Student Academic Engagement and Burnout Amidst COVID-19: The Role of Purpose Orientations and Disposition Towards Gratitude in Life

Mariya A. Yukhymenko-Lescroart

Abstract
The current study considered the role of broad life orientations of university students on their academic engagement and burnout within the context of COVID-19 pandemic. Specifically, the purpose of this study was to examine whether life purpose orientations predicted student academic engagement and burnout directly and indirectly through disposition towards gratitude. University students completed questionnaires assessing academic engagement, burnout (reduced sense of schoolwork accomplishment, schoolwork devaluation, mental exhaustion from schoolwork), life purpose orientations (others-growth, self-growth, career-focused), and disposition towards gratitude. Structural equation modeling showed that academic engagement and two dimensions of burnout (reduced sense of schoolwork accomplishment, schoolwork devaluation) were negatively predicted by career-focused purpose orientation and by disposition towards gratitude. Additionally, reduced sense of schoolwork accomplishment was predicted indirectly by others-growth purpose orientation through disposition towards gratitude. Overall, findings highlight that broad life orientations may play salient roles in student academic success.
College offers opportunity, challenge, and growth to students (Bono et al., 2020), because it allows students to make formative life decisions, actualize career aspirations, expand their interpersonal relationships and social capital that can lead to effective functioning in society, build and strengthen a shared sense of identity, and overcome stress to achieve life goals. Yet, the COVID-19 pandemic has caused significant disruption to academic, occupational, and interpersonal functioning, having a negative impact on many aspects of mental health and well-being in the adult population (e.g., Aristovnik et al., 2020; Van Bavel et al., 2020; Park et al., 2020). For some students, the COVID-19 pandemic can be an opportunity to practice overcoming life stress to achieve life goals, growth, development by adjusting, and continuous engagement in academics. Yet, it can cause a deep sense of existential anxiety to other students due to uncertainties and become a roadblock to education that leads to distress and lack of academic engagement. Indeed, in a large-scale study with over 30,000 college students from 62 countries, Aristovnik et al. (2020) found that along with positive emotions of being hopeful (39.4%), joyful (29.7%), proud (26.5%), and relieved (17.9%), many students experienced such negative emotions as boredom (45.2%), anxiety (39.8%), frustration (39.1%), anger (25.9%), hopelessness (18.8%), and shame (10.0%), with North American students being among those with the highest levels of anxiety and frustration, overall suggesting high levels of distress among undergraduate students. One measure of distress in the educational process is burnout (Backović et al., 2012), which is associated with reduced academic engagement. Using the positive psychology lens, the purpose of this study was to consider how university stakeholders can protect students from experiencing reduced academic engagement and the threats of academic burnout during stressful life events such as the COVID-19 pandemic.

Positive psychology is the study of human strengths and well-being, which aims to understand the positive, adaptive, creative, and emotionally fulfilling elements of human behavior (Compton & Hoffman, 2020). A prominent area in positive psychological science is the study of sense of purpose in life, which is recognized as one of the most important assets for maintaining health and wellness over the life span (Windsor et al., 2015). Research has consistently demonstrated sense of purpose in life as a significant contributor for people’s well-being, positive affect, good health, hope, happiness, persistence, motivation, career success (e.g., Hill et al., 2010; Kang et al., 2019; Sharma et al., 2021; Windsor et al., 2015). In university students, sense of purpose has been shown to be a positive predictor of degree commitment, institutional commitment, academic identity, and play a role in actual progress towards a degree measured with GPA, good academic standing, and first-year retention (e.g., Sharma &
Yukhymenko-Lescroart, 2018; Yukhymenko-Lescroart & Sharma, 2020). Most recently, sense of purpose in life has been shown to play a positive role in predicting resilience and persistence in college students during the COVID-19 pandemic (Sharma & Yukhymenko-Lescroart, 2022), thus, suggesting the importance of examining the role of purpose in contributing to the success of college students.

