Original Research Article

Experiential Avoidance and Meaning in Life as Predictors of Valued Living: A Daily Diary Study

Jeffrey M. Pavlacic[1] (iD), Stefan E. Schulenberg[1],
and Erin M. Buchanan[2] (iD)

Abstract

Values-based interventions encourage engagement in valued living as a means to promote psychological well-being. Valued living is best operationalized as ongoing, reinforcing behavioral patterns consistent with idiographic values that facilitate psychological well-being and improved mental health. Cross-sectional research illustrates positive associations between valued living and well-being and negative associations between valued living and psychopathology. However, it is important to have an understanding of different daily-level factors that predict fluctuations in valued living. Consistent with cognitive and behavioral models, meaning may positively relate to engagement in valued living, while experiential avoidance negatively relates to valued living. To address these relationships at the daily level, we systematically examined valued living, meaning, and experiential avoidance using ecological momentary assessment across 14 days with 73 college students. Multilevel modeling supported a positive relationship between meaning (i.e., at both the within- and between-person level) and daily valued living, above and beyond the within-person effects of experiential avoidance. The results elucidate a daily link between valued living and aspects of well-being. Further, these results show

[1]University of Mississippi, University, MS, USA
[2]Harrisburg University of Science and Technology, Harrisburg, PA, USA

Corresponding Author:
Jeffrey M. Pavlacic, Department of Psychology and Clinical-Disaster Research Center, University of Mississippi, 205 Peabody Hall, University, MS 38677, USA.
Email: jpavlaci@go.olemiss.edu

that constructs commonly assessed cross-sectionally fluctuate at the daily level, which sets the stage for future research programs that examine factors promoting and inhibiting fluctuations in meaning, experiential avoidance, and valued living. These results have important implications for prevention of mental health problems and promotion of psychological well-being.

Keywords

Living in accordance with one's values is critical to preventing mental health problems in individuals experiencing stressful events and engaging in potentially harmful behaviors, and to promoting psychological well-being (Biglan et al., 2008; Ceary et al., 2019; Palfai et al., 2011). Valued living has also been identified as a pathway to resilience in college students who have experienced negative outcomes associated with stressful life events (Ceary et al., 2019). Further, valued living is a protective factor for decreased alcohol use in college students (Lecci et al., 2002; Palfai et al., 2011). In terms of psychological well-being, valued living is positively associated with decreased interference of emotional and physical health problems in a college sample (Wilson et al., 2010), and values-based interventions have been reported as effective for various physical and mental health outcomes (A-Tjak et al., 2015).

Aside from the relevance of valued living as a buffering factor of mental health problems and a promoter of psychological well-being, valued living is also a critical component of different therapeutic techniques aimed at promoting better mental and physical health and preventing future occurrence of psychological and physical health problems (Finkelstein-Fox et al., 2020). For example, valued living is relevant to strengths-based approaches (Peterson & Seligman, 2004) and logotherapy (Frankl, 1959/2006). Valued living is also critical to acceptance and commitment therapy (ACT; Hayes et al., 1999), dialectical behavior therapy (DBT; Linehan, 1987), and motivational interviewing (MI; Hettema et al., 2005). For behavior therapies and existential theories such as ACT and logotherapy, valued living is an important therapeutic procedure (Finkelstein-Fox et al., 2020; Frankl, 1959/2006; Hayes et al., 1999).

Wilson and DuFrene (2009) defined values, the foundation of valued living, as "freely chosen, verbally constructed consequences of ongoing, dynamic, evolving patterns of activity, which establish predominant reinforcers for that activity that are intrinsic in engagement in the valued behavioral

pattern itself" (p. 64). Values are subjectively chosen domains (Hayes et al., 1999) and are derived from stimulus relations (Hayes et al., 2001; Smout et al., 2014). Valued living, or the extent to which an individual engages with valued life domains, facilitates intrinsic reinforcement, thereby increasing the probability of values-congruent behavior (Wilson & DuFrene, 2009). Valued living is positively related to increased quality of life in college samples (Wilson et al., 2010) and negatively related to stress, depression, and anxiety (Graham et al., 2015). Meta-analytic reviews also support the efficacy of values-based interventions for mental and physical health problems (see A-Tjak et al., 2015).

While the relationships between valued living and different domains of mental health, physical health, and psychological well-being have been established, recent literature has turned to examining valued living within a daily, multilevel framework. For example, daily changes in stress and dispositional mindfulness, meaning, and psychological flexibility predicted variance in valued living in a college student sample (Finkelstein-Fox et al., 2020). Additionally, within-treatment changes in valued living predicted improvements in depression and pain-related anxiety in adults with chronic pain (Vowles et al., 2019). Examining fluctuations in valued living and predictors of these fluctuations is important for understanding psychological factors that relate to changes at the daily level within the context of mental and physical health outcomes. Despite the utility of this approach, research in this domain is limited. This is unfortunate, considering that valued living is a central component of psychological well-being, mental and physical health, and different psychological interventions (Biglan et al., 2008; Hayes & Hofmann, 2018; Palfai et al., 2011). Understanding factors that positively and negatively relate to valued living at the daily level will strengthen theoretical arguments. Two factors that have been theorized to negatively and positively relate to valued living, and that are also relevant to mental health problems and promotion of psychological well-being, are experiential avoidance and meaning in life.

