for (Sweeny & Shepperd, 2010).

However, expectations are not simply a reflection of one's preparedness, performance impressions, or true likelihood of success in current conditions. Future forecasts have predictive power, and much of the research on expectations focuses on causal relationships among expectations and cognitive and emotional experiences related to an uncertainty or daily functioning. Research demonstrates that positive expectations can increase confidence in one's ability to succeed (Feather, 1966) and can increase commitment to a goal in the face of setbacks (Carver, Blaney, & Scheier, 1979). Moreover, positive expectancies, however defined, are generally beneficial in terms of self-enhancement, positive affect, and discovery of new opportunities (for a review, see Shepperd, Carroll, & Sweeny, 2008) indicating that optimistic predictions may be strategic given that people are aware of the benefits. Indeed, when given the chance, people recommend optimism (Armor, Massey, & Sackett, 2008) unless feedback is

imminent (Sackett & Armor, 2009) presumably because they believe that optimism can relieve the cognitive and emotional burden of worry until the potential consequences of high expectations become too realistic to risk. Such a strategy may work well, as efforts to be optimistic are associated with better self-reported sleep and subjective health while waiting for news, and efforts to brace for the worst (i.e., embracing pessimism) are associated with greater sleep disturbance and poorer subjective health (Howell & Sweeny, 2016).

Of course, disentangling the causal relationships among expectations, well-being, and motivation is tricky at best. For instance, researchers assert that optimism is motivating in part due to its effect on positive emotions (Roesse & Sherman, 2007), but other findings underscore that causality operates in the opposite direction, with anxiety serving as a source of information about what the future may bring (Shepperd, Grace, Cole, & Klein, 2005). The current investigation examines antecedents, correlates, and consequences of performance expectations prior to a performance to clarify relationships among expectations and uncertainty-relevant experiences such as anxiety and perseverative thinking (i.e., worry). Furthermore, few investigations of expectations have assessed antecedents, correlates, and consequences of expectations within a single context, making it difficult to piece results together and impossible to reconcile contradictory findings. The current study examines various predictors of expectations; their associations with distress, well-being, and preparatory effort across a preparation period; and how they predict responses when an outcome is no longer uncertain. The current study also models trajectories of expectations before and after a performance at a

nuanced level to better understand how expectations vary with proximity to performance and news.

Predictors of Expectations

Findings across disparate literatures demonstrate that future forecasts may come from an array of individual characteristics. The first goal of the present study was to provide a test of several trait-like individual differences and personality characteristics in relation to outcome expectations to assess their relative impact in the same context.

Self-esteem. Self-evaluations and self-regard, often referred to as self-esteem, seem to influence people's future outlooks. In a study investigating college students waiting for their midterm exam scores, participants higher in self-esteem remained static in their exam grade predictions after the exam, in contrast to their classmates with lower self-esteem whose predictions declined toward pessimism over time (Shepperd, Ouellette, & Fernandez, 1996). In another study, self-esteem predicted average levels of outcome predictions, self-reported bracing, and efforts toward optimism during the wait for news, although it did not moderate trajectories of expectations (Sweeny & Andrews, 2014).

Self-esteem clearly relates to expectations while waiting for news but may have a larger impact on expectations prior to a performance. For example, one closely-related study linked beliefs about personal abilities to children's performance expectations and effort prior to an academic performance. Furthermore, children's positive beliefs about their math abilities and their expectations for success were the strongest predictors of math performance (Wigfield & Eccles, 2000). Self-efficacy, the belief that one is able to

successfully perform the task at hand (closely related to self-esteem; Gardner & Pierce, 1998; Judge, Erez, Bono, & Thoreson, 2002), predicts interest in a given performance outcome (Durik, Schechter, Noh, Rozek, & Harackiewicz, 2015), and both interest and self-efficacy predict performance.

A belief in one's own ability to perform well may directly influence outcome expectations (Brown et al., 2008), but these efficacy beliefs could also exert an influence on expectations indirectly via effort. That is, effort may partially mediate the relationship between ability beliefs and expectations prior to a performance, such that people who strongly believe they can succeed will be more motivated to work toward a successful performance, and will expect to do better because of those efforts. Some research suggests that people who try harder do expect to perform better, and perhaps rightly so. For example, the study habits of college freshman predict first-year grade point average (GPA; Pascarella & Terenzini, 1991) and self-regulated learning strategies, including effortful persistence and diligence, predict academic performance (Pintrich & de Groot, 1990). Moreover, students who put more effort into studying expect to receive better grades (McFadden & Dart, 1992), indicating that students believe more effort will lead to a better outcome. I anticipated that higher self-esteem would predict more optimistic outcome predictions both before and after a performance. However, it was unclear if self-esteem would moderate trajectories of expectations over time.

Intolerance of uncertainty. Intolerance of uncertainty (IU) refers to the degree to which people experience discomfort in response to uncertainty and ambiguity and are driven by an “excessive tendency” to consider negative outcomes unacceptable (Buhr &

Dugas, 2002, p. 932). People high in IU are especially prone to worry in uncertain situations (Dugas, Gosselin, & Ladouceur, 2001) and experience heightened levels of anxiety, perseverative thinking, emotion regulation efforts, and self-reported bracing when waiting for important news (Sweeny & Andrews, 2014). However, IU only seems to exert influence on trajectories of waiting experiences at the beginning of a waiting period (Sweeny & Andrews, 2014). Although intolerance of uncertainty has yet to be examined in the context of a preparation period, such situations are inherently uncertain and ambiguous, underscoring the likelihood that people high in IU would feel distress and be more likely to form pessimistic expectations. Thus, I anticipated that IU would predict more pessimistic outcome expectations both while preparing for a performance and while waiting for news. Considering that people still exert some degree of control during preparation periods, though, it is likely that intolerance of uncertainty is a more robust predictor of expectations while waiting. The current study is only the second test of IU as a moderator of expectation trajectories. I anticipated that IU might fail to moderate expectations while waiting in a meaningful way as previous research has found, but the examination of moderation prior to a performance is novel.

Dispositional optimism and defensive pessimism. As previously noted, people high in dispositional optimism are not only generally optimistic about their outcomes, they also cope better with life's stressors (Nes & Segerstrom, 2006). Dispositional optimists might therefore resist the pull of pessimism while preparing for a performance and while waiting for news because they do not experience significant distress that could contribute to departures from optimism. In the context of waiting periods, dispositional

optimism predicts higher expectations but does not moderate trajectories of expectations (Sweeny & Andrews, 2014) or the tendency to brace at the moment of truth (Sweeny & Falkenstein, 2016). However, dispositional optimism while preparing for a performance may exert a different influence, prompting positive affect, buffering against distress (Carver & Scheier, 2014), and perhaps motivating effort.

Along these lines, when preparing for a performance some people referred to as *defensive pessimists* deliberately set low expectations in an attempt to ensure success. By embracing pessimism and the idea of failure, defensive pessimists cling to the anxiety that follows to foster motivation, effort, and ultimately achievement (Norem & Cantor, 1986; Norem, 2001). While waiting for news, defensive pessimism also predicts lower average outcome predictions, greater self-reported bracing, and less effort to be optimistic, but does not moderate their trajectories over time (Sweeny & Andrews, 2014; Sweeny & Falkenstein, 2016). In the context of a preparation period, it is unclear if defensive pessimism primarily affects only levels of expectations or if it also predicts steeper declines in expectations as performance nears. The “crunch time” just prior to a performance often prompts increased effort in a last-ditch attempt to prepare, and defensive pessimists might become more pessimistic than most to evoke as much anxiety and motivation as possible in those crucial final moments. Surprisingly, no study has examined either individual difference variable in relation to trajectories of expectations while preparing for a performance. Although I was hesitant to make a prediction about dispositional optimism moderating trajectories of expectations, the theoretical rationale of defensive pessimism suggests that defensive pessimism would lead to steeper declines in

expectations over time. Based on previous findings, I anticipated that dispositional optimism would predict higher expectations while waiting and defensive pessimism would predict lower expectations while waiting, but neither individual difference would moderate trajectories of expectations after performance.

Grit. People vary in their perseverance and persistence toward long-term goals (Duckworth, Peterson, Matthews, & Kelly, 2007). Grit predicts performance outcomes (Ivcevic & Brackett, 2014; Duckworth et al., 2007) in part via increased self-control (Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2011). Some research confirms that gritty people also put more effort into preparing for a task or performance (Sylvia, Eddington, Beaty, Nusbaum, & Kwapil, 2013), and thus grit may predict higher performance expectations due to increased effort and persistence. One investigation of high school students observed that grit was associated with students' personal academic expectations, which predicted academic success (Verdesco, 2016), but research has yet to replicate these findings or examine how grit relates to trajectories of future forecasting. Because gritty people appear to work harder, I anticipated that grit would predict higher performance expectations prior to a performance, and might even moderate the tendency to brace just prior to performance. I anticipated that grittier people would also hold more optimistic expectations while waiting for important news, but whether it would moderate the tendency to brace in the face of news was an open question.

Big Five personality characteristics. Representing the most fundamental dimensions of personality, the Big Five personality characteristics of extraversion, agreeableness, conscientiousness, neuroticism, and openness, were included in the

present study in part as an exploratory endeavor. Conscientiousness and neuroticism are the two traits previous research links most consistently to expectations, and the current investigation sought to include them when assessing the individual differences most robustly related to performance expectations. Conscientiousness is associated not only with dispositional optimism (Sharpe, Martin, & Roth, 2011) but also with more optimistic context-specific expectations. For example, conscientious people form more optimistic expectations for an arithmetic task, are motivated by their relative optimism to perform well, and ultimately perform better than people lower in conscientiousness (Gellatly, 1996). Because of its relationships with both generalized and context-specific expectations, I anticipated that conscientiousness would predict more optimistic expectations both when preparing for a performance and when waiting for news.

Neuroticism is so closely associated with dispositional pessimism that in the past, researchers have questioned the distinction between these constructs (Scheier et al., 1994; Smith, Pope, Rhodewalt, & Poulton, 1989). Neurotic people expect worse outcomes generally, however, little research exists to inform if this relationship extends to outcome-specific expectations. Considering that neuroticism is closely related to trait anxiety (Kanfer, Ackerman, & Heggstad, 1996), it is possible that increased levels of anxiety may serve to inform more pessimistic outcome expectations (Shepperd et al., 2005). The present study also included extraversion, agreeableness, and openness to detect potential relationships with outcome expectations.

Expectations and Well-Being

Research on well-being generally stems from one of two perspectives or traditions: the hedonic view of well-being or the eudaimonic view of well-being (Deci & Ryan, 2008). Researchers who focus on hedonic well-being define it as relatively high levels of positive affect and relatively low levels of negative affect. Researchers who focus on eudaimonic well-being have defined the construct in a variety of ways over the past decades. The current predominant view emphasizes eudaimonic activities that enhance subjective well-being, that is, people's self-evaluations of their happiness and general wellness (Sheldon, 2016). Alternatively, self-determination theorists argue that the conditions that promote the fulfillment of the three fundamental human needs of autonomy, relatedness, and competence also promote eudaimonia, personal fulfillment, and meaning in life (Deci & Ryan, 2008). As such, some researchers have defined eudaimonic well-being as actualizing one's human potential emphasizing living well and full functioning (Waterman, 1993) and still others have roughly equated it to global psychological well-being and functioning (Ryff & Singer, 2008).

Amidst the conceptual differences in theories and measures of eudaimonic well-being, the current study sought to include constructs that could be considered causes or consequences of personal fulfillment and optimal functioning. By no means did the present research attempt to include *all* indicators of eudaimonic well-being; instead, this endeavor served to test the proverbial waters of potential relationships between outcome-specific expectations and eudaimonia. The fundamental needs of autonomy, relatedness, and competence were included as indicators of eudaimonic well-being, in addition to

meaning in life and the experience of flow, which is defined as engagement in tasks that are immersive and enjoyable (Nelson, Fuller, Choi, & Lyubomirsky, 2014).

Hedonic well-being, though generally stable, fluctuates with people's circumstances (Diener, Lucas, & Scollon, 2006), whereas personal fulfillment is associated with more enduring wellness (Ryan, Huta, & Deci, 2008). Furthermore, physical health is considered an aspect of general well-being (Ryff & Singer, 1998) and quality of life (Frisch, Cornell, Villanueva, & Retzlaff, 1992; World Health Organization, 1995). The second goal of the present study was to investigate relationships between expectations and indicators of hedonic, eudaimonic, and physical well-being during a preparation and waiting period.

Hedonic well-being. The interplay among expectations, current emotional experiences, and future emotional experiences is still somewhat of a mystery among researchers. Several studies identify lowered expectations as a response to current emotions such as anxiety, which may arise as people try to ascertain the likelihood of future scenarios (Carroll et al., 2006; Taylor & Shepperd, 1998). Examined as a mood effect (Schwartz, Conway, & Clore, 1994), an effect of current anxiety (Shepperd et al., 2005), and an effect of visceral reactions to potential outcomes (Loewenstein, Weber, Hsee, & Welch, 2001), research reliably demonstrates that judgments and expectations are in part a product of current emotions such that positive evaluations persist in the absence of negative emotions. The present investigation attempted to replicate the relationships observed between hedonic or emotional experiences and outcome

expectations in the face of an important performance. As such, I expected that lower hedonic well-being would predict greater subsequent pessimism.