Another fundamental contributor in understanding people’s well-being is gratitude, which has been shown to be associated with a number of positive outcomes, including greater self-discipline, life satisfaction, connection to others, and positive relationships (Wood et al., 2010). In addition to overall well-being, gratitude has also been shown to be related to academic success by such mechanisms as conferring resilience during the college transition, decreasing negative academic appraisals, promoting a positive attitude about school, and using positive coping strategies in general to handle academic stressors rather than avoiding them (Wood et al., 2010). Indeed, a recent study with primary students showed that gratitude had a direct and positive effect on academic engagement in mathematics (Zhen et al., 2021). Further, gratitude has been shown to correlate with purpose in life in undergraduate students (Wood et al., 2009). It is, thus, possible that students with a clear sense of their life purpose are more grateful for the people, events, and situations that they have. Overall, both sense of purpose in life and disposition towards gratitude may buffer stress-related psychological disturbance due to COVID-19 and contribute to students’ well-being, engagement, and academic commitment. The results of this study can provide insights on the role of purpose orientations and disposition towards gratitude in life in student academic engagement and burnout, which can support the higher education community amidst the challenges posed by COVID-19 pandemic.

**Student Academic Engagement and Burnout**

Engagement is a multifaceted term that accentuates various patterns in students’ motivation, cognition, and behavior. Researchers have examined the construct of engagement extensively over several decades, offering a plethora of engagement terms, dimensions, and definitions (e.g., see review by Alrashidi et al., 2016). Despite the variations between the definitions across researchers, similar themes include the emphasis on students’ participation, identification with school and school-related activities, students’ commitment and psychological investment in learning, as well as a motivational mindset that is characterized by vigor, dedication, and absorption. Overall, in an overview of the definitions, dimensions, and major conceptualizations of academic engagement, Alrashidi et al. (2016) proposed that engagement can broadly be defined as “a positive and proactive term that captures students’ quality of participation, investment, commitment, and identification with school and school-related activities to enhance students’ performance” (p. 42).

Further, Alrashidi et al. (2016) suggested that the two most pivotal models for understanding the nature of the engagement construct are the models by Fredricks et al. (2004) (also called the North American model) and Schaufeli
et al. (2002) (known as the European approach of engagement) because they address central and related facets of individual development: motivation, cognition, and behavior, and have received considerable validation and empirical examination. In the Fredricks et al.’s (2004) model, engagement is described as a malleable, developing, and multifaceted construct with behavioral, cognitive, and emotional dimensions that are interrelated with each other. The behavioral dimension involves positive conduct (e.g., adhering to the norms, following the rules), active learning (e.g., paying attention, putting effort), and participation in school-related activities (e.g., school clubs). The cognition dimension refers to students’ investment in learning (e.g., expending effort, usage of metacognitive strategies). Finally, the emotional engagement refers to students’ emotional reactions towards teachers, classmates, academic works, and school in general. In the Schaufeli et al.’s model, engagement has been defined as “a positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption” (Schaufeli et al., 2006, p. 701), with vigor being characterized by high levels of energy and mental resilience; dedication being characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge; and absorption being characterized by being fully concentrated and happily engrossed in one’s work in a way that one feels carried away (Schaufeli et al., 2009). Overall, engagement in university students has been described as a pervasive and persistent state of mind (Schaufeli et al., 2002, p. 465). In contrast to Fredricks et al.’s model, the Schaufeli et al.’s model is focused on student psychological engagement rather than behavior in the school in general, such as school attendance or adherence to socially acceptable rules and norms within the school environment; therefore, it can provide a better measure of inherent psychological engagement with academics, which was used in the present study. Importantly, studies have shown that both models have demonstrated that student academic engagement is associated with student academic performance and achievement at all educational levels, including better standardized test scores, performance test scores, academic grades, and GPA (e.g., see review by Alrashidi et al., 2016), suggesting the importance of academic engagement for student success.