Experiential Avoidance

Experiential avoidance is best conceptualized as a risk factor for different psychological and/or medical problems (Hayes et al., 1999; Hayes et al., 1996), such as alcohol use in college students (Levin et al., 2012). Further, lower levels of experiential avoidance weaken the relationship between self-stigma and help-seeking intentions in college students (Brenner et al., 2020). Experiential avoidance is also problematic for the promotion of psychological well-being, as it places individuals at heightened risk for heterogeneous

mental and physical health outcomes (Hayes et al., 1999; Hayes et al., 1996). Experiential avoidance is operationally defined as the unwillingness to experience private events (e.g., thoughts or physiological sensations) and behavioral avoidance of situations eliciting these private events to reduce their form or frequency (Hayes et al., 1996). Experiential avoidance may theoretically prevent an individual from living in accordance with their values (Wilson & Murrell, 2004). For example, if an individual experiences anxiety in a social setting, they may avoid situations in which approaching a social setting may lead to a meaningful experience (e.g., giving a speech on a topic of interest in class).

Through this avoidance behavior, experiential avoidance is theoretically related to maladaptive outcomes, such as a lack of valued living (Wilson & DuFrene, 2009; Wilson & Murrell, 2004). Experiential avoidance is positively associated with psychiatric disorders, such as depression and posttraumatic stress disorder (Kashdan et al., 2009), and poorer mental and physical health more generally (Hayes et al., 1999; Hayes et al., 1996). A recent study conducted by Berghoff et al. (2018) examined experiential avoidance and valued living using a daily diary method and found that high levels of experiential avoidance were associated with less valued living at the daily level. There is utility in evaluating relationships between valued living and experiential avoidance across multiple time points, as opposed to cross-sectional methodologies that are typically used to elucidate these relationships. However, it is also important to examine other psychological factors that may further relate to positive changes in valued living at the daily level above and beyond the effects of experiential avoidance, such as meaning in life.

Meaning in Life

Meaning in life is one's perception of significance or "mattering," one's ability to understand life, and an understanding of goals or aims in life (George & Park, 2016; Martela & Steger, 2016). Meaning represents the ability of an individual to understand their life and occurs during goal achievement, engagement with the environment, or general life experiences (George & Park, 2016; King et al., 2016). In college students, meaning in life is critical to different domains of mental health problems and psychological well-being, such as college adjustment (Trevisan et al., 2017); decreased meaning in life is also a risk factor for health risk behaviors and poor psychological health (Brassai et al., 2011). Meaning in life has also been studied across different contexts, such as among individuals who have experienced natural disasters (Boullion et al., 2020) and medical diseases (Guerra et al., 2017).

Drawing from a contextual-behavioral model of psychological problems and well-being, valued living is theorized to promote meaning in life through engagement in idiographic valued activities (Stapleton et al., 2020). Meaning is also related to positive affectivity and psychological well-being (Martela et al., 2018). Given the role of valued living as a means to promoting meaning in life, in addition to the established relationship between experiential avoidance and valued living using longitudinal designs, examining whether meaning in life predicts variability in valued living at the daily level above and beyond the effects of experiential avoidance will allow researchers and college administrators to recognize additional factors relevant to student well-being. Recognizing factors that represent risk factors for psychological maladjustment may help inform interventions in college populations to prevent the onset of psychological and physical health problems and to promote psychological well-being. One methodology that offers the opportunity to examine meaning, experiential avoidance, and valued living at the daily level is ecological momentary assessment (EMA; Shiffman et al., 2008).

EMA

EMA involves the repeated assessment of participant behaviors throughout the day (or once per day in the case of daily diary studies), usually over a specified number of days. Although EMA methodology varies, the overarching goal is to assess real-world perceptions of behavior at multiple time points to understand behavioral fluctuations (Moore et al., 2016; Shiffman et al., 2008). EMA-based data collection limits confounding factors that may influence responses at single time points, such as contextual factors (e.g., emotional/mood states; Trull & Ebner-Priemer, 2009) and lack of ability to recall thoughts, feelings, or behaviors over given time frames (Lenze & Wetherell, 2009). EMA methodology facilitates a more precise and valid assessment of behaviors or perceptions of behaviors for different psychological constructs (Shiffman et al., 2008).

EMA techniques may be particularly important for valued living, experiential avoidance, and meaning in life, given that these domains are frequently measured cross-sectionally despite some studies showing within-individual variability across sequential days in valued living (Finkelstein-Fox et al., 2020). Relatedly, EMA data collection techniques (e.g., daily diary studies, intensive repeated measures designs) allow researchers to understand within- and between-individual variability in psychological constructs (Affleck et al., 1999; Hamaker, 2012), in addition to how this variability is accounted for by naturalistic environmental changes (Finkelstein-Fox et al., 2020; Nezlek, 2001). For college students specifically, EMA studies involving tracking of

psychological constructs or interventions delivered using smartphone environments may be one way to effectively reach this population. Using cross-sectional methodology, researchers may misinterpret data, as data collected at a single time point may be influenced by factors unaccounted for during assessment (Moore et al., 2016).