Expectations are influenced by emotional states, but expectations can prompt emotional experiences as well. Optimistic expectations prior to a performance can prompt positive affect (Roesse & Sherman, 2007), and optimistic expectations in general are seen as beneficial to mood (Shepperd et al., 2008), possibly due to the cognitive and attentional biases that often accompany optimistic predictions (Buehler, Griffin, & Ross, 1994; Kunda, 1990; Segerstrom, 2001). Furthermore, defensive pessimists lower outcome expectations to prompt anxiety (Norem & Cantor, 1986), and in extreme cases, pessimistic expectations share a reciprocal relationship with symptoms of depression (Abramson, Metalsky, & Alloy, 1989). Lastly, specific outcome expectations are predictive of distress and coping behavior, with coping behavior only partially mediating the relationship between expectations and emotional experiences (Segerstrom et al., 1998; Taylor, Kemeny, & Aspinwall, 1992). Thus, evidence suggests that expectations are not only informed by emotional experiences but have a causal impact on them as well. However, one study with law school graduates awaiting their bar exam results failed to find a link between expectations and subsequent anxiety (Sweeny et al., 2016), and thus it was unclear the extent to which typical findings would replicate over time primarily in the context of a preparation period. The present study provides another test of the link between expectations and the potentially reciprocal links with hedonic well-being as people prepared for an important outcome.

Eudaimonic well-being. Despite well-established relationships between expectations and hedonic well-being, research has yet to address potential links between outcome expectations and indicators of eudaimonic well-being in times of prolonged uncertainty. Generalized positive outcome expectancies (i.e., dispositional optimism) are associated with eudaimonic well-being (Culbertson, Fullagar, & Mills, 2010; Gallagher & Lopez, 2009; Ferguson & Goodwin, 2010) and some researchers even consider them to be a facet or indicator of well-being (Diener et al., 2010; Huppert & So, 2013). However, it is unclear if specific outcome expectations relate to indicators of eudaimonia. Considering the exploratory nature of these relationships, the current study assessed whether specific outcome expectations relate to indicators of eudaimonic well-being throughout both a preparation period and waiting period.

Clinicians in the counseling psychology literature have suggested that positive outcome expectations can foster meaning in life (Lightsey, 2006), but to date this idea has not been tested empirically and may not generalize beyond clinical settings. Beyond this claim, little evidence exists to inform questions about relationships between performance expectations and indicators of eudaimonic well-being. However, it is possible to engage in informed speculation. Broadly speaking, contexts that foster fundamental need fulfillment (Deci & Ryan, 2010; Deci & Ryan, 2000) and psychological well-being (Ryff & Singer, 2008) also foster eudaimonia and optimal functioning (Deci & Ryan, 2008). People who struggle with the distress of prolonged uncertainty may document their struggle not only with more pessimistic reports of expectations but may also feel the impact on their perceived autonomy, relatedness, competence, meaning, and flow

experiences. Put another way, if prolonged uncertainty is distressing to the point of curtailing eudaimonic activities, both optimistic outcome expectations and indicators of eudaimonic well-being may also be curtailed.

People who have their fundamental human needs met not only experience more deep-rooted wellness but also benefit in terms of motivation. Self-determination researchers maintain that fundamental need fulfillment leads to higher-quality motivation in terms of persistence and performance (Deci & Ryan, 1991; Deci & Ryan, 2000) and posit that fundamental need satisfaction predicts motivation even in specific domains (Baard, Deci, & Ryan, 1998). To the extent that fundamental need fulfillment is maintained during a preparation and waiting period, motivation to meet performance goals may flourish. Via motivation and effort, autonomy, relatedness, and competence may relate to higher outcome expectations. Conversely, more pessimistic performance expectations may dampen motivation and effort, potentially interfering with perceived competence. Finally, people who regularly experience flow states may be in a better position to adequately prepare for an important performance due to their increased focus to and enjoyment of the task at hand, which may also affect expectations when waiting for news. Flow is considered an outcome of high-quality, intrinsic motivation (Nakamura & Csikszentmihalyi, 2014), thus I anticipated that need fulfillment may also predict outcome expectations via flow states and experiences.

Physical health. Both anecdotal and empirical evidence suggest that stress and stressful experiences are detrimental to physical health (Cooper, 2004; Fortunato & Harsh, 2006; DeLongis, Folkman, & Lazarus, 1988). Dispositional optimism can help

buffer against stress and its harmful effects (Scheier & Carver, 1987; Segerstrom et al., 1998), but within stressful situations, specific outcome expectations also predict physical health. One study that examined performance expectations in relation to physical health found bracing for the worst to be associated with poorer self-reported health and sleep quality while waiting for important news, whereas a more hopeful and optimistic outlook was associated with better health and sleep (Howell & Sweeny, 2016). Only a single study has addressed how specific performance expectations relate to indicators of physical health over time, and thus more research is needed to understand the nature of these relationships. The present study examines potential associations between performance expectations and self-reported health and sleep quality in the context of a preparation period. To the extent that expectations are reflective of psychological distress, I anticipated relative optimism would likely share associations with better subjective health and sleep. It is possible that higher performance expectations would also predict better subsequent health and sleep due to the stress buffering effects of optimism, which I explored.

The Motivational Function of Expectations

Perhaps the most fundamental function of outcome expectations is to regulate behavior (Roese & Sherman, 2007). Prior to a performance, expectations have motivational consequences in that they can promote or quell efforts to prepare. The third goal of the present study was to investigate the nature of the relationships between expectations and the effort people put into preparing for a performance.

Similar to ability beliefs, optimistic outcome expectations are predictive of behaviors associated with a higher likelihood of success, and pessimistic expectations ostensibly have the reverse effect. As an illustration, high school students' expectations to attend college predict the amount of teacher-rated effort, student-rated academic engagement, and time spent on homework (Domina, Conley, & Farkas, 2011). Both dispositional optimists and students with high academic optimism are more likely to graduate college, a relationship partially mediated by motivation (Solberg Nes, Evans, & Segerstrom, 2009). Switching context to political expectations, potential voters who maintained optimism in the month preceding a public ballot initiative ended up voting in higher numbers than those who embraced pessimism over time (Krizan & Sweeny, 2013). It makes sense that people need to believe success is possible before investing effort, time, and other resources into an outcome. Simply imagining success does not motivate preparatory or precautionary behavior, however. Optimistic expectations for future goal pursuit can motivate effort toward focal goals in the present, whereas positive fantasies for future goal pursuit undermine action in the present (Oettingen & Mayer, 2002).

Optimistic predictions may also come with motivational drawbacks in certain circumstances, in that optimism can buffer against feelings of legitimate threat. For example, smokers who are more optimistic about smoking-related health consequences report lower intentions to quit (Dillard, McCaul, & Klein, 2006). In times when an individual may want to engage in goal-oriented behavior, envisioning success instead of the path to success can undermine self-regulation needed to effectively prepare (Taylor,

Pham, Rivkin, & Armor, 1998). Along a similar vein, pessimism does not ubiquitously dampen motivation and effort. Defensive pessimists intentionally set low expectations so they can harness the subsequent anxiety as motivation to prepare (Norem & Cantor, 1986), and defensive pessimists on average perform no differently than strategic optimists (Norem, 2001). Depending on the situation, pessimistic expectations may also best serve the goal of preparedness by prompting individuals to expend energy to prevent a negative outcome (Sweeny, Carroll, & Shepperd, 2006). The circumstances that might recommend optimism or pessimism are somewhat ambiguous, and the current study brings some clarity to the relationships between expectations and behaviors that promote subsequent success by examining relationships between expectations and efforts to ensure a successful performance over time.

Effort is clearly not the only predictor of performance, though, and at times is even unrelated to performance outcomes (Plant, Ericsson, & Asberg, 2005). Some research fails to establish any association between effort and performance, for example between college study habits and GPA (Mouw & Khanna, 1993). Other research indicates that a moderated relationship may exist such that effort predicts academic success only among those with high achievement striving (Nonis & Hudson, 2006). In cases where effort is not predictive of performance, expectations and effort may be unrelated as well. Thus, it was somewhat ambiguous how or the extent to which effort would be associated with expectations, and relationships between effort and expectations may change dramatically over time. However, all things considered, I anticipated that expectations would be positively associated with effort and that relative optimism would

predict greater subsequent effort. As previously described, greater effort to prepare for performance could prompt higher expectations as well, and the current study addresses whether expectations and effort share a reciprocal relationship over time.

Temporal Variation in Expectations

The fourth goal of the current study was to examine changes in expectations over time, as well as predictors of these shifts. Expectations shift prior to a performance for myriad reasons, for instance in response to declines in control as performance approaches (Sweeny & Krizan, 2013). Interestingly, performance expectations remain dynamic over time even after the performance has passed or when performance-relevant information is static. Regardless of prediction timing (preparation or waiting period), outcome expectations decline over time from relative optimism to relative pessimism (Sweeny & Krizan 2013; Shepperd et al., 1996). This trend tends to be quadratic in nature, such that outcome predictions increase modestly directly after a performance then decrease dramatically as the moment of truth draws near (Sweeny et al., 2016; Sweeny & Andrews, 2014). Performance expectations decline more dramatically while preparing for a performance compared to waiting for news due to the greater number of forces prompting a departure from unrealistic optimism (Sweeny & Krizan, 2013; Sweeny et al., 2006). The present study provides a look at how expectations shift prior to a performance in addition to how they change during a waiting period. Disentangling some of the trait and state sources of performance expectations over time and how they affect well-being would benefit research investigating situations of prolonged uncertainty.

People decline in their outcome predictions over time during both preparation and waiting periods, but this decline is steeper prior to a performance ($d = .49$) than it is while waiting for news ($d = .35$; see Sweeny & Krizan, 2013 for a meta-analysis). People brace to the greatest extent right before a performance occurs (Sweeny & Krizan, 2013), but declines in expectations in the face of important news can be dramatic as well (Shepperd et al., 1996). Differences in the magnitude of bracing between preparation and waiting periods are reflective of the reasons for bracing in these contexts. In other words, there are more forces working to constrain optimistic predictions during preparation periods than during waiting periods. Put another way, there is less room for predictions to move once performance has passed (Sweeny & Krizan, 2013).

Several investigations have documented trajectories of expectations during both preparation and waiting periods, focusing on measurement intervals spanning at least a week, if not several weeks (e.g., Krizan et al., 2010; Sweeny et al., 2016). The current study models expectations prior to a performance at a weekly level, examining whether the individual differences previously described relate to characteristics of expectation trajectories. Furthermore, researchers have yet to examine if expectations vary on a daily level, and if so, the nature of such variation. The current study models daily outcome expectations well before a performance, during a preparation period, and during the wait for performance news to make a novel contribution to the study of expectation trajectories.

Variation in expectations at a daily level is likely, especially during a preparation period when shifts in expectations arise from several sources, and preparatory efforts (or

lack thereof) provide diagnostic information for the upcoming performance. Before a preparation period begins, expectations may demonstrate stable optimism due to wishful thinking and other self-serving biases in reasoning that persist when unchallenged (Krizan & Windschitl, 2009; Price, 2000). However, wishful thinking may fall to the wayside to be replaced by accuracy goals and other motives as people begin to prepare for a performance. People do not want to be caught off-guard and unprepared for a demanding performance (Baumeister & Showers, 1986), and outcome predictions may decline due to a best attempt to utilize available information and accurately anticipate the future (Sweeny & Krizan, 2013; Sweeny et al., 2006). Accurate expectations based on current circumstances can cue the preparatory effort necessary for success, and when performance is imminent, optimism may be foolish.

Temporal shifts in expectations also arise from accountability concerns as people are mindful that their optimistic beliefs could be publicly discredited (Kunda, 1990). When expectations are public, people want to avoid seeming boastful or foolish should their expectations be incorrect (Carroll et al., 2006). Personal accountability for expectations can also be sobering in the sense that whole-heartedly maintaining optimism might make any person question their own judgment if that optimism is met with bad news. Furthermore, people lose the ability to affect their outcome as a preparation period progresses, which is reflected in their outcome expectations. Increasing proximity to a performance means there is less time to prepare for the outcome and thus less control over the outcome itself. When people have greater control over their outcomes, they can base their expectations off their behavioral intentions and plans for success as opposed to

circumstances influencing performance (Buehler et al., 1994; Buehler, Griffin, & McDonald, 1997; Newby-Clark, Ross, Buehler, Kohler, & Griffin, 2000). Perceptions of control during a preparation period decrease with proximity to performance as the ability to affect the outcome diminishes with time. Thus, perceived control evaporates, as does the optimism that accompanies it (Sweeny & Krizan, 2013).

Shifts in construal further compound declines in expectations, as people base temporally distant performance predictions on relatively abstract information and proximal predictions on relatively concrete information (Nussbaum, Liberman, & Trope, 2006). Indeed, people lower performance predictions when forced to consider situational details that may interfere with performance (Armor & Sackett, 2006). Thus, expectations during a preparation period may demonstrate significant day-to-day variability depending on the salience of situational details, accountability concerns, and declining control over the outcome. Significant week-to-week shifts in expectations are well-documented, but research has yet to take a more fine-grained approach to trajectories of expectations. If studies typically note weekly declines in expectations, are these declines steady on a day-to-day level, or more quadratic in nature? Is day-to-day change of a meaningful magnitude, or are meaningful shifts only represented on longer time scales?