The opposite of academic engagement is student academic burnout. Burnout was first conceived in the human services professions (Maslach & Jackson, 1981), has been described as the process of gradual exhaustion, cynicism, and loss of commitment or reduced efficacy (Maslach & Leiter, 2016). In the work setting, burnout has been shown to be associated with social disconnection, absenteeism, and compromised work performance (Alarcon, 2011; Lee & Ashforth, 1996; Taris, 2006). In the educational setting, burnout has been widely studied in teachers, showing that burnout in teachers has been linked with reduced work capacity, absenteeism, and poorer student performance (Chang, 2009). Burnout is also applicable to students and has been shown to be associated with reduced academic performance among college students (Schaufeli et al., 2002). Indeed, the findings of a meta-analysis of 29 studies (N=109,396 students) conducted by Madigan and Curran
(2021) showed that burnout in students leads to poor academic achievement in school, college, and university.

In sum, the review of the literature has shown that both student academic engagement and lack of burnout are vital to student academic success. These outcomes are important for examination in the context of the COVID-19 pandemic, because research has suggested that the COVID-19 pandemic has brought high levels of distress to college students (Aristovnik et al., 2020). In the present study, student academic engagement and burnout were examined by focusing on two broad life orientations in students: life purpose orientations and disposition towards gratitude.

**Life Purpose Orientations and Relationships with Academic Engagement and Burnout**

Purpose orientations can be described as long-term life goals in specific areas of one’s life. Research has shown that the nature of purpose orientations, or major life goals, is linked with various academic and well-being outcomes (e.g., Hill et al., 2010; Sharma et al., 2017, 2021; Yukhymenko-Lescroart & Sharma, 2021). For example, Sharma et al. examined the role of career, interpersonal, altruistic, and self-oriented purpose orientations using the 2002 Educational Longitudinal Study database and found that (a) career purpose orientation was a positive predictor of high school graduates’ decision to apply for college (Sharma et al., 2017), and (b) both career and interpersonal purpose orientations were positive predictors of college students’ postsecondary education completion a decade later (Sharma et al., 2021). In a longitudinal study with incoming first-time full-time freshman university students, Yukhymenko-Lescroart and Sharma (2020) showed that altruistic purpose was a positive predictor of students’ academic identity and degree commitment and indirectly predicted first-year GPA, good academic standing, and first-year retention one year later.

Recently, Yukhymenko-Lescroart and Sharma (2021) showed that purpose orientations can be expressed through three distinct dimensions that are focused on people’s determination to realize themselves: others-growth oriented, self-growth oriented, and career-focused. Others-growth purpose orientation focuses on engagement in community-oriented activities and fostering growth of other people. Reflecting the beyond-the-self component of life purpose, others-growth purpose orientation is defined as “actualizing one’s purpose in life through engagement in activities that would enrich the lives of other people” (Yukhymenko-Lescroart & Sharma, 2021, p. 14). Self-growth purpose orientation focuses on achieving personal growth and nurturing personal virtues and is defined as “actualizing one’s purpose in life through engaging in activities that make oneself a better person” (Yukhymenko-Lescroart & Sharma, 2021, p. 15). Finally, career-focused purpose orientation focuses on fulfilling career-related aspirations and is viewed as “people’s resolve to excel in their chosen profession and actualize their work-related potential” (Yukhymenko-Lescroart & Sharma, 2021, p. 15).

For undergraduate students, career-focused purpose orientation is most closely aligned with completing their studies because it is through commitment to their
studies that they would be able to realize their long-term life career goals. Therefore, career-focused purpose orientation is likely to positively predict academic engagement and negatively predict academic burnout. The self-growth purpose orientation may also be relevant to academic engagement because undergraduate students might see their academic learning, development, and growth as one of the various areas through which they aspire to improve themselves. The others-growth purpose orientation, on the other hand, is likely to be less pertinent to student academic engagement and burnout, because this dimension of purpose orientation is focused on making a positive impact on others, promoting other people’s wellbeing, and enriching other people’s lives, which is rarely explicitly and directly connected with academic studies.