Present Study

Understanding psychological factors that relate to valued living at the daily level will help researchers and clinicians recognize the directional nature of these relationships, which is especially important considering the current challenging college landscape. In addition, given that valued living and meaning in life are protective factors for improved psychological and physical health, while experiential avoidance is a risk factor for psychological and physical health problems, understanding daily relationships will help researchers recognize the importance of these processes to each other and valued living as they unfold throughout the day. Recent advancements in data collection methods, such as EMA, allow researchers to more effectively measure constructs over a given time period and control for contextual factors (e.g., current mood state) that could influence cross-sectional responding and thereby limit ecological validity in cross-sectional approaches.

Using these theoretical arguments and methodological advances, we modeled the relationships between valued living, meaning, and experiential avoidance in an undergraduate student sample using a daily diary method. We hypothesized that between- and within-person differences in one's ability to understand life's meaning would positively predict same-day values-based behavior across the 14-day data collection period, above and beyond the between- and within-person effects of experiential avoidance negatively relating to valued living.

Method

Participants and Procedure

The University of Mississippi Institutional Review Board approved the study protocol, and the study was conducted consistent with appropriate Helsinki standards. The study took place at a medium-sized, public, Southeastern university in the United States with an overall enrollment of approximately 16,000 undergraduate students (Office of Institutional Research, Effectiveness, and Planning, n.d.). Participants ($N = 74$) 18 years of age or older were enrolled in psychology courses at the university and signed up to participate

on the university's online research recruitment tool. Participants received course credit for participation. After providing written consent, participants completed baseline assessment in a computer laboratory on campus (i.e., baseline surveys took approximately 10–15 min). After completing baseline assessment, participants completed daily surveys on Qualtrics, an online survey platform, with reminders via automated messaging software (i.e., www. tellmycell.com; Tell My Cell, n.d.) for 14 nights, consistent with studies with similar methodologies (Finkelstein-Fox et al., 2020). Pavlacic et al. (2020) represents a secondary analysis of the same dataset used in the current manuscript, but this manuscript presents the primary hypotheses and analyses from these data. Nightly surveys took approximately 5 to 10 min to complete. Phone numbers were de-identified during data screening.

Baseline Measures

Demographics. Participants completed a short demographic survey that included questions regarding age, race/ethnicity, gender, religiosity, spirituality, housing situation, employment, income, and parental/guardian education.

Depression Anxiety and Stress Scales (DASS)-21. The DASS-21 (Lovibond & Lovibond, 1995b) is a 21-item self-report measure that employs a 0 to 3 Likert-type scale format. The DASS-21 has three major subscales (Depression, Anxiety, and Stress), each comprising seven items. The Depression subscale measures dysphoric mood, while the Anxiety subscale assesses psychological impairment in different domains of anxiety symptoms, including arousal, panic, and fear. The Stress subscale measures overall irritability and response to stressors. Scores for each subscale range from 0 to 21, with higher scores indicative of more severe symptomatology. Internal consistency coefficients were good for the Depression ($\alpha = .81$) and Stress ($\alpha = .82$) subscales of the DASS-21 and acceptable for the Anxiety ($\alpha = .72$) subscale.

In addition to reliability, the DASS-21 demonstrates adequate convergent and discriminant validity in clinical samples (Brown et al., 1997). The DASS-21 provided baseline information regarding overall levels of psychological functioning to enhance the generalizability of the findings to college students who report either subclinical or clinical levels of depression, anxiety, or stress. Consistent with the guidelines delineated by Lovibond and Lovibond (1995a), after multiplying scores by two, participants were within the "Normal" ranges for the Depression ($M = 5.29$, $SD = 6.12$), Anxiety ($M = 4.77$, $SD = 5.47$), and Stress ($M = 9.10$, $SD = 8.03$) subscales. Table 1 includes a correlation matrix of all baseline variables. Table 2 also includes frequency distributions for the DASS-21 severity categories.

Table 1. Baseline Correlation Matrix of Depression Anxiety Stress Scales-21, MLQ-Presence, Valuing Questionnaire-Progress, Valuing Questionnaire-Obstruction, and the Acceptance and Action Questionnaire-II ($N = 73$).

Measures	1	2	3	4	5	6	7
1. Depression	—						
2. Anxiety	.75**	—					
3. Stress	.73**	.66**	—				
4. Meaning	−.36**	−.34**	−.27*	—			
5. Values Progress	−.25*	−.20	−.17	.71**	—		
6. Values Obstruction	.34**	.25*	.27*	−.13	−.19	—	
7. Avoidance	.48**	.31**	.38**	−.32**	−.23*	.54**	—

Note. Correlations presented here are from baseline variables, not daily, adapted measures. Meaning scores are presented from the full MLQ Presence subscale as opposed to the single item used for daily analyses. Correlates are rounded to two decimal points. MLQ = Meaning in Life Questionnaire.
*$p \leq .05$. **$p \leq .01$.

Daily Measures

Valuing Questionnaire (VQ). The VQ (Smout et al., 2014) is a 10-item scale that measures perceived valued living via a 7-point Likert-type response format. Both exploratory and confirmatory factor analyses suggest a two-factor measure, with five items per factor. The VQ measures both perceived Progress and Obstruction toward values, or whether individuals perceive that they are living in accordance with their values. Scores range from 0 to 30 for the Progress factor, with higher scores indicating greater progress toward valued action. For the Obstruction factor, scores range from 0 to 30, with higher scores indicating increased obstruction toward valued living. Alpha levels reported in the seminal paper (Smout et al., 2014) were .81 for the Progress factor and .79 for the Obstruction factor. The VQ demonstrated good internal consistency at baseline ($\alpha = .81$).