After a performance has passed, expectations decrease over time for two primary reasons: affect management and accountability concerns. Expectations while waiting for news influence hedonic well-being once news arrives such that disconfirmed optimistic expectations prompt disappointment, whereas disconfirmed pessimistic expectations prompt elation (van Dijk, Zeelenberg, & van der Pligt, 1999; Mellers, Schwartz, Ho, &

Ritov, 1997; Sweeny et al., 2016), and people are motivated to embrace pessimism to prepare for the possibility that they will receive bad news. As with a preparation period, accountability concerns prompt shifts from optimism during waiting periods out of fear that optimism might be proven unfounded. Daily changes in expectations may still occur as salience of affect management and accountability concerns shift. However, I anticipated that daily shifts in expectations would occur to a smaller magnitude during waiting periods compared to preparation periods, as shifts in expectations generally occur to a lesser extent following a performance.

Overview and Guiding Questions

The current study documents performance expectations in their full splendor. To examine the full life cycle of expectations, I examined the experience of undergraduates as they first prepared an important paper for their psychology research methods class, then as they waited for news of their score on that paper and learned their paper grade. A diverse body of literature on future forecasting and performance expectations points toward an amalgam of antecedents, correlates, and consequences of expectation management strategies, as just reviewed. The broad goal of the present study is to provide a comprehensive test of various theoretical accounts for variability in expectation levels and trajectories over the course of this type of experience, attempting to replicate previous findings, clarify conflicting findings, and extend the research on preparation and waiting periods.

First, I examined predictors of expectations as undergraduates in a difficult course prepared an important assignment and awaited their grade. To what extent do self-esteem,

intolerance of uncertainty, dispositional optimism, defensive pessimism, grit, and personality characteristics relate to outcome expectations and their temporal trajectories during a preparation period? I anticipated that higher self-esteem, dispositional optimism, and grit would predict higher outcome expectations on average throughout the preparation period, and higher defensive pessimism and intolerance of uncertainty would predict lower outcome expectations on average. I expected self-esteem, defensive pessimism, and grit to potentially moderate trajectories of expectations, such that those higher in self-esteem and grit would decline in expectations to a lesser extent over time, and defensive pessimists would decline to a greater extent. I also made similar predictions for relationships between individual differences and expectations during the waiting period. Considering previous findings, self-esteem and grit could plausibly moderate expectation trajectories while waiting, but I did not expect other individual differences to do so. I also examined whether some individual differences were stronger predictors than others to provide a test of relevant predictors in the same context.

Second, I investigated relationships between expectations and indicators of hedonic, eudaimonic, and physical well-being. Specifically, I assessed the extent to which performance expectations related to positive and negative emotions, autonomy, social connectedness, competence, meaning in life, flow experiences, subjective health, and self-reported sleep quality in the context of a preparation period. Previous studies have found reliable relationships between expectations and emotional experiences during waiting periods, but it remains untested whether these links would arise prior to a performance. I anticipated that higher levels of positive emotions would be associated

with higher expectations, and higher levels of negative emotions would be associated with lower expectations. I also examined reciprocal relationships between expectations and emotional experiences. I anticipated that higher levels of positive emotion would be associated with higher subsequent expectations, and higher levels of negative emotion would be associated with lower subsequent expectations. Although theoretical considerations might inform a positive relationship between expectations and subsequent hedonic well-being, one study in particular did not find such a link during a waiting period, and thus I was hesitant to form a strong prediction about this relationship in the context of a waiting period.

The examination of relationships between performance expectations and indicators of eudaimonic well-being was an exploratory endeavor. I speculated that more optimistic expectations would be associated with higher levels of eudaimonic well-being indicators such as competence and autonomy. Concerning physical health, a recent study linked an optimistic mindset to better subsequent subjective health and sleep quality while waiting and bracing to poorer subsequent health and sleep quality. I expected these findings to replicate during a preparation period.

Third, I investigated the relationship between performance expectations and effort. Do more optimistic people prepare more on average? In addition to looking at mean-level associations, I examined whether higher expectations on a given day predict greater effort the next day and vice versa. Past research posits that optimistic expectations would motivate effort to prepare for performance, but I also expected that people who put in more effort would subsequently hold higher expectations.

Fourth, I examined temporal variation in expectations, both on a weekly and daily level. Shifts from optimism as performance or news approaches are well documented, and I modeled weekly expectations as students prepared their papers to replicate previous research. A novel contribution I sought to make with the present study was to model daily variation in expectations during a preparation and waiting period. I expected that expectations would shift significantly on a day-to-day basis as an important performance approaches, but I was unsure of the nature and magnitude of such variation. Daily change could also take place during a waiting period, but I anticipated that any variation would occur to a lesser extent than during a preparation period.

A peripheral goal of the current study was to disentangle relationships among outcome predictions, self-reported bracing for the worst, and self-reported hope and optimism. To what extent to these different operationalizations of expectations share reciprocal relationships? Researchers discuss self-reported optimism and bracing as if they were mutually exclusive strategies, but to what extent are they inversely related, and how are their trajectories of change related? No study has explicitly examined such relationships, and a longitudinal investigation of these constructs would shed light on the “gut reactions” and effortful strategies that arise both while preparing for a performance and waiting for news.

Method

Participants

Undergraduate psychology students enrolled in a research methods class at the University of California, Riverside ($N = 131$) agreed to participate in the present study in

exchange for extra credit in their course and Amazon.com credit. Participants earned extra credit proportional to the number of weekly surveys they completed with a maximum of 1% added to their final grade. Participants also earned Amazon.com credit proportional to the number of daily diaries they completed with a maximum of \$20. After receiving initial information about the study, students expressed interest in participating by completing informed consent procedures and the baseline questionnaire. The researchers then contacted students via email with the study schedule and further instructions.

Of the 131 participants who agreed to take part in the study, 70% were women ($M_{\text{age}} = 20.94$ years, $SD_{\text{age}} = 2.53$ years). Participants identified as Hispanic/Latino (36.63%), Asian (32.82%), White (11.45%), African-American (3.82%), Middle Eastern (5.34%), and mixed/other (9.92%).

Procedures

During the first week of the quarter, participants volunteered for the study in their assigned lab section and were compensated with both extra credit and an Amazon gift card once the study concluded. The study consisted of seven weekly surveys and 20 brief daily diaries that participants could complete on their smart phones. The weekly and daily surveys assessed students' cognitive, emotional, and uncertainty-relevant experiences as they prepared the first major paper for their class. Of note, the undergraduate research methods class at UCR serves as a bottleneck for the psychology major, and students regard the class to be particularly challenging.

At the end of each weekly lab section for the course, participants were given the opportunity to complete the weekly study survey but could also complete the survey online at their convenience. In addition to the baseline survey, participants completed four weekly surveys as they worked on their papers, one weekly survey as they awaited their paper grade, and one weekly survey after receiving news of their grade. The daily surveys were administered in three phases throughout the study: five at baseline, 10 while participants prepared their papers, and five while participants awaited news of their paper scores.

Measures

Baseline questionnaire. The survey completed at the beginning of the quarter contained assessments of relevant individual differences, initial measures of study variables, and demographics. We focus here on measures unique to the baseline survey and address measures completed at all time points below.

Self-esteem. I assessed self-esteem with the Rosenberg Self-Esteem scale (RSE; Rosenberg, 1965), a 10-item measure designed to assess self-concept or self-regard (e.g., “On the whole, I am satisfied with myself,” “I feel that I’m a person of worth”; 1 = *strongly disagree*, 7 = *strongly agree*; $M = 5.08$, $SD = 1.02$, Cronbach’s $\alpha = .88$).

Intolerance of uncertainty. Due to a clerical error, I assessed the degree to which participants are uncomfortable with uncertainty with a 9-item subset of the 12-item Intolerance of Uncertainty Scale (IUS; Buhr & Dugas, 2002). Participants responded to items designed to tap the extent to which they find uncertainty stressful and upsetting (e.g., “Unforeseen events upset me greatly,” “When I am uncertain I can’t function very

well”; 1 = *not at all characteristic of me*, 5 = *entirely characteristic of me*; $M = 3.05$, $SD = .74$, $\alpha = .84$).

Dispositional optimism. To assess dispositional optimism, participants completed the Life Orientation Test - Revised (LOT-R; Scheier, Carver, & Bridges, 1994). The LOT-R consists of 10 items (6 items excluding filler items) assessing the extent to which respondents hold generalized positive expectancies (e.g., “In uncertain times, I usually expect the best,” “I’m always optimistic about my future”; 1 = *strongly disagree*, 5 = *strongly agree*; $M = 3.43$, $SD = .70$, $\alpha = .70$).

Defensive pessimism. Participants responded to a 5-item short-form of the Defensive Pessimism Questionnaire (DPQ; Norem & Cantor, 1986) adapted to generalize beyond academic settings (e.g., “I usually prepare for the worst,” “Considering what can go wrong helps me to prepare”; 1 = *strongly disagree*, 7 = *strongly agree*; $M = 5.47$, $SD = .94$; $\alpha = .72$).

Grit. To assess trait-level perseverance for long-term goals, participants completed the 12-item grit scale (Duckworth et al., 2007; e.g., “Setbacks don’t discourage me,” “I have achieved a goal that took years of work”; 1 = *not at all like me*, 5 = *very much like me*; $M = 3.35$, $SD = .56$, $\alpha = .81$).

Big Five personality traits. Participants reported their levels of extraversion ($M = 3.12$, $SD = 1.05$, $\alpha = .71$), agreeableness ($M = 3.68$, $SD = .82$, $\alpha = .33$), conscientiousness ($M = 3.96$, $SD = .82$, $\alpha = .42$), neuroticism ($M = 2.68$, $SD = 1.01$, $\alpha = .68$), and openness to experience ($M = 3.86$, $SD = .79$, $\alpha = .29$) with the Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003; e.g., “I see myself as

someone who is reserved,” “I see myself as someone who tends to find fault with others”; 1 = *strongly disagree*, 5 = *strongly agree*).

Weekly preparation and waiting period questionnaires. Participants completed identical surveys once a week for five weeks, the first four during the preparation period as they worked on their papers, and the fifth survey as they awaited their scores.

Performance predictions. We asked participants to predict the score they expected to receive on their paper from 0% to 100% (across the preparation and waiting time points, $M = 84.70\%$, $SD = 6.70\%$). At baseline, participants predicted their score before learning any details about the paper assignment, which may tap into general ability beliefs or self-efficacy ($M = 86.85\%$, $SD = 6.00\%$).

Bracing. At each time point, participants indicated the extent to which they were bracing for the worst with two items (“I’m bracing for the worst when it comes to my score on Paper 1,” “I want to make sure I keep my expectations low when it comes to my score on Paper 1”; 1 = *strongly disagree*, 5 = *strongly agree*; across the preparation and waiting time points, $M = 2.85$, $SD = 1.04$, $\alpha s > .76$).

Positive expectation management. Participants also indicated the extent to which they were trying to be hopeful and optimistic with two items (“I’m hoping for the best when it comes to my score on Paper 1,” “I’m trying to be optimistic about my score on Paper 1”; 1 = *strongly disagree*, 5 = *strongly agree*; averaged across the preparation and waiting time points, $M = 4.18$, $SD = .62$, $\alpha s > .63$).

Emotions. To track emotional experiences throughout the study, participants completed nine items indicating the extent to which participants felt positive and negative

emotions in the previous week (Diener, Larsen, Levine, & Emmons, 1985; e.g., “Happy,” “Worried/anxious”; 1 = *not at all*, 5 = *extremely*). Four positive emotion items were averaged to form positive affect composite (across the preparation and waiting time points, $M = 3.48$, $SD = .62$, $\alpha s > .85$). The five negative emotion items were averaged to form a negative affect composite (across the preparation and waiting time points, $M = 2.51$, $SD = .78$, $\alpha s < .81$).

Worry. We used three items to examine how worried participants were about their paper grade (“I am worried about my score on Paper 1,” “I feel anxious when I think about Paper 1,” and “I can’t seem to stop thinking about Paper 1”; across the preparation and waiting time points, 1 = *slightly disagree*, 5 = *slightly agree*; $M = 3.15$, $SD = .93$, $\alpha s > .83$).

Eudaimonic well-being. Participants responded to 19 items examining indicators of well-being (Nelson et al., 2014), specifically autonomy, relatedness, competence, flow, and meaning in life (e.g., “I felt that I was successfully completing difficult tasks and projects,” “I have felt a sense of purpose in my daily life”; 1 = *not at all*, 7 = *very much*). Although not a traditional or validated measure of eudaimonic well-being indicators, this composite taps several key constructs related to fundamental need fulfillment, psychological well-being, and optimal functioning (across the preparation and waiting time points, $M = 5.15$, $SD = 2.52$, $\alpha s > .92$).