**Disposition Towards Gratitude and Relationships with Academic Engagement and Burnout**

Disposition towards gratitude has been viewed as an affective trait, which has been defined as “a generalized tendency to recognize and respond with grateful emotion to the roles of other people’s benevolence in the positive experiences and outcomes that one obtains” (McCullough et al., 2002, p. 112). McCullough et al. (2002) posited that there are a few co-occurring facets of disposition towards gratitude, including intensity of feeling grateful, frequency of feeling grateful, gratitude span (i.e., the various life aspects for which a person feels grateful), and gratitude density (i.e., the number of people to whom a person feels grateful). McCullough et al. (2002) showed that the various facets of the disposition towards gratitude are not distinct or independent, but rather reflect a single underlying trait. Wood et al. (2010, p. 892) also described dispositional gratitude as a “part of a wider life orientation towards noticing and appreciating the positive in the world,” thus, suggesting that disposition towards gratitude can be described as a single broader trait.

Gratitude has been shown to play a powerful and protective role in one’s psychological, subjective, and relational well-being (e.g., Bono & Froh, 2009; Jans-Beken et al., 2020; Portocarrero et al., 2022; Wood et al., 2010). It has also been proposed as a motivator of prosocial behavior (McCullough et al., 2008). While gratitude has been proposed to foster academic engagement and classroom community, especially amid stressful times (Chu, 2020), surprisingly, limited studies exist that connected disposition towards gratitude with academic engagement and burnout among college students. Studies with university student-athletes (e.g., Gabana et al., 2017; Ruser et al., 2020) showed significant inverse relationships between dispositional gratitude and athlete burnout, depicted by reduced sense of accomplishment, emotional exhaustion, and devaluation of a formally pursued and enjoyable activity (Raedeke & Smith, 2001). These studies suggested that gratitude may be a potential preventative measure against burnout. Therefore, consistent with these studies, dispositional gratitude is likely to be a positive predictor of academic engagement and a negative predictor of student burnout.
Connecting Life Purpose Orientation and Disposition Towards Gratitude

Limited studies have connected purpose orientations with disposition towards gratitude in life. Yet, because gratitude is viewed as a wider life orientation (Wood et al., 2010), it is plausible that students with a clear sense of life purpose are more likely to notice and appreciate the positive people, events, and situations in their lives. This supposition seems to be especially relevant for the growth-oriented purpose orientation dimensions, because purpose orientations that are centered around growth can result in psychological and social resources that can be available in one’s life for noticing and appreciation. Because gratitude is considered to be an interpersonal psychological strength (e.g., Kleiman et al., 2013), it is likely to be positively predicted by purpose orientation that is focused on enriching the lives of others. It is also plausible that gratitude is positively predicted by the self-growth purpose orientation because engaging in activities that make oneself a better person and achieving personal growth may result in noticing and appreciating the good in one’s life and becoming more grateful. Indeed, McCullough et al. (2002) suggested that gratefully disposed people not only recognize the benevolence of other people, but also acknowledge their own causal effort in their positive outcomes. Therefore, students with others-growth and self-growth purpose orientations are likely to be more disposed to gratitude. Hence, while self-growth and others-growth purpose orientations may not be directly related to student academic engagement and burnout, these purpose orientations may predict student engagement and burnout indirectly through disposition towards gratitude.

The Purpose of This Study and Research Questions

Presently, the concerns related to student academic engagement have increased due to the unprecedented challenges caused by the COVID-19 pandemic, because the web-based videoconferencing supported online mode of instructions that temporarily substituted the traditional face-to-face mode of instructions has resulted in a major challenge of student disengagement (Maimaiti et al., 2021). Given the overall protective role of life purpose orientations and gratitude in life in one’s wellbeing and in academic success specifically, this study was conducted to examine the role of life purpose orientations and disposition towards gratitude in contributing to college students’ academic engagement and burnout during the COVID-19 context.

Based on reviewed literature, undergraduate students may have various orientations of their life purpose, such as fostering growth of other people, nurturing personal growth, and fulfilling career-focused aspirations (Yukhymenko-Lescroart & Sharma, 2021). While no