The VQ Progress subscale is positively associated with mindfulness (Christie et al., 2017) and negatively associated with mental health problems in general (Smout et al., 2014). One item on the VQ measuring progress toward values reads as follows: "I made progress in the areas of my life I care most about." We chose not to utilize the Obstruction factor, given the focus of this study on engagement with valued domains (as opposed to disengagement). An adapted version was used for daily assessment. Specifically, we inserted the word "Today" prior to the original item for daily assessment.

Table 2. Participant Characteristics ($N = 73$).

Demographic	*n (%)*
Race/Ethnicity	
Black/African American	15 (20.55)
Hispanic/Latino(a)	2 (2.74)
White/Caucasian	54 (73.97)
Other	1 (1.37)
Prefer not to answer	1 (1.37)
Religiosity	
Not religious at all	5 (6.85)
Slightly religious	10 (13.70)
Moderately religious	36 (49.32)
Very religious	22 (30.14)
Spirituality	
Not spiritual at all	7 (9.59)
Slightly spiritual	21 (28.77)
Moderately spiritual	28 (38.36)
Very spiritual	17 (23.29)
Housing situation	
Dormitory	54 (73.97)
Greek Housing	3 (4.11)
Apartment/Condominium	14 (19.18)
House	2 (2.74)
Parental/Guardian Education	
Some high school	2 (2.74)
Graduated high school	4 (5.48)
Some college	7 (9.59)
2-year degree/technical school	4 (5.48)
4-year degree	25 (34.25)
Master's degree	22 (30.14)
Professional/Doctoral degree	9 (12.33)
Depression (baseline)	
Normal	58 (79.45)
Mild	3 (4.11)
Moderate	10 (13.70)
Severe	2 (2.74)
Extremely severe	0 (0.00)
Anxiety (baseline)	
Normal	56 (76.71)
Mild	5 (6.85)
Moderate	7 (9.59)
Severe	4 (5.48)
Extremely severe	1 (1.37)

(continued)

Table 2. (continued)

Demographic	*n* (%)
Stress (baseline)	
Normal	56 (76.71)
Mild	9 (12.33)
Moderate	6 (8.22)
Severe	1 (1.37)
Extremely severe	1 (1.37)

Note. Depression, Anxiety, and Stress scores are indicative of severity levels based on Lovibond and Lovibond (1995a).

Acceptance and Action Questionnaire (AAQ). The AAQ-II (Bond et al., 2011) is a 7-item measure of experiential avoidance, a component of psychological inflexibility. The AAQ-II employs a 7-point Likert-type response format. Scores range from 7 to 49, with higher scores indicating greater experiential avoidance. Bond et al. (2011) reported a mean alpha level of .84 across multiple samples. AAQ-II scores are positively associated with depression, anxiety, and stress symptoms (Bond et al., 2011). In addition, AAQ-II scores predict significant variance in posttraumatic stress symptoms in trauma-exposed veterans (Meyer et al., 2013). One item from the AAQ-II reads as follows: "My painful memories prevent me from having a fulfilling life." The AAQ-II was administered in its original form at baseline and adapted for daily assessment (i.e., we inserted the word "Today" prior to the original item and adjusted the items accordingly). Internal consistency coefficients were good for the AAQ-II ($\alpha = .85$) at baseline.

Meaning in Life Questionnaire (MLQ). The MLQ (Steger et al., 2006) is a 10-item scale that measures presence of meaning and search for meaning via a 7-point Likert-type response format. The "Presence" facet of the MLQ assesses whether an individual perceives their life to be meaningful. Scores range from 5 to 35, with higher scores indicative of higher perceived meaning. Scores on the Presence subscale are correlated with life satisfaction and other domains of psychological well-being (Steger et al., 2006). We used *only* the first item of the MLQ, "I understand my life's meaning," as it maps on well with the conceptualization regarding meaning in life as the ability to understand life and its significance (Martela & Steger, 2016). The word "Today" was substituted prior to the original item, and the item was adjusted accordingly: "Today, I understood my life's meaning." The MLQ demonstrated good internal consistency at baseline for the Presence subscale ($\alpha = .81$).

Data Analytic Plan

Data Screening for Daily Measures. Seventy-four participants arrived at the lab to complete consent forms and baseline questionnaires and were subsequently enrolled in TellMyCell to complete daily measures for 14 days. After cross referencing baseline data to daily survey data and vice versa, 73 participants completed a total of 938 individual surveys across the 14-day time period. Individual surveys were screened using an attention check in the daily measures (i.e., "Please select 'Sometimes.'"). Across the 14-day data collection period and all individuals, 87 individual surveys failed the attention check and were thus excluded from final analyses. This resulted in 851 surveys across 73 participants. After screening for data quality using an attention check, we excluded 60 individual survey points not started between seven in the evening and one in the morning each day. We wanted to limit self-reports to the previous day (i.e., the morning, afternoon, and evening of one day) as much as possible. The final sample consisted of 791 individual surveys across 73 participants ($\bar{x} = 10.84$, $SD = 2.87$). Participants were afforded the opportunity to complete the survey each day for 14 days.