Subjective health. Participants responded to a single item examining their perceptions of their current health (“In the past week, would you say your health has

been...”; 1 = *poor*, 5 = *excellent*; averaged across the preparation and waiting time points, $M = 3.00$, $SD = .77$).

Sleep disturbance. I investigated participants’ sleep quality with seven items assessing quality of sleep (e.g., “I go to bed feeling stressed, angry, upset, or nervous”; 1 = *strongly disagree*, 5 = *strongly agree*) and frequency of disturbance (e.g., “How often do you... wake up in the middle of the night or early morning?”; 1 = *never*, 5 = *strongly agree*). Items were averaged together at each time point to create a sleep disturbance composite (across the preparation and waiting time points, $M = 2.48$, $SD = .62$, $\alpha s > .68$).

Daily surveys. I asked participants to complete daily diaries at four points of the study: at baseline, the third week of the preparation period, the final (fourth) week of the preparation period, and while they waited for their paper grade. Each block of daily reports consisted of five days. In each daily survey, participants provided an estimate of the score they would receive on their paper from 0% to 100% (across the daily surveys, $M = 82.02\%$, $SD = 12.20\%$) and how much effort they put into their paper on that day (“How much time have you spent working on Paper 1 today? Please enter the total number of minutes”; across the daily surveys, $M = 54.97$ min., $SD = 102.42$ min.). Figure 1 displays a timeline of the weekly reports, daily reports, and study events.

Results

Although examining changes in expectations over time is the fourth goal of the current study, the presentation of results begins with change over time as many of the conducted analyses conceptually build upon the simple change models outlined below.

Trajectories of Expectations

Weekly reports of expectations. Unconditional multilevel growth models assessed the presence and nature of change over time for weekly reports of score estimates, bracing, and positive expectation management. The models assessed expectations over five weeks as students prepared their papers and awaited news of their scores. Weekly growth models were centered at the third week of the preparation period, meaning the intercept and linear slope of these models should be interpreted as the level and rate of change of expectations at the third week.

Using full-information maximum-likelihood estimation, first, unconditional means growth models established the model fit reference point assuming no growth. Next, unconditional linear growth models assessed the increase in model fit when allowing for change over time as well as the significance level of the linear change term. Finally, unconditional quadratic growth models assessed the increase in model fit from a linear growth model as well as the significance level for the quadratic change term. At each step of the model-building process, chi-square analyses revealed if changes in $-2 \log$ likelihoods were statistically significant with the added parameters, with lower numbers indicating better fit. All models allowed for estimation of between-subjects variance around the intercept, linear slope, and quadratic slope as random effects when those predictors were present in the model. All models also allowed for the estimation of the covariance between the intercept and linear slope and the covariance between the intercept and quadratic slope as random effects, where possible.

Table 1 displays the model parameters, fit statistics, and results of the model-building process for score estimates, bracing, and positive expectation management. According to model fit indices, all three operationalizations of expectations demonstrated change over time, although the shape of change was inconsistent across operationalizations. For score estimates, the model including a quadratic term fits best, with the quadratic term in the model reaching significance. Score estimates significantly declined over time, and the slope of decline steepened toward the end of the preparation period and into the waiting period. Figure 2 displays the predicted trajectories of score estimates, bracing, and positive expectation management. Furthermore, significant variance was observed surround the intercept, linear slope term, and quadratic slope term, in addition to significant residual variance. Taken together, the random effects indicate sources of variance in the intercept and slopes left unaccounted for, providing rationale for moderator analyses.

For bracing, the model with the quadratic change term best described the data according to model fit indices, but the quadratic change term failed to reach significance. However, the linear change term in both the linear and quadratic change models reached significance, indicating that students' reports of bracing significantly increased over time. The parameters of the random effects suggest variance around the intercept, linear slope, and quadratic slope left unaccounted for, as well as significant residual variance.

For positive expectation management, although model fit indices revealed the linear change model to best describe the data, the linear change term did not reach significance. However, all random effects in this model reached significance indicating

that variance surrounding the intercept and linear slope remains unaccounted for, and that the intercept and linear slope are positively related. The positive covariance specifies that higher average levels of positive expectation management were related to larger increases in positive expectation management over time.

Daily reports of expectations. Following the same model-building process outlined above, unconditional multilevel growth models assessed the presence and nature of change for daily reports of score estimates. Daily reports were divided into four blocks, occurring at baseline and over the course of the preparation and waiting periods (five consecutive daily reports per block). The latter three blocks of daily reports roughly corresponded to the final two weeks of the preparation period and the week of the waiting period. The limited sample size of the study required blocking the daily reports to constrain the number of model parameters estimated within each model. The growth curves for the daily report blocks were centered at day three (of five), meaning the intercept and linear slope of these models describe the level and rate of change of estimates at the third day of each block. Random effects were again estimated where possible, although convergence issues prevented their estimation for the waiting period model.

Table 2 displays the model parameters, fit statistics, and results of the model-building process for each block of daily-reported score estimates. At baseline, the unconditional means model of no change fit best for score estimates, with neither the linear nor the quadratic slope terms reaching significance. In other words, estimates did not change over time during the baseline block. For the latter three blocks of daily

reports, unconditional linear growth models fit best for score estimates, with the linear slope in all three models reaching significance. That is, score estimates significantly declined over the five daily reports in each block. See Figure 3 for predicted trajectories of daily score estimates over the final two weeks of the preparation period and the week of the waiting period. The results of these models suggest that changes in expectations can be detected at the daily level.

Individual Difference Predictors of Expectations

Weekly reports of expectations. Correlations first assessed the magnitude and direction of association between individual differences and averaged expectations across the preparation period. Table 3 displays the correlation coefficients, significance levels, and confidence intervals for these relationships. Dispositional optimism and grit were the only individual differences to demonstrate significant relationships with all three operationalizations of expectations, sharing positive associations with score estimates and positive expectation management, and negative associations with bracing. Beyond this, estimates were positively associated with self-esteem and negatively associated with defensive pessimism and intolerance of uncertainty. Bracing further shared positive associations with neuroticism and defensive pessimism and negative associations with agreeableness, conscientiousness, and self-esteem. Positive expectation management also demonstrated a negative relationship with intolerance of uncertainty.

Turning to waiting period reports of expectations, estimates related positively to self-esteem and grit and negatively with intolerance of uncertainty. Bracing correlated positively with intolerance of uncertainty and defensive pessimism; bracing also

correlated negatively with conscientiousness, self-esteem, dispositional optimism, and grit. Positive expectation management had a positive association with grit.

Next, multilevel growth models examined if individual differences moderated characteristics of expectation trajectories across both the preparation and waiting periods. Using full-information maximum-likelihood estimation, the most basic models included a linear change term, a quadratic change term, and the individual difference of interest as a predictor of the intercept, or the average level of expectations. The next models fit included an interaction term between the individual difference and linear slope term, and the final models included an interaction between the individual difference and quadratic slope term. At each step of the model-building process, chi-square analyses revealed if changes in -2 log likelihoods were statistically significant with the added parameters, with lower numbers indicating better fit. All models allowed for estimation of between-subjects variance around the intercept, linear slope, and quadratic slope as random effects. All models also allowed for the estimation of the covariances between the intercept and slopes.

Models that examined relevant individual differences as moderators of the trajectory of score estimates revealed that self-esteem, dispositional optimism, and grit only predicted the intercept, or higher average estimates. Defensive pessimism and intolerance of uncertainty predicted lower average estimates, consistent with the correlational analyses presented above. Models that examined neuroticism, agreeableness, conscientiousness, dispositional optimism, defensive pessimism, intolerance of uncertainty, and grit as moderators of change in bracing yielded similar

results. The individual differences predicted average levels of bracing but did not moderate change over time with one exception: Self-esteem moderated quadratic change in bracing, suggesting that people higher in self-esteem did not increase their bracing to the same extent over time as people lower in self-esteem. For positive expectation management, intolerance of uncertainty predicted average levels, but did not moderate the linear or quadratic slopes. In summary, self-esteem is the only individual difference to predict change in an operationalization of expectations above and beyond average level of expectations.

Daily reports of expectations. Correlations assessed the magnitude and direction of association between the individual differences of interest and averaged daily reports of score estimates for the three daily report blocks that occurred during the preparation and waiting periods. Table 4 displays the correlation coefficients, significance levels, and confidence intervals by report block.

For the daily report block beginning about halfway through the preparation period (block 2, after baseline), self-esteem, dispositional optimism, and grit positively correlated with score estimates. Estimates reported during the third daily report block at the end the preparation period showed the same relationships, in addition to negative associations with intolerance of uncertainty and defensive pessimism. Daily estimates measured during the waiting period demonstrated a positive relationship with grit and negative relationships with defensive pessimism, intolerance of uncertainty, and neuroticism.

Following the same model-building process outlined above, multilevel growth models examined if the above individual differences moderated characteristics of score estimate trajectories. For daily report block 2, roughly corresponding to the third week of the preparation period, only self-esteem and grit predicted higher average levels of estimates, but neither moderated change over time. For daily report block 3, roughly corresponding to the final week of the preparation period, self-esteem, grit, and openness predicted higher average levels of estimates but did not moderate change over time. However, defensive pessimism moderated the linear slope of estimates, such that students higher in defensive pessimism declined in estimates to a greater extent during block 3 than students lower in defensive pessimism. For waiting period daily estimates (block 4), grit and dispositional optimism predicted higher average levels, whereas defensive pessimism, intolerance of uncertainty, and neuroticism predicted lower average levels. None of these individual differences moderated characteristics of change.

In summary, the findings of the daily report moderation analyses are similar to those of the weekly reports, such that individual differences tend to only predict average levels of estimates. For the daily reports, only defensive pessimism moderated change over time.

Expectations and Indicators of Well-Being

Multiple regressions predicting indicators of well-being from expectations.

To investigate how expectations relate to indicators of well-being prior to a performance, I conducted multiple regression analyses predicting individual indicators of well-being from individual operationalizations of expectations, controlling for the relevant well-

being indicator at baseline. Table 5 displays the standardized regression coefficients and their confidence intervals for the regression analyses.

Score estimates proved to be the operationalization of expectations most reliably associated with indicators of well-being over time, as they related significantly to each indicator of well-being included in the study. Score estimates predicted greater positive emotions, autonomy, relatedness, competence, meaning, flow, and health. Score estimates also predicted lower negative emotions, worry, and sleep disturbance. Positive expectation management predicted greater positive emotions, autonomy, relatedness, competence, meaning, flow, and health. Conversely, bracing predicted greater negative emotions and worry, and less autonomy, relatedness, and meaning.

Associations between trajectories of expectations and indicators of well-being. Next, correlations between trajectories of expectations and trajectories of well-being indicators assessed the degree of association between patterns of change in these variables. Table 6 displays the correlations between the intercepts, linear slopes, and quadratic slopes of expectation operationalizations and indicators of well-being. In sum, score estimates again appear to be the most robust measure of expectations in its pattern of relationships with indicators of well-being. The findings are consistent with the regression analyses except that the trajectory of estimates did not correlate with that of relatedness, and the trajectory of estimates was related to the trajectory of sleep disturbance. Bracing also showed a pattern of trajectory correlations consistent with the regression findings. Lastly, results for positive expectation management matched the

regression results, except that the trajectories of positive expectation and health were unrelated to each other.

Cross-lagged relationships between expectations and indicators of well-being.

As a final step, maximum likelihood cross-lagged structural equation models assessed whether reciprocal relationships potentially exist between expectations and indicators of well-being. Only well-being indicators that demonstrated consistent relationships with expectations across the regression analyses and trajectory correlations were included in these models. For each expectation and well-being pair, four models assessed the nature of their relationship over time while taking into account autoregressive and cross-sectional associations within each time point. The first model included cross-lagged paths both from the expectation operationalization to the well-being indicator, and from the well-being indicator to the expectation operationalization. The second model included only cross-lagged paths from the expectation operationalization to the well-being indicator. The third model included only cross-lagged paths from the well-being indicator to the expectation operationalization. Lastly, the fourth model included no cross-lagged paths. Formal model comparison tests of model fit using the -2 log likelihood determined if each subsequent deviation from the full cross-lagged model fit significantly worse than the full cross-lagged model. If all subsequent models fit significantly better than the full cross-lagged model, the no-cross-lagged model was retained.

Most of the model results indicated that setting all cross-lagged paths to zero, or a solely autoregressive model, best fit the data. Thus, in most cases, there is no evidence to indicate that expectations and well-being share reciprocal relationships. Table 7 displays

a summary of the cross-lagged structural equation models that fit best with at least one lagged path. Positive expectation management demonstrated no lagged relationships over time with indicators of well-being. No-lag models also best described all temporal relationships between score estimates and indicators of well-being with the exception of positive emotions, such that higher estimates at one time point predicted more positive emotions at the next time point.

Bracing demonstrated more consistency in its relationships with well-being indicators, but interestingly, only with indicators of eudaimonic well-being. Bracing and autonomy showed a unidirectional lagged relationship, such that higher levels of autonomy at one time point predicted lower levels of bracing at the next time point. Bracing and flow mirrored this finding, such that higher levels of flow at one time point predicted lower levels of bracing at the next time point. The full cross-lagged model fit best for bracing and relatedness, indicating that bracing and relatedness may share a negative reciprocal relationship over time; higher levels of bracing at one time point predict lower levels of relatedness at the next, and vice versa. Similarly, the full cross-lagged model fit best for bracing and meaning demonstrating a negative reciprocal relationship over time.