After removing individual surveys to ensure high data quality as detailed above, we removed six individual surveys for missing daily survey data pertinent to the constructs in the main analyses ($\bar{x} = 10.75$, $SD = 2.93$). Data met assumptions of normality, linearity, homogeneity, and homoscedasticity. These assumptions were checked on the final multilevel regression model by examining a histogram of the residuals, a QQ-plot for linearity, and a scatterplot of the residuals and fitted values for homogeneity and homoscedasticity (Tabachnick et al., 2007). Overall, of the 74 participants enrolled in the study, a total of 73 (98.6%) provided data at baseline and during the EMA portion of the study. With regard to specific surveys, we were able to utilize 83.7% of the original surveys completed after screening to ensure the highest quality, which is comparable to adherence rates in EMA studies measuring drop out (e.g., 74.9% mean compliance in Courvoisier et al., 2012).

Multilevel Modeling. Multilevel modeling was employed, as it controls for the nested nature of participant data (Field et al., 2012). The dependent variable was valued living with independent variables of between- and within-person meaning (i.e., as assessed by the single item explained above) and between- and within-person experiential avoidance. Between-person variance represents mean levels of predictors, while within-person variance constitutes person-centered daily scores (Bolger & Laurenceau, 2013).

To control for repeated time measurements and expected variation in participant baseline scores, a random intercept factor of participant was included.

The random intercept model demonstrated better fit than the fixed intercept model not controlling for individual differences of participants, $\Delta\chi^2(1) = 459.32, p < .001$, suggesting that participant start points varied across values progression. At this stage, we examined the magnitude of individual differences using an intraclass correlation coefficient (ICC). Individual differences explained 55% of the variance in valued living scores (ICC = .55). The remaining 45% of the variance is assumed to be attributable to other factors (e.g., time, fixed effects, or error). After examining ICCs, between- and within-person experiential avoidance scores were entered to predict daily fluctuations in valued living. The random slope for person-centered slopes for avoidance was then added to estimate the variability of participant slopes. Next, between- and within-person meaning in life was entered to examine effects above and beyond experiential avoidance. Finally, the random slope for meaning was added to the model to estimate person-centered meaning slope variability. For a visual depiction of the variance reported throughout the course of the study, see Figure 1.

Results

Descriptive Statistics

Demographics. The final sample consisted of 73 college-aged individuals ($\overline{x} = 18.60, SD = 0.78$), who were predominantly female ($n = 48$; 65.75%) and White ($n = 54$; 73.97%) or Black ($n = 15$; 20.55%). No participants self-identified as non-binary. The current data are comparable to the university demographic from which the study took place, which is mostly White (75.6%; Office of Institutional Research, Effectiveness, and Planning, n.d.) and female (approximately 56%; U.S. News & World Report, n.d.). African American students comprise approximately 12.9% of the university demographic (Office of Institutional Research, Effectiveness, and Planning, n.d.). Participants were mostly unemployed ($n = 58$; 79.45%) and reported personal annual incomes of mostly US \$0 to US \$24,999 ($n = 36$; 49.32%). Most participants reported being either very religious ($n = 22$; 30.14%) or moderately religious ($n = 36$; 49.32%), and the majority of participants ($n = 64$; 87.67%) endorsed Christianity as their primary religion. Some ($n = 25$; 34.25%) participants reported that a parent/guardian had obtained a 4-year degree, while others ($n = 31$; 42.47%) reported that a parent/guardian had obtained either a master's or professional degree. See Table 2 for demographic characteristics of the sample, including frequency distributions for relevant variables. See Table 3 for means of daily measures across the study. No baseline differences in meaning, progress, or avoidance were found across gender or race/ethnicity (White vs. other), as all p values were >.10.
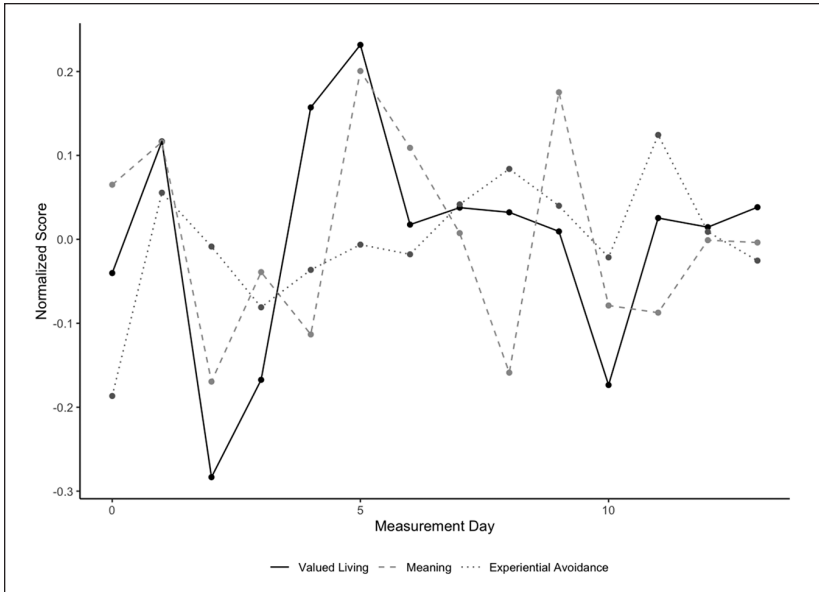
Figure 1. Variability across days for meaning, valued living, and experiential avoidance. *Note.* Variability across days for meaning, experiential avoidance, and progress toward valued living. Each measurement item was z-scored (across participants and time) to indicate the change from the average response within that variable. Therefore, negative scores indicate lower than average values for each variable, whereas positive scores indicate higher than average values for each variable. This figure is provided to contextualize the variability in scores, as well as to illustrate the reported trends for the hypotheses. This graph was created in *R*.

Multilevel Modeling. Between- and within-person experiential avoidance were entered in the first step to predict valued living, which improved the model over a participant random intercept model, $\Delta\chi^2(2) = 21.03$, $p < .001$.[1] Within-person experiential avoidance predicted same-day valued living ($b = -0.12$, $t[711] = -4.19$, $p < .001$). As individuals increased from their average daily experiential avoidance score, valued living decreased. Between-person experiential avoidance did not predict same-day valued living ($b = -0.16$, $t[71] = -1.93$, $p = .058$). In this step, between- and within-person experiential avoidance accounted for approximately 4% of the variance in valued living scores, $_{pseudo}R^2 = .04$. Random factors accounted for an additional 52% of variance in valued living, $_{pseudo}R^2 = .56$. Next, the random slope for within-person avoidance was added to the model, which was a significant improvement, $\Delta\chi^2(2) = 28.00$, $p < .001$. The within-person slope

Table 3. Descriptive Statistics for Daily Measures.

Measurement time	Progress	Meaning	Avoidance
Day 1	17.78 (6.58)	4.72 (1.54)	15.16 (8.83)
Day 2	18.94 (4.83)	4.80 (1.65)	17.53 (10.64)
Day 3	15.98 (7.32)	4.33 (1.62)	16.90 (10.31)
Day 4	16.84 (7.97)	4.55 (1.81)	16.19 (8.38)
Day 5	19.24 (6.97)	4.43 (1.55)	16.63 (9.93)
Day 6	19.79 (7.65)	4.94 (1.71)	16.92 (9.24)
Day 7	18.21 (7.20)	4.79 (1.57)	16.81 (10.16)
Day 8	18.36 (8.28)	4.62 (1.60)	17.39 (10.11)
Day 9	18.32 (7.02)	4.35 (1.71)	17.81 (9.16)
Day 10	18.15 (6.86)	4.90 (1.58)	17.38 (10.27)
Day 11	16.79 (8.47)	4.48 (1.68)	16.78 (10.56)
Day 12	18.27 (7.42)	4.47 (1.74)	18.20 (10.28)
Day 13	18.19 (7.81)	4.61 (1.61)	17.07 (9.46)
Day 14	18.36 (8.10)	4.61 (1.69)	16.74 (10.12)

was approximately the same ($b = -0.12$, $t[711] = -2.73$, $p = .007$), with the random slope $SD = 0.23$. Again, between-person avoidance was not significant ($b = -0.13$, $t[71] = -1.63$, $p = .107$). Fixed factor variance was approximately 3%, $_{pseudo}R^2 = .03$, while random factors accounted for an additional 56% of the variance, $_{pseudo}R^2 = .59$.

We entered between- and within-person presence of meaning as assessed by the single item measure. Both within- ($b = 0.84$, $t[710] = 4.63$, $p < .001$) and between- ($b = 3.46$, $t[70] = 11.13$, $p < .001$) person meaning in life scores significantly predicted same-day valued living above and beyond experiential avoidance, $\Delta\chi^2(2) = 89.01$, $p < .001$. As individuals increased from their average daily meaning in life score throughout the study, valued living increased. In addition, higher levels of meaning in life were associated with increases in valued living between individuals. In this step, predictors accounted for an additional 38% of the variance in valued living scores, $_{pseudo}R^2 = .41$, with random factors adding 20% of the variance, $_{pseudo}R^2 = .61$. Finally, the inclusion of the random slope for within-person meaning was not an improvement over the previous models, $\Delta\chi^2(3) = 3.70$, $p = .296$. Within- ($b = 0.85$, $t[710] = 3.94$, $p < .001$) and between- ($b = 3.43$, $t[70] = 11.06$, $p < .001$) predictors did not change, with the random slope $SD = 0.78$. Fixed variance did not increase, $_{pseudo}R^2 = .41$, whereas random factor variance increased 1%, $_{pseudo}R^2 = .62$.[2]

Discussion

It was hypothesized that, at the within- and between-person level, perceived experiential avoidance would negatively predict same-day valued living. We also hypothesized that perceived meaning in life would positively predict same-day valued living above and beyond the effects of experiential avoidance. The current college student sample reported both subclinical and clinical levels of depression, anxiety, and stress (albeit most reported subclinical levels). Results partially supported the research questions, suggesting that increased levels of experiential avoidance compared to one's own average centered at 0 throughout the study (i.e., person-centered scores; Bolger & Laurenceau, 2013) are related to decreased same-day valued living. Both within- and between-person differences in meaning in life were positively associated with same-day valued living, consistent with hypotheses.