In sum, levels of expectations and indicators of well-being were reliably associated, as were aspects of their change trajectories. However, when considering autoregressive and cross-sectional associations, the structural equation models revealed that only a few reciprocal relationships seems to exist between expectations and indicators of well-being.

Expectations and Effort

To assess relationships between expectations and the effort students put into preparing their papers, regressions first assessed associations between averaged score estimates and effort within daily report blocks 2 and 3 of the preparation period. For daily report block 2, roughly corresponding to the third week of the preparation period, a simple linear regression model revealed that score estimates did not significantly predict effort, $\beta = .08$, $t(312) = 1.47$, $p = .14$. However, after controlling for students' baseline estimates, estimates throughout the report block were associated with effort, $\beta = .25$, $t(305) = 2.74$, $p = .006$. Daily report block 3, roughly corresponding to the final week of the preparation period, showed estimates to have only a marginal relationship with effort (simple model: $\beta = .10$, $t(326) = 1.80$, $p = .073$; controlling for baseline, $\beta = .10$, $t(321) = 1.67$, $p = .097$).

The regression analyses provided murky evidence as to whether testing reciprocal relationships between estimates and effort was appropriate for these data. Correlations between characteristics of the trajectories of estimates and effort helped clarify whether cross-lagged models would be appropriate for both preparation period blocks of daily reports. For daily report block 2, neither the intercepts, $r(91) = .13$, $p = .21$, linear slopes, $r(91) = -.04$, $p = .73$, nor quadratic slopes, $r(91) = -.08$, $p = .46$, of score estimates and effort were significantly associated. The same pattern of findings emerged in daily report block 3: intercept, $r(89) = .15$, $p = .16$; linear slopes, $r(89) = .17$, $p = .10$; quadratic slopes, $r(89) = .10$, $p = .37$. Considering results across the regression analyses and trajectory correlations, cross-lagged models are inappropriate for these data.

Relationships Among Operationalizations of Expectations

The final endeavor of the current study was to explore how the relationships between operationalizations of expectations unfold over time. First, correlations among averages of the operationalizations of expectations investigated the relationships most broadly. Because expectations continue to fluctuate dynamically after the preparation period ends and the waiting period begins, the waiting period time point was included in the averages for this exploratory endeavor. Estimates and bracing showed a robust negative relationship, $r(129) = -.48, p < .0001$, and estimates and positive expectation management demonstrated a positive relationship, $r(129) = .21, p = .02$. Bracing and positive expectation management were unrelated, on average, $r(129) = -.006, p = .94$.

To further explore the relationships among operationalizations, correlations between their trajectory parameters illuminated the extent to which characteristics of change over time were related. The intercepts, or average levels, of score estimates and bracing again demonstrated a robust negative relationship, $r(129) = -.47, p < .001$, but the slope estimates showed no association: linear, $r(129) = -.12, p = .19$; quadratic, $r(129) = -.13, p = .15$. The intercepts of score estimates and positive expectation management were again positively related, $r(129) = .23, p = .008$, and the linear slopes were marginally negatively related, $r(129) = -.16, p = .07$, but the quadratic slopes were unrelated, $r(129) = -.01, p = .90$.

Based on these findings, a cross-lagged model was pursued only for the relationship between estimates and positive expectation management, using the same procedures outlined earlier. Findings from the model-building process indicated that a no-

lag model for score estimates and positive expectation management fit the data best (nonsignificance indicates better fit than the full cross-lagged model; $\chi^2(8) = 8.25, p = .41$). Considering all the evidence together, there does not seem to be reciprocal relationships among operationalizations of expectations over time.

Discussion

The broadest aim of the present study was to provide a comprehensive examination of performance expectations over the course of a preparation and waiting period in an effort to integrate several bodies of literature and test disparate findings in a single context. To do so, the present study first examined several trait-like individual differences relevant to outcome expectations to assess their relative impact. Second, I investigated relationships between expectations and indicators of hedonic, eudaimonic, and physical well-being. Third, I assessed the nature of the relationships between expectations and the effort students put into preparing for a performance (i.e., a paper submission). Fourth, changes in expectations were examined, as well as individual differences in those shifts. Finally, I explored relationships among operationalizations of expectations over time.

The Relative Importance of Individual Differences

Previous research has established the individual differences included in the current study as important predictors of how optimistically people anticipate their future. The Big Five personality characteristics were also included to explore their role in expectation management processes. It was unclear whether findings from waiting periods would generalize to a preparation period; the current study afforded an ideal setting to

extend previous findings and assess the relative association of expectations with self-esteem, intolerance of uncertainty, dispositional optimism, defensive pessimism, grit, and personality traits during preparation and waiting periods.

I predicted that self-esteem would positively relate to expectations, such that people higher in self-esteem would report higher score estimates, less bracing, and more positive expectation management. Self-esteem demonstrated reliable relationships with weekly reports of score estimates and bracing during both the preparation and waiting periods, although in neither case did self-esteem relate to positive expectation management. Additionally, self-esteem related to daily reports of score estimates during both blocks of the preparation period, but it did not relate to daily reports of estimates during the waiting period. Thus, with the exception of positive expectation management, self-esteem predicts outcome-specific expectations during both preparation and waiting periods, and also relates to preparation period expectations measured on a daily scale. That is, consistent with hypotheses and previous research (Brown et al., 2008; Sweeny & Andrews, 2014), people higher in self-regard hold higher expectations for their performance both when preparing for an important outcome and when awaiting news of that outcome.

Intolerance of uncertainty was associated with expectations quite consistently throughout the study. As hypothesized, people higher in intolerance of uncertainty reported lower score estimates, less positive expectation management, and more bracing in the preparation period than people more tolerant of uncertainty. These findings were further supported by an association with lower daily-reported score estimates at the end

of the preparation period. As hypothesized and consistent with previous research (Sweeny & Andrews, 2014), intolerance of uncertainty was associated with lower estimates and more bracing at the beginning of the waiting period, as well as lower score estimates reported daily during the waiting period. This pattern of results illustrates that people who tend to find uncertainty and ambiguity uncomfortable or anxiety-provoking also tend to hold be more pessimistic prior to a performance and while waiting for news.

Dispositional optimism is perhaps the most face-valid individual-difference predictor of expectations included in this study, and I anticipated that it would be related to higher expectations during the preparation and waiting periods. True to its theoretical roots (Carver & Scheier, 2014), dispositional optimism was associated with all three operationalizations of expectations during the preparation period. Dispositional optimism was also associated with daily reports of score estimates during both blocks of the preparation period, extending previous waiting period findings (Sweeny & Andrews, 2014; Sweeny & Falkenstein, 2016). People who hold positive, generalized expectancies for their future also tend to hold higher outcome-specific expectations compared to people with a more pessimistic outlook prior to a performance. Inconsistent with previous research (Sweeny & Andrews, 2014), dispositional optimism only related to the weekly report of bracing at the beginning of the waiting period and marginally correlated with daily score estimates reported during the wait. The link between dispositional optimism and waiting period expectations is not as clear here as its link with preparation period expectations.

Similar to dispositional optimism, defensive pessimism has future forecasts at its conceptual core (Norem & Cantor, 1986; Norem, 2001). As such, I anticipated that people who find pessimistic expectations to be especially motivating for performance would have lower expectations prior to a performance and subsequently during a waiting period. Generally consistent with predictions, people higher in defensive pessimism reported lower score estimates on a weekly scale during the preparation period and on a daily scale at the end of the preparation period. However, defensive pessimism did not correlate with positive expectation management. Replicating previous research (Sweeny & Andrews, 2014), people who scored higher on defensive pessimism reported bracing more than people lower in defensive pessimism and reported significantly lower daily score estimates during the waiting period. Taken together, these findings indicate that people higher in defensive pessimism hold more pessimistic outcome-specific expectations in the face of prolonged uncertainty, as theory would dictate.

Grit, defined as passion and persistence toward long-term goals (Duckworth et al., 2007), was hypothesized to correlate with higher expectations during both the preparation and waiting period. Grit was the only individual difference or trait included in the present study for which associative hypotheses were confirmed in every way. Specifically, grit correlated positively with weekly reports of both score estimates and positive expectation management and negatively with bracing. Grittier people also reported higher estimates during both preparation period daily report blocks and higher expectations during the waiting period daily report block. The preparation period findings replicate a previous study finding showing grit to be associated with academic expectations (Verdesco, 2016),

but the current study extends this relationship to waiting periods. It is safe to say that people higher in grit report higher expectations when experiencing prolonged uncertainty both prior to a performance and when awaiting news.

The current study included extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience to explore how fundamental characteristics of personality relate to specific outcome expectations. I hesitated to make concrete predictions, but previous research on generalized expectancies shed light on what could be expected. Some research suggests a conscientious facet of generalized optimism (Segerstrom et al., 2003) and thus I predicted that conscientiousness and outcome-specific optimism would be positively related. In line with these predictions, conscientiousness correlated negatively with weekly reports of bracing during the preparation and waiting periods, but not with the other operationalizations of expectations. It makes sense, though, that more conscientious students would be buffered against effortful pessimism.

Given that in the past, researchers have questioned if generalized optimism is distinguishable from neuroticism (or a lack thereof; Smith et al., 1989), I anticipated that neuroticism and outcome-specific expectations would be negatively associated. Neuroticism was associated with more bracing during the preparation period, marginally lower daily estimates at the end of the preparation period, and lower daily estimates during the waiting period, indicating that people higher in neuroticism are less optimistic about their outcome in times of prolonged uncertainty. The results for conscientiousness and neuroticism are in the predicted direction but are inconsistent across

operationalizations of expectations and survey method. Replication of these relationships is necessary before concrete conclusions can be drawn between these trait characteristics and outcome-specific expectations. Additionally, agreeableness demonstrated a negative relationship with bracing during the preparation period, and openness marginally predicted higher daily estimates reported at the end of the preparation period. The inconsistency of these results paired with a lack of theoretical cohesion suggests they may be spurious.

Averaged over the weekly preparation period reports, all operationalizations of expectations were most highly associated with dispositional optimism, intolerance of uncertainty, and grit. Positive expectation management shared modest associations with these constructs (absolute r s > .17) and was most strongly associated with dispositional optimism ($r = .24$). Estimates generally shared stronger associations (absolute r s > .27) and was most robustly associated with grit ($r = .33$). Bracing was the operationalization most highly associated with these individual differences (absolute r s > .41) and shared the largest association with dispositional optimism ($r = -.48$). Thus, although the operationalizations of expectations during the preparation period were most highly related to the same three individual differences, the strength of the associations varies considerably by expectation operationalization.

A slightly different pattern of associations emerged for score estimates averaged across the two daily report blocks of the preparation period (blocks 2 and 3). Average daily score estimates correlated most highly with self-esteem ($r = .21$), dispositional optimism ($r = .25$), and grit ($r = .22$), and this pattern was mirrored for block 2. However,

for block 3, score estimates correlated most highly with dispositional optimism, defensive pessimism, and grit when performance loomed near. Taking the findings of weekly and daily surveys together, dispositional optimism and grit demonstrated consistent relationships not only among operationalizations of expectations, but also between the survey methods employed in this study. I anticipated the pattern of findings between dispositional optimism and expectations given its theoretical underpinnings and previous research on the topic, and the present study confirmed its conceptual consistency with outcome-specific expectations.

Of course, the findings discussed here do not speak to *why* dispositional optimism and outcome-specific expectations are so consistently related. Considering the correlational nature of the study, it is impossible to reconcile if outcome-specific expectations emerge in part from trait-like tendencies in future forecasting, or if the same characteristics or cognitive processes that produce habits of future forecasting also produce outcome-specific expectations. For example, characteristics of attention allocation and maintenance could influence both generalized and outcome-specific expectations. Further research addressing the mechanisms of expectation formation and management is sorely needed.

Grit is a relatively new construct in the psychological literature, with only one study I could find directly addressing the topic of the current investigation (Verdesco, 2016). Grit's consistency and strength of association with operationalizations of expectations is interesting, especially considering that it is more reliably predictive of expectations than habits of expectation formation and uncertainty-relevant individual

differences. Passion and persistence toward long-term goals is certainly relevant to expectations when preparing for an important outcome, but these findings reveal it to be as important or possibly even *more* important than dispositional optimism, defensive pessimism, or intolerance of uncertainty during preparation and waiting periods. Of course, the current study may have simply provided an ideal context for grit to “soak up” the variance in outcome expectations. That is, these findings may not generalize to preparation and waiting periods where people have little control over their outcomes, or where the performance at hand does not directly relate to one’s long-term goal of, say, earning a bachelor’s degree. Further research is needed to understand these relationships, and future studies examining preparation and waiting periods may benefit from the inclusion of grit.

All individual differences included in this study related to operationalizations of expectations, which extends the findings from previous research on waiting periods. It can now be said that many of the individual differences that predict outcome expectations during waiting periods also do so during preparation periods. The present study additionally makes a novel contribution to research on prolonged uncertainty by demonstrating all of the included individual differences aside from personality traits to be consistently related to expectations measured on a daily scale, which further establishes the reliability and nuance of these relationships.