Although college students are prone to negative adjustment experiences, and potentially psychological problems (Auerbach et al., 2016), matriculating through college provides opportunities to engage in valued activities (e.g., physical exercise, involvement in organizations, interpersonal relationships; Guilmette et al., 2019) that are frequently conceptualized as protective factors for decreased psychological (Davis et al., 2016) and physical (Stapleton et al., 2020) health problems in this population. Meaning in life, too, is weakly to moderately associated with improved physical health in meta-analytic reviews (Czekierda et al., 2017), and is also positively associated with domains of mental health (Trevisan et al., 2017). Regarding the relationship between valued living and meaning in life, behaving in accordance with one's values conceptually promotes a sense of meaning in life (Stapleton et al., 2020), while experiential avoidance theoretically inhibits values-based behavior (Wilson & DuFrene, 2009; Wilson & Murrell, 2004). Understanding daily-level fluctuations in these variables, therefore, advances theoretical conceptualizations of the relationships between valued living, meaning, and experiential avoidance, in addition to potentially aiding prevention of mental health problems and promotion of psychological well-being efforts on college campuses.

The importance of valued living can be explained from heterogeneous theoretical orientations. From a behavioral perspective, Wilson and DuFrene (2009) conceptualized values-based behavior as a form of intrinsic reinforcement, wherein values-based behavior that is consistent with that value will be reinforced (Lundgren & Larsson, 2018). Evolutionary perspectives suggest that transdiagnostic processes prevalent in psychopathology (e.g., experiential avoidance, worry) inhibit variations in behavior, perpetuating psychological problems (Hayes et al., 2018). Engaging in valued living is variable,

adaptive behavior that leads to intrinsic and sometimes extrinsic reinforcers (Hayes et al., 2018), as well as meaning in life conceptually (Stapleton et al., 2020). Indeed, from a logotherapy perspective within the context of Viktor Frankl's work, individuals have an innate capacity to find purpose and meaning. Frankl (1959/2006) suggested that individuals must complete individualized "concrete" assignments to achieve fulfillment or meaning, which supports this connection between meaning and valued living. Third-wave, process-based cognitive-behavioral approaches emphasize skill-building techniques to simultaneously reduce symptomatology and to promote a meaningful/purposeful life (Hayes & Hofmann, 2018). Regardless of the theoretical perspective or orientation, valued living is related to a variety of positive outcomes. These results support the aforementioned perspectives on human behavior, elucidating a daily link between valued living and cognitive perceptions of meaning.

Within-person experiential avoidance predicted same-day valued living, consistent with the theoretical link between experiential avoidance and the inhibition of valued living (Wilson & DuFrene, 2009; Wilson & Murrell, 2004). Between-person experiential avoidance levels did not predict same-day valued living, which is perhaps due to the fact that the sample reported mostly subclinical symptoms (i.e., with some participants reporting clinical symptoms of psychological distress). It is possible that experiential avoidance is relevant only for clinical samples entirely. Indeed, studies assessing experiential avoidance and that target exposure to negative thoughts and physiological sensations are typically conducted with a clinical population or individuals who have experienced a stressful/traumatic event (e.g., expressive writing literature; Niles et al., 2014). Therefore, one might expect a null relationship between experiential avoidance and progress toward valued domains, which was found in this study with regard to between-person effects.

Several limitations to this study warrant consideration. First, the sample was mostly female and White. The results may therefore not generalize to other populations. However, the purposive sampling of college students may accurately capture disparities of college samples in the Southeastern region, enhancing generalizability to this specific context. The current sample also reported mostly subclinical symptoms, but also clinical levels of depression, anxiety, and stress in some cases. The representation of both subclinical and clinical levels prohibits generalizing the results from this study to a clinical population or a subclinical population specifically and likely explains null between-person effects for experiential avoidance. Of course, the DASS-21 is not a substitute for structured interviews used to assess and diagnose psychiatric disorders, which is also a limitation. In addition, given that the mean

age of the sample was 18.6 years, results may not generalize to older college students. The same can be said for social class, as the majority of participants reported parents or guardians who had obtained a 4-year, master's, or professional degree. The results of the current study also do not allow for causal inferences between variables assessed.

Another limitation is the unexamined psychometric properties of the adapted measures. Adapting a trait-based measure to a state-based measure introduces psychometric limitations, such as validity concerns. However, in examining correlations across all participants and outcome measures, these correlations were in the expected directions. Furthermore, we only measured each construct once per day, and the information may not be as ecologically valid as it could be if we had gathered information multiple times per day using a traditional EMA approach as compared with a daily diary format. Regarding the measures themselves, the VQ does not ask participants about engagement toward specific life domains (e.g., relationships, education, health) and therefore may not truly capture idiographic values. A negative consequence of a domain-specific approach is that it facilitates an examination of individualized values without considering contextual factors that can influence responding, such as the degree of time an individual spends on a certain domain (Smout et al., 2014).

Furthermore, while the argument could be made that the VQ assesses positive and negative affect instead of valued living, psychometric studies demonstrate that VQ items add a component to these affective dimensions (Smout et al., 2014). In terms of the measures themselves, one item on the VQ, "I worked toward my goals even if I didn't feel motivated to" is a double-barreled item, which may have caused potential confusion for respondents who disagreed because (a) they did not work toward their goals, or (b) they worked toward their goals but did not feel motivated.

Finally, we adapted the original measures to address overlap between the MLQ and the VQ, despite the correlations between the original measures (AAQ-II, MLQ, and VQ) not suggesting concern for multicollinearity. Still, this decision prevents the utilization of the original measures in their entirety. Together, experiential avoidance assessed the degree to which difficult private events prevented engagement with a valued life, while meaning in life assessed the perception that an individual understood their life's meaning without a focus on behavioral perceptions. Valued living, then, assessed the behavioral perception that an individual was engaging with their values, without tapping into avoidance or cognitive perceptions of meaning.

In line with the findings and limitations, directions for research are offered. Future studies considering the same methodology should employ

diverse samples varying across demographic characteristics (e.g., age, gender, ethnicity, geographic regions). Specifically, researchers may choose to examine moderating effects of various demographic characteristics (e.g., religion or socioeconomic status) or psychological or behavioral outcomes (e.g., depression, alcohol use), which will shed light on how these constructs vary in those experiencing more severe forms of psychopathology. Examining cultural differences in valued living across diverse samples may be particularly important, given that values are highly contextualized and influenced by cultural factors (Hanel et al., 2018). Given that the university setting is a unique environment that affords students with opportunities to engage in valued domains (Guilmette et al., 2019), the results from this study may only be true for college students and not generalizable to other diverse groups. As an example, given the current demographic, religiosity could be considered an idiographic value, and those endorsing high levels of religiosity may report higher engagement in valued activities (which was the case in a regression model with religiosity predicting valued living, although this relationship is accounted for by meaning when adding meaning as a predictor). Replicating the findings in entirely clinical samples is also necessary.

While meaning is considered to be a relatively stable individual difference, this study provides evidence that meaning fluctuates at a daily level, adding to a burgeoning literature examining within-individual fluctuations in related constructs (e.g., Finkelstein-Fox et al., 2020; Miao et al., 2017). An understanding of the predictors of these fluctuations will prove useful in prevention of mental health problems and promotion of psychological well-being. A next step in this program of research would be to assess constructs included in our study multiple times per day to measure intraday fluctuations and predictors of this source of variability.

Values-based programming within a college context is seemingly lacking. However, valued living appears to be a key component in promoting meaning in life. Future studies may evaluate how these constructs fluctuate over longer periods of time in clinical and nonclinical day-to-day experiences of college students. College students may experience various contextual (e.g., course demands) or private (e.g., homesickness) events that serve as barriers to these constructs. Academics and administrators may consider incorporating values-based activities into their orientation programs for college students who typically experience issues related to adjustment, given that engagement in these activities is related to a sense of meaning and purpose. For example, many universities require courses for first-year students as an introduction to university life. Instructors may consider incorporating values

identification exercises in conjunction with setting career goals, given the importance of meaningful work (Steger et al., 2012). Ultimately, valued living is important within the context of college students who may have difficulties adjusting, and this study offers an understanding of coinciding factors that are also relevant to consider.

Regarding meaning and purpose in life, universities may also choose to incorporate mindfulness- and strengths-based interventions that generally target meaning and purpose in life (i.e., among other positive psychological outcomes; Niemiec, 2013). Regardless of the specific intervention approach, finding ways to enhance valued living and meaning in life may be increasingly important, given that activities that promote these domains may be currently restricted due to the COVID-19 pandemic. As an example, college students typically report increased meaning in life in the days surrounding their graduation ceremony (Wilt et al., 2016), but these activities have been postponed at many universities (e.g., the university at which this study was conducted). In addition, discovering meaning in the wake or during a stressful event is critical to curtailing psychological distress that may occur in response to such events (Park, 2010).

Despite the aforementioned limitations, this study suggests a link between experiential avoidance, meaning in life, and valued living at the daily level, which supports theoretical arguments detailing the associations between meaning and experiential avoidance, meaning and valued living, and experiential avoidance and valued living. The current results show that meaning and experiential avoidance are associated with valued living, which may suggest that interventions targeting these variables in college students could enhance psychological and physical health and prevent psychological and physical problems.

Declaration of Conflicting Interests

Funding

ORCID iDs

Jeffrey M. Pavlacic https://orcid.org/0000-0002-7707-1224

Erin M. Buchanan https://orcid.org/0000-0002-9689-4189

Notes

1. Baseline depression, anxiety, and stress were tested as predictors in the first step but were not significant.
2. We explored the same model without excluding participants starting surveys outside of the required time frame and controlling for the passage of time (n = 845 surveys). Significance levels for main predictors (meaning, avoidance) did not change at any of the steps, and time was not a significant predictor. Time was also not a significant predictor of changes in valued living when explored with the 785 surveys.

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Author Biographies

Jeffrey M. Pavlacic is a doctoral candidate in clinical psychology at the University of Mississippi and a member of the University of Mississippi Clinical-Disaster Research Center (UM-CDRC).

Stefan E. Schulenberg is a professor of psychology at the University of Mississippi and director of the University of Mississippi Clinical-Disaster Research Center (UM-CDRC).

Erin M. Buchanan is a professor of cognitive analytics at Harrisburg University of Science and Technology.