Relationships Between Expectations and Indicators of Well-Being

On average, all operationalizations of expectations were related to indicators of hedonic well-being during the preparation period and waiting periods, as expected.

Higher score estimates were associated with more positive emotions, less negative emotions, and less worry. Positive expectation management was also related to more positive emotions. Students who braced more experienced less positive emotions, more negative emotions, and more worry on average. Consistent with previous research and theory (Carroll et al., 2006; Shepperd et al., 2005), expectations clearly relate to emotional experiences, although positive expectation management only correlated with positive emotions. Results from cross-lagged structural equation models revealed a cross-lagged relationship to only exist between estimates and positive emotion, such that optimistic estimates at one time point predicted positive emotions at the next time point. Psychological theory posits that optimism feels good and may be a motivational force via positive emotions (Roese & Sherman, 2007; Shepperd et al., 2008). The present study provides compelling evidence that a causal link may exist between outcome-specific expectations and positive emotions, but more research is needed to definitively establish such a connection. Although cross-lagged models are a useful tool for inferring causal order from correlational data, caution must be taken when interpreting their results. In the case of the present study, more evidence is necessary to firmly establish the potential causal links illustrated by cross-lagged model results.

I predicted that expectations would share reciprocal relationships with all indicators of hedonic well-being. However, analyses failed to provide evidence of cross-lagged relationships between expectations and negative emotions, or expectations and worry, contrary to predictions and previous research (Norem, 2001; Shepperd et al., 2005). Specifically, findings failed to confirm previous research that negative emotional

experiences inform expectations, and that negative emotional experiences are affected by expectations. Despite the cross-lagged association between estimates and positive emotions, it is possible that the weekly time scale on which these variables were reported is too long to capture all cross-lagged relationships among operationalizations of expectations and emotional experiences. However, it is unclear whether daily reports would be able to completely capture the presumably nuanced relationships between expectations and emotional experiences, or if these processes instead unfold over the course of hours and minutes. It is also important to consider the relative lack of statistical power for these models. Despite the best of intentions and ample effort, attrition and missing data limited the sample size available for these examinations. Future, more highly-powered investigations should continue to examine reciprocal links between specific outcome expectations and emotional experiences.

The present study investigated links between expectations and indicators of eudemonic well-being as an exploratory endeavor. I identified the indicators of well-being gleaned from self-determination theory (autonomy, relatedness, and competence) as the most likely to be associated with expectations due to the motivational benefits of fundamental need fulfillment (Deci & Ryan, 2008). I also explored whether measures of meaning in life and flow related to expectations over the course of a preparation period. All indicators of eudaimonic well-being were associated with expectations, and most indicators (except flow) were associated with all operationalizations of expectations. That is, score estimates and positive expectation management related positively with autonomy, relatedness, competence, meaning, and flow during the preparation period

when controlling for baseline levels of well-being. Bracing related negatively with autonomy, relatedness, competence, and meaning. In sum, students with more optimistic expectations about their paper assignment also reported more fundamental need fulfillment, a greater sense of meaning, and more frequent flow states than their pessimistic counterparts, demonstrating deeper thriving and adaptive functioning.

Beyond average associations, bracing was the only operationalization of expectations to demonstrate full cross-lagged relationships with indicators of eudaimonic well-being, specifically relatedness and meaning. Students who braced more at one time point reported less relatedness and meaning at the next time point, and students higher on these well-being indicators at one time point reported less bracing at the next time point. Thus, bracing may share reciprocal relationships with relatedness and meaning in times of prolonged uncertainty. Flow also demonstrated a unidirectional lagged relationship with bracing, such that higher flow at one time point predicted less bracing at the next time point, perhaps speaking to a stress-buffering effect of flow activities and flow states (Rankin, Walsh, & Sweeny, under review). Although these models take into account autoregressive and cross-sectional associations, it must be stressed again that they did not achieve a desirable level of statistical power, so any conclusions drawn from the results are tenuous.

Of course, some researchers have questioned the distinction between optimism and eudaimonic well-being, instead considering optimism to be one facet or indicator among many (Diener et al., 2010; Huppert & So, 2013). Indeed, the present study leaves open the question of outcome expectations as a cause, a consequence, or simply a

correlate of eudaimonic well-being. However, it is among the first to provide a connection between situation-specific expectations and global well-being. Future studies examining situations of prolonged uncertainty should continue to explore the relationships among indicators of eudaimonic well-being, expectations, and distress.

Outcome expectations are tied up with more than the emotional and psychological health of those enduring prolonged uncertainty; generalized and specific outcome expectations have been tied to physical health as well (Howell & Sweeny, 2016; Segerstrom et al., 1998). In line with previous findings I anticipated that more optimistic expectations would be associated with better self-reported health and less sleep disturbance during the preparation period, and for the most part these predictions were confirmed. Self-reported health correlated positively with score estimates and positive expectation management, and negatively with bracing. More optimistic estimates were also associated with less sleep disturbance. In addition, students who remained more optimistic over the course of the preparation period rated their health as better and reported sleeping better, although results were somewhat inconsistent across operationalizations of expectations.

I also anticipated that health and sleep disturbance may share cross-lagged relationships, considering that expectations may exacerbate or buffer against distress (Scheier & Carver, 1987; Segerstrom et al., 1998). However, analyses revealed no cross-lagged relationships between expectations and indicators of physical health. Expectations and indicators of physical health do not seem to share reciprocal relationships. On a weekly scale, positive expectations do not seem to buffer against physical illness and

problems sleeping. It is important to keep in mind that the academic paper of interest, while no doubt important, was only one part of students' busy schedules. The stress they reported in the current study likely came from the accumulation of their obligations for the academic quarter, and many students at the university have jobs outside of their studies. It is possible that positive expectations could mitigate the physical manifestations of distress in the context of an isolated performance that is the sole source of said distress. It is questionable, though, that the expectations measured in the present study could mitigate the stress of a full academic course load and other life stressors. More research is needed to understand the relationship between outcome-specific expectations and physical health, and more generally, the causal influence expectations may have on distress.

Effort as a Function of Expectations

Several studies have linked expectations to motivation and effort (Domina et al., 2011; Solberg et al., 2009), but these studies have taken a broad and aggregate view of those relationships. The current study sought to provide evidence of a nuanced temporal link between specific performance expectation and effort expended preparing for performance. Surprisingly, score estimates and effort averaged over the two preparation period daily report blocks were uncorrelated. Well into the preparation period, daily-reported estimates and effort only showed a positive association when controlling for baseline estimates. In contrast, daily estimates and effort reported at the end of the preparation period only showed a positive association when baseline estimates were removed from the model. With questionable relationships between estimates and effort

and little association between their change trajectories, cross-lagged models were not pursued.

The lack of association between expectations and effort is consistent with some previous findings (Mouw & Khanna, 1993; Plant et al., 2005) but is surprising nonetheless. Estimates shared inconsistent associations at best with the self-reported effort students invested in their papers at the point in the preparation period when both variables were most in flux. As previous researchers have speculated, it is possible that the relationship between expectations and effort depends on performance-relevant individual differences such as achievement striving (Nonis & Hudson, 2006). It is also possible that other individual differences moderate the relationship, or that no relationship exists in this context. Given assumptions about the motivating and behavior-regulating function of situation-specific expectations, future research should seek to understand the clearly complicated relationship between outcome expectations and effort.

Shifts in Expectations and Moderators of Change

The weekly trajectories of score estimates, bracing, and positive expectation management modeled in this study provide a glimpse of change in expectations over time across a preparation period and into a waiting period. The daily trajectories that track expectations throughout the preparation and waiting periods offer a more detailed view of changes in expectations at the most crucial points of the study: leading up to the paper deadline and leading up to the disclosure of paper grades. Few studies if any have provided an examination of expectations during both a preparation period and waiting period, in addition to correlates of expectations and moderators of their shifts. Consistent

with previous research (Sweeny et al., 2016), I anticipated estimates to decrease over time, and positive expectation management and bracing to increase over time. I also anticipated that changes in daily estimates toward the end of the preparation period would be larger in magnitude than declines in daily estimates during the waiting period (Sweeny & Krizan, 2013).

Analyses indicated that estimates decreased quadratically throughout the study, bracing increased linearly, and positive expectation management did not shift to a meaningful extent. Lack of change in positive expectation management is contrary to predictions and previous research on waiting periods (Sweeny et al., 2016). Studies that include positive expectation management as a measure of expectations usually take place over longer periods of time with larger gaps between measurement periods, so it is possible that weekly assessments are too frequent to demonstrate meaningful change in this operationalization of expectations.

Trajectories of daily score estimates showed no change at baseline but linear decreases during the two daily report blocks leading up to the paper deadline. Estimates also decreased significantly in a linear fashion during the waiting period daily report block. A comparison of the effect sizes indicates that the greatest declines occurred during the second report block of the preparation period ($r = .39$), or in the days leading up to the paper deadline, compared to the first block of the preparation period ($r = .28$) or to the waiting period ($r = .26$). The pattern of findings presented here is consistent with previous literature that declines in expectations occur to a greater extent during the preparation period particularly just prior to a performance (Sweeny & Krizan, 2013).

Research on waiting periods has generally found individual differences to be of little importance to the trajectories of expectations over time, primarily predicting the average level of expectations (Sweeny & Andrews, 2014; Sweeny & Falkenstein, 2016). It was unclear if these findings would replicate in the context of a preparation period, or if individual differences would exert more influence over the course of expectations when students were still in control of their outcome. In fact, the majority the models investigating individual differences as moderators of change in weekly and daily reports of expectations indicated that individual differences primarily predict the level of expectations but not characteristics of change. The findings from these models are consistent with previous research on waiting periods (Sweeny & Andrews, 2014; Sweeny & Falkenstein, 2016) and suggest that individual differences hold no greater influence over expectations during a preparation period than they do during a waiting period. Although most models yielded nonsignificant results, in two instances individual differences did moderate change in expectations. Self-esteem moderated the quadratic term in bracing trajectories, such that people higher in self-esteem did not ramp up their bracing as quickly at the end of a preparation period and into a wait as people lower in self-esteem. As predicted, defensive pessimism moderated the decline in daily-reported score estimates, such that people higher in defensive pessimism declined in their expectations to a greater extent at the end of the preparation period than those lower in defensive pessimism. Defensive pessimism did not moderate the waiting period trajectory of estimates, as expected, nor daily reports earlier in the preparation period. The findings of the moderation analyses are inconsistent across operationalization of expectations and

survey method, and thus should be interpreted with caution, but they hint that self-esteem and defensive pessimism may moderate change prior to a performance.

Patterns of Findings Among Operationalizations of Expectations

The consistency of patterns of association suggests that despite important differences in the how score estimates, bracing, and positive expectation management elicit future forecasting, the different operationalizations of expectations are measuring a common construct. Score estimates and bracing appear to be the most closely related to each other. For example, score estimates and bracing show almost the exact same pattern of relationships with the individual differences included in the study, whereas positive expectation management less consistently related to individual differences. Intriguingly, bracing and positive expectation management were unrelated during the preparation and waiting period at every weekly time point of the study and on average.

The pattern of findings observed in the present study between bracing and positive expectation management contradicts previous research on waiting periods, which found a negative relationship (Sweeny & Andrews, 2014). Given the relative lack of change of positive expectation management over time, it is possible that relationships between these strategies only emerge after performance has passed when control over an outcome is diminished. It is also possible that the study context or performance outcome at hand generally did not elicit change in positive expectation management over time leading to a lack of association with bracing. However, levels of positive expectation management related to levels of estimates, individual differences, and indicators of well-being measures included in the study, so this explanation does not completely suffice.

The pattern of relationships presented here is also surprising because score estimates are considered more of a “gut” approximation of the future, whereas bracing and positive expectation management are considered measures of more effortful or strategic expectation management. Conceptually it seems that bracing and positive expectation management would share a moderate or strong association, and the current study did not provide evidence for this. Instead, score estimates and bracing seem to be much more closely related.

Relationships between bracing and estimates changed in magnitude over the course of the preparation period and into the waiting period, such that they were only moderately related at the end of the preparation period ($r = -.32$) and most strongly related at the beginning of the waiting period ($r = -.48$). That is, estimates and bracing seem to sync up once a performance has passed and all one can do is await the outcome.

The average association between score estimates and positive expectation management seems to be driven by their association at the beginning of the preparation period. Estimates and positive expectation management demonstrated moderate associations during the first ($r = .26$) and second ($r = .22$) weeks of the preparation period, but were unrelated during the final two weeks of the preparation period, and only marginally related at the beginning of the waiting period. Estimates and positive expectation management do not demonstrate the same consistency of association over time as estimates and bracing. However, estimates and bracing showed the most promise for a potential reciprocal relationship, which was ultimately disconfirmed by the cross-lagged model. The findings from the present study suggest that operationalizations of

expectations, however strongly related, do not demonstrate reciprocal relationships. Any synchrony of change between the operationalizations thus seems to suggest that these measures of expectations are subject to the same influences, but do not influence each other.

Researchers who focus on expectations and uncertainty should note that bracing was the most robust operationalization of expectations in its relationships with the individual differences and well-being indicators included in this study. Although the present study does not illuminate why this may be, something meaningful is being captured by effortful pessimism that is not being captured by score estimates or effortful optimism. Again, the magnitude of these specific findings may be a unique product of the study context and performance outcome, but the relative importance of bracing certainly deserves closer examination. Score estimates as a more reflexive measure of expectations may be more susceptible to salient contextual information and situational specifics, whereas the effortful nature of bracing allows more room for individual differences and personal characteristics to exert influence. Although helpful in explaining why bracing relates more closely to individual differences, this speculation does not clarify why bracing was more closely related to well-being indicators throughout the study and is the only operationalization of expectations to share reciprocal relationships with indicators of well-being. As is the case with many of the findings presented here, further research is necessary to understand the mechanisms of these relationships.

Limitations

The goal of this study was to provide a comprehensive examination of performance expectations focusing on the antecedents, correlates, and potential consequences of expectation management processes in the context of a preparation and waiting period. The present study provided compelling evidence that dispositional optimism and grit are the individual differences most predictive of expectations, although self-esteem and defensive pessimism were the only individual differences to moderate trajectories of expectations. Furthermore, expectations relate reliably to indicators of hedonic, eudaimonic, and physical well-being, although surprisingly, expectations failed to relate meaningfully to effort put toward preparing for an important outcome. Lastly, the present study is the first to thoroughly explore relationships among operationalizations of expectations, revealing that score estimates and bracing show similar patterns of association with other study variables and are the most consistently related over time.

The present study was thorough in its investigation of key research questions, but some of the findings presented must be interpreted with caution for several reasons. First, although the students recruited into the study were engaged with their paper assignment, especially toward the end of the preparation period, the situation of prolonged uncertainty they found themselves in paled in importance to other potential life events. For example, preparing for a biopsy and awaiting a potential cancer diagnosis is clearly more important and distressing than doing well on a paper in a college course, no matter how important that class is to one's academic major. Similarly, the experience of law graduates

preparing for their state's bar exam and awaiting those results is likely more important and distressing in the moment. The academic course of focus in this research afforded an ideal context for the scope and exploratory aims of the investigation, but the findings presented here may actually underestimate the presence and magnitude of relationships among variables. That is, students were likely less cognitively and emotionally invested in their academic paper compared to participants in other published research on waiting periods, limiting the generalizability of the findings presented here to other preparation and waiting periods. The current research thus provides a roadmap of fruitful topics for future, well-powered research in more generalizable contexts.

Second, the participants included in the study further limit the generalizability of the study's findings. Beyond demographics, convenience samples of college undergraduates can differ in meaningful ways from the general population and from other undergraduate samples (Giovenco, Gundersen, & Delnevo, 2016; Peterson & Merunka, 2014), again confirming the importance of replication studies. Third, the sample size of the present study undermined confidence in the findings from the more complex statistical analyses. Specifically, the cross-lagged structural equations models did not achieve desirable levels of statistical power due to study attrition and missing data. The observed relationships between expectations and well-being and expectations and effort may very well replicate and even proliferate in future research with more desirable levels of statistical power, but it is almost equally as likely that the findings would disappear.

Finally, the intensive measurement technique employed in the current study, specifically the simultaneous daily and weekly reports, may have affected the

expectations reported by participants. Expectations are typically an internal experience, and although people may choose to convey their expectations to others, it is much less common for people to be prompted externally for their future forecasts. By prompting people for their expectations repeatedly over the course of the preparation and waiting periods, the present study may have affected how expectation management processes unfolded over time. In other words, the increased focus on forecasts of performance and current expectation management strategies may have inadvertently influenced the expectations students reported. It seems that increased focus on outcome expectations would temper change in those expectations by increasing attention to the performance-relevant details and situational specifics used to make those predictions. People may desire to be consistent in their responding, and repeated measurements so close together may have exacerbated this tendency. Situations of more prolonged uncertainty may be ideal for studying the topics at hand so that intervals between measurement points can be greater in duration, making it possible to avoid the issues outlined above.

Conclusion

One of the main motivations behind research on prolonged uncertainty is to help reduce the distress it elicits and promote optimal functioning and decision making. The findings from the current study point to several promising avenues of research that could inform interventions aimed at helping people navigate the substantial distress that arises in the face of prolonged uncertainty. A deeper understanding of how individual differences relate to expectation management processes and distress will help further that goal by potentially informing interventions tailored to the individual. The current

research can help discern who might benefit most from interventions targeting distress and can serve as information for research determining how to effectively help those in need. Additionally, intervention activities focused on facilitating fundamental need fulfillment, meaning, and flow states may be effective pathways to bolster optimism throughout a preparation period, or during a waiting period until well-timed bracing is appropriate (Sweeny, 2012). Such activities may not only provide successful distraction from the outcome at hand, but they may also decrease the relative importance and salience of that outcome by focusing attention on other meaningful aspects of life.

Performance expectations are an integral part of how people experience and navigate situations of prolonged uncertainty. In addition to implications for intervention research, some of the most promising results gleaned from the current study are the potentially causal relationships between bracing and indicators of eudaimonic well-being, indicating that bracing may be more than correlated with indicators of deep-rooted personal fulfillment. More broadly, the present study reveals expectations to be dynamic experiences in the face of an important performance and when awaiting news of that performance. Not only are expectations predicted by an array of personal characteristics, but they also consistently related to various indicators of emotional, eudaimonic, and physical well-being over time.

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Table 1

Multilevel Unconditional Growth Models Assessing Change Over Time in Weekly-Reported Expectation Operationalizations

	Intercept	Linear Time	Quadratic Time	σ^2 inter cept	σ^2 linear slope	σ^2 quadratic slope	$\Delta\chi^2$	BIC
Score Estimates								
Unconditional means	84.60 [83.43, 85.76] ($<.0001$)	N/A	N/A	✓	N/A	N/A	N/A	3349.3
Unconditional linear	84.16 [82.96, 85.36] ($<.0001$)	-1.25 [-1.64, -0.86] ($<.0001$)	N/A/	✓	✓	N/A	133.4 ($<.0001$)	3230.5
Unconditional quadratic	85.19 [84.02, 86.34] ($<.0001$)	-1.29 [-1.70, -0.88] ($<.0001$)	-0.46 [-0.69, -0.23] (.0001)	✓	✓	✓	80.2 ($<.0001$)	3169.8
Bracing								
Unconditional means	2.86 [2.68, 3.04] ($<.0001$)	N/A	N/A	✓	N/A	N/A	N/A	1355.5
Unconditional linear	2.90 [2.72, 3.08] ($<.0001$)	0.11 [0.06, 0.16] ($<.0001$)	N/A	✓	✓	N/A	39.6 ($<.0001$)	1330.5
Unconditional quadratic	2.85 [2.65, 3.05] ($<.0001$)	0.12 [0.06, 0.17] ($<.0001$)	0.02 [-0.01, 0.06] (.24)	✓	✓	✓	10.3 (.036)	1339.6
Positive Expectation Management								
Unconditional means	4.17 [4.07, 4.28] ($<.0001$)	N/A	N/A	✓	N/A	N/A	N/A	1102.1
Unconditional linear	4.16 [4.05, 4.27] ($<.0001$)	-0.04 [-0.08, 0.01] (.11)	N/A	✓	✓	N/A	34.4 ($<.0001$)	1082.3
Unconditional quadratic	4.19 [4.08, 4.31] ($<.0001$)	-0.04 [-0.09, 0.01] (.097)	-0.02 [-0.05, 0.01] (.233)	✓	✓	X	5.2 (.267)	1096.4

Note: 95% confidence intervals are presented in brackets and p -values are presented below in parentheses. Significant chi-square statistics indicate better model fit compared to previous model, and lowest BIC values indicate best fit of each model set.

Table 2

Multilevel Unconditional Growth Models Assessing Change Over Time in Daily-Reported Score Estimates

	Intercept	Linear Time	Quadratic Time	σ^2 intercept	σ^2 linear slope	σ^2 quadratic slope	$\Delta\chi^2$	BIC
Baseline (block 1)								
Unconditional means	86.97 [85.85, 88.09] ($<.0001$)	N/A	N/A	✓	N/A	N/A	N/A	1771.3
Unconditional linear	86.95 [85.81, 88.09] ($<.0001$)	0.005 [-0.14, 0.15] (.939)	N/A	✓	✓	N/A	14.6 (.002)	1770.9
Unconditional quadratic	86.92 [85.78, 88.05] ($<.0001$)	0.06 [-0.15, 0.27] (.575)	-0.01 [-0.10, 0.08] (.841)	✓	X	✓	14.3 (.006)	1775.4
Prep. 1 (block 2)								
Unconditional means	85.67 [84.17, 87.18] ($<.0001$)	N/A	N/A	✓	N/A	N/A	N/A	1530.1
Unconditional linear	85.82 [84.31, 87.33] ($<.0001$)	-0.18 [-0.33, -0.03] (.016)	N/A	✓	✓	N/A	31.1 ($<.0001$)	1512.5
Unconditional quadratic	85.76 [84.25, 87.28] ($<.0001$)	-0.29 [-0.52, -0.05] (.017)	0.06 [-0.04, 0.15] (.221)	✓	✓	✓	5.7 (.223)	1524.8
Prep. 2 (block 3)								
Unconditional means	82.64 [80.03, 85.25] ($<.0001$)	N/A	N/A	✓	N/A	N/A	N/A	2025.7
Unconditional linear	83.14 [80.59, 85.70] ($<.0001$)	-0.46 [-0.74, -0.19] (.001)	N/A	✓	✓	N/A	20.4 (.0001)	2018.8
Unconditional quadratic	83.13 [80.56, 85.69] ($<.0001$)	-0.58 [-1.07, -0.08] (.024)	0.05 [-0.16, 0.27] (.613)	✓	✓	X	3.7 (.448)	2033.1
Waiting (block 4)								
Unconditional means	79.36 [75.94, 82.77] ($<.0001$)	N/A	N/A	✓	N/A	N/A	N/A	2323
Unconditional linear	79.79 [76.46, 83.11] ($<.0001$)	-0.58 [-1.08, -0.08] (.024)	N/A	✓	X	N/A	20.7 (.0001)	2315.5
Unconditional quadratic	80.57 [78.16, 82.98] ($<.0001$)	0.30 [-2.13, 2.74] (.808)	-0.14 [-1.18, 0.90] (.788)	N/A	N/A	N/A	N/A	2680

Note: Prep. 1 is daily survey period corresponding to the third week of the preparation period. Prep. 2 is the daily survey period corresponding to the final (fourth) week of the preparation period. 95% confidence intervals are presented in brackets and p -values are presented below in parentheses. Significant chi-square statistics indicate better model fit compared to previous model, and lowest BIC values indicate best fit of each model set

Table 3

Correlation Coefficients Between Weekly-Reported Expectation Operationalizations and Individual Differences

	Score Estimates	Bracing	PEM
Self-Esteem	.25 [.08, .41]	-.30 [-.45, -.14]	.15 [-.02, .32]
Intolerance of Uncertainty	-.28 [-.43, -.11]	.41 [.25, .54]	-.18 [-.34, -.005]
Dispositional Optimism	.28 [.11, .43]	-.47 [-.59, -.32]	.24 [.07, .40]
Defensive Pessimism	-.17 [-.33, .004]	.33 [.16, .48]	-.02 [-.20, .15]
Grit	.33 [.16, .48]	-.44 [-.57, -.28]	.20 [.03, .37]
Conscientiousness	.08 [-.10, .25]	-.30 [-.45, -.14]	.05 [-.13, .22]
Neuroticism	-.14 [-.30, .04]	.23 [.06, .39]	-.05 [-.22, .12]
Extraversion	-.02 [-.19, .16]	-.04 [-.22, .13]	.08 [-.09, .25]
Agreeableness	-.02 [-.19, .16]	-.22 [-.38, -.05]	-.0004 [-.17, .17]
Openness	-.04 [-.21, .13]	-.09 [-.25, .09]	.07 [-.11, .24]

Note: 95% confidence intervals are presented in brackets. PEM stands for positive expectation management.

Table 4

Correlation Coefficients Between Daily-Reported Score Estimates and Individual Differences

	Prep. 1 Estimates	Prep. 2 Estimates	Waiting Estimates
Self-Esteem	.24 [.03, .42]	.21 [.006, .40]	.16 [-.06, .36]
Intolerance of Uncertainty	-.16 [-.36, .04]	-.18 [-.38, .02]	-.25 [-.44, -.04]
Dispositional Optimism	.33 [.13, .50]	.27 [.06, .45]	.20 [-.01, .40]
Defensive Pessimism	-.11 [-.31, .10]	-.20 [-.40, .002]	-.26 [-.45, -.05]
Grit	.28 [.08, .46]	.26 [.06, .45]	.28 [.07, .46]
Conscientiousness	.14 [-.07, .34]	.01 [-.19, .22]	.09 [-.13, .30]
Neuroticism	-.12 [-.32, .09]	-.20 [-.39, .01]	-.27 [-.45, -.05]
Extraversion	-.03 [-.24, .18]	.09 [-.12, .30]	.15 [-.07, .35]
Agreeableness	-.16 [-.35, .05]	.08 [-.12, .29]	.10 [-.11, .31]
Openness	-.13 [-.33, .08]	-.19 [-.38, .02]	-.14 [-.34, .08]

Note: 95% confidence intervals are presented in brackets. Prep. 1 is daily survey period corresponding to the third week of the preparation period. Prep. 2 is the daily survey period corresponding to the final (fourth) week of the preparation period.

Table 5

Standardized Regression Coefficients Predicting Averaged Indicators of Well-Being from Averaged Expectation Operationalizations

	Score Estimates	Bracing	PEM
	β [95% CI]	β [95% CI]	β [95% CI]
Positive emotions	.19 [.11, .27]	-.07 [-.15, .01]	.21 [.13, .28]
Negative emotions	-.10 [-.18, -.03]	.13 [.06, .20]	-.06 [-.13, .01]
Worry	-.37 [-.45, -.29]	.41 [.33, .49]	-.01 [-.09, .08]
Autonomy	.20 [.12, .27]	-.13 [-.21, -.05]	.20 [.13, .28]
Relatedness	.14 [.06, .21]	-.13 [-.20, -.05]	.20 [.13, .27]
Competence	.14 [.06, .21]	-.07 [-.15, .01]	.18 [.10, .25]
Meaning	.13 [.05, .19]	-.12 [-.19, -.04]	.22 [.14, .28]
Flow	.11 [.03, .18]	-.06 [-.13, .02]	.19 [.11, .26]
Sleep disturbance	-.11 [-.18, -.04]	.09 [.02, .16]	.02 [-.04, .09]
Health	.15 [.06, .23]	-.07 [-.15, .01]	.09 [.01, .17]

Note: All analyses control for baseline levels with the exception of worry. PEM stands for positive expectation management.

Table 6

Correlations Between Trajectory Characteristics of Expectation Operationalizations and Indicators of Well-Being

	Estimates			Bracing			PEM		
	I	L	Q	I	L	Q	I	L	Q
Positive emotions									
I	.17*			-.09			.26*		
L		-.11			-.05			.08	
Q			.04			.01			.02
Negative emotions									
I	-.08			.16*			-.08		
L		.35*			-.04			.07	
Q			.09			.23*			.04
Worry									
I	-.38*			.40*			.00		
L		-.28*			.24*			.24*	
Q			-.49*			.04			.03
Autonomy									
I	.18*			-.18*			.21*		
L		.20*			.17*			-.01	
Q			.22*			.04			.03
Relatedness									
I	.10			-.22			.22*		
L		.10			.15			.11	
Q			.00			.04			-.12
Competence									
I	.21*			-.26*			.16*		
L		-.17*			.03			-.02	
Q			-.25*			-.04			-.15 [†]
Meaning									
I	.18*			-.23			.23*		
L		.50*			.04			.06	
Q			.17*			.02			-.14
Flow									
I	.14			-.09			.14		
L		.43*			.08			-.03	
Q			.30*			-.09			-.21*
Sleep disturbance									
I	-.14			.17			-.02		
L		-.33*			.31*			.03	
Q			-.28*			.07			-.08
Health									
I	.19*			-.11			.13		
L		.05			-.06			.12	
Q			.08			.13			-.06

Note: [†] $p < .10$; * $p < .05$. PEM stands for positive expectation management. Growth curves were centered at week 3 of the preparation period. Intercepts (I) indicate the level at prep. week 3; linear components (L) indicate the “tilt” of the curves; quadratic components (Q) indicate the “shape” of the curves.

Table 7

*Results Summary for Cross-Lagged Relationships Between Expectation**Operationalizations and Indicators of Well-Being*

	Estimates				Bracing			
	-2LL	<i>p</i>	AIC	BIC	-2LL	<i>p</i>	AIC	BIC
Positive emotions								
Full cross-Lag	4167.14	N/A	4229.14	4318.03				
A → B only	4168.09	.92	4222.10	4299.52				
B → A only	4179.65	.01	4233.65	4311.08				
No cross-lag	4180.61	.097	4226.61	4292.56				
Autonomy								
Full cross-Lag					2656.31	N/A	2718.31	2807.2
A → B only					2669.76	.009	2723.76	2801.18
B → A only					2660.84	.339	2714.84	2792.26
No cross-lag					2674.46	.02	2720.46	2786.41
Relatedness								
Full cross-Lag					2761.32	N/A	2823.32	2912.22
A → B only					2775.77	.006	2829.77	2907.19
B → A only					2769.92	.072	2823.92	2901.34
No cross-lag					2784.75	.003	2830.75	2896.7
Meaning								
Full cross-Lag					2647.25	N/A	2709.25	2798.14
A → B only					2655.17	.095	2709.17	2786.59
B → A only					2655.26	.091	2709.26	2786.68
No cross-lag					2663.70	.036	2709.70	2775.65
Flow								
Full cross-Lag					2544.86	N/A	2606.86	2695.76
A → B only					2555.84	.027	2609.84	2687.26
B → A only					2549.76	.298	2603.76	2681.19
No cross-lag					2560.95	.041	2606.95	2672.91

Note: For variable pairs where all simpler models fit significantly better than the full cross-lag model, the no-lag model was retained. Only models with at least one cross-lagged path are presented. Significant *p*-values indicate worse fit than the full cross-lagged model. Lower values of -2LL, AIC, and BIC indicate better model fit.

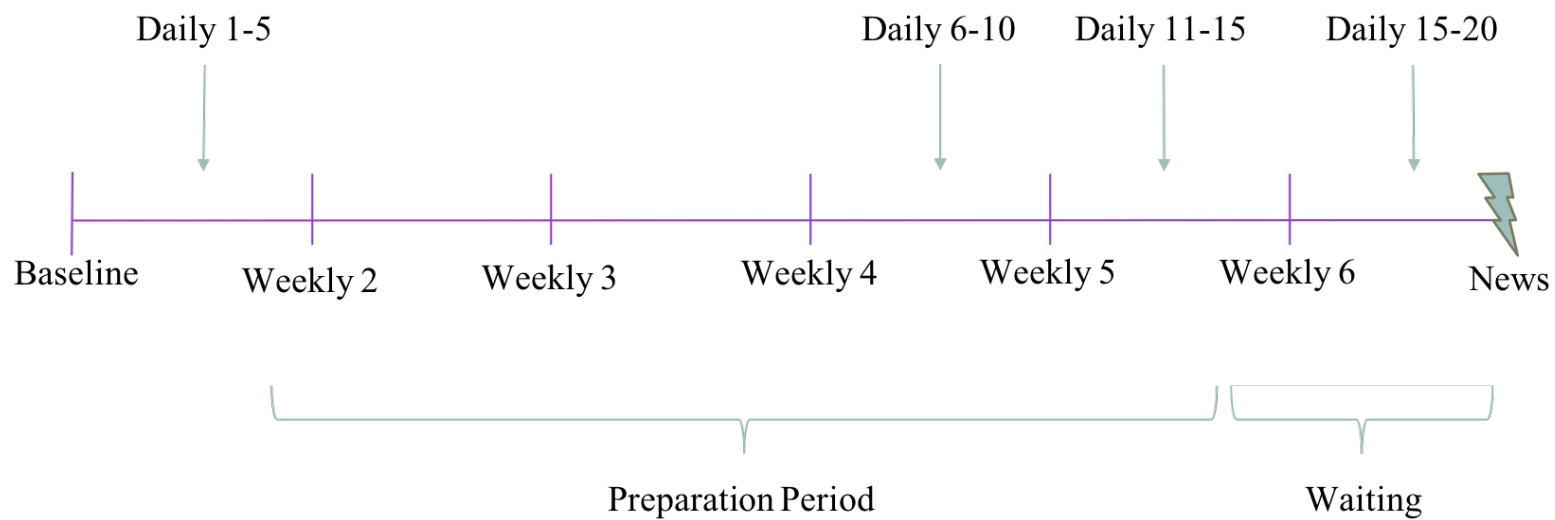


Figure 1. Timeline of weekly reports, daily reports, and study events.

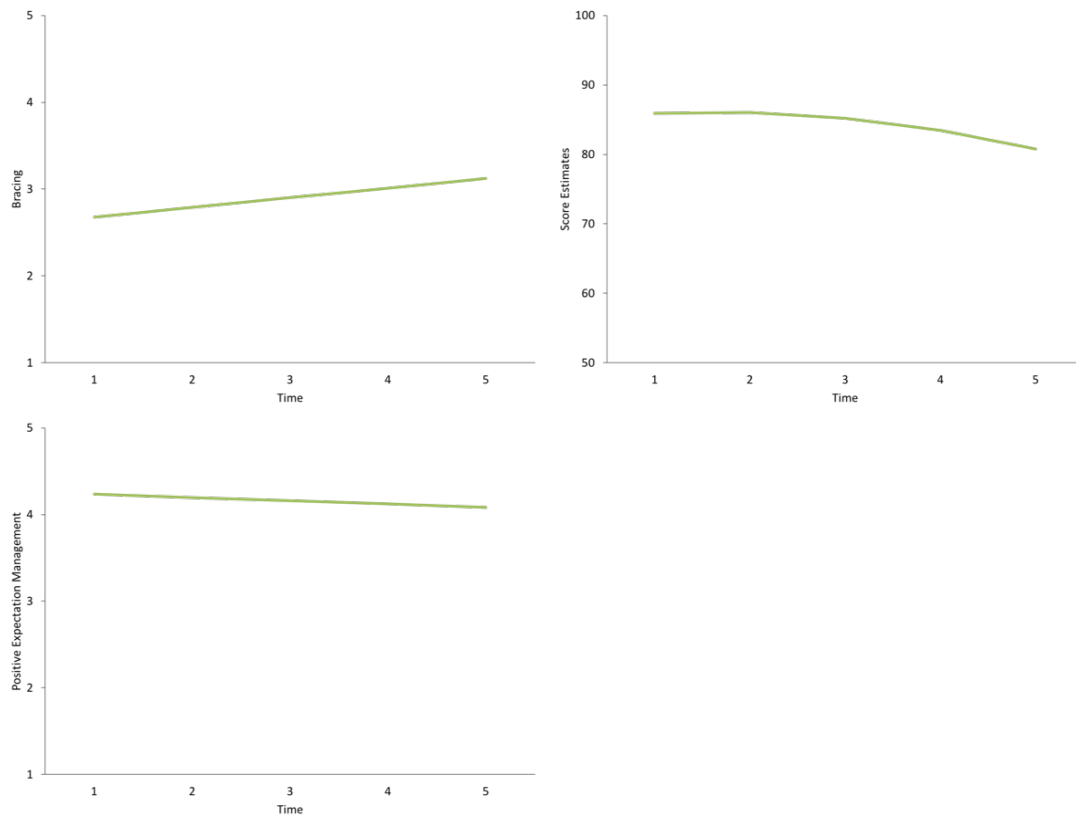


Figure 2. Trajectories of weekly-reported expectations over the four weeks of the preparation period and the week of the waiting period.

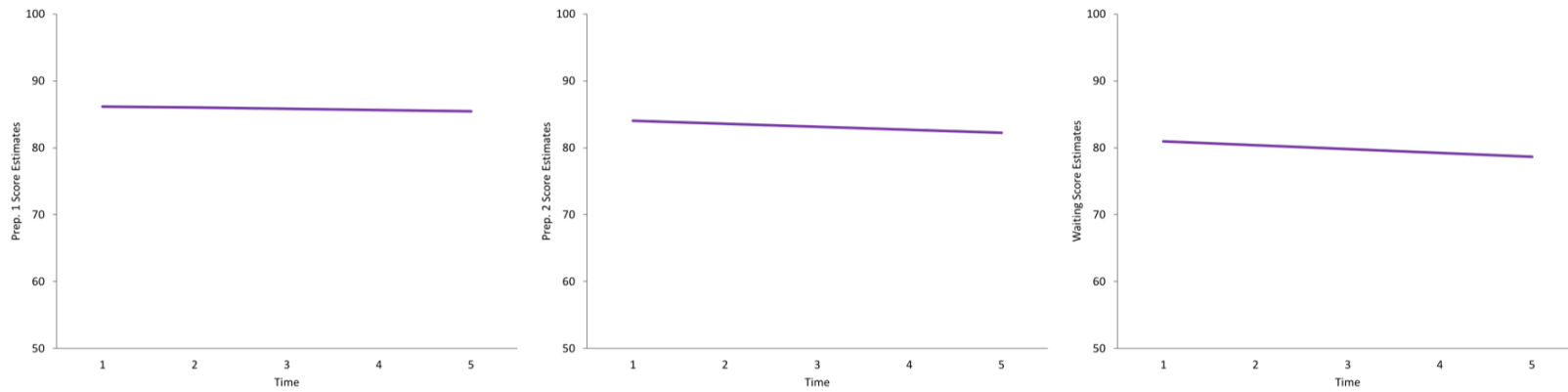


Figure 3. Trajectories of daily-reported score estimates. Prep. 1 is daily survey period corresponding to the third week of the preparation period. Prep. 2 is the daily survey period corresponding to the final (fourth) week of the preparation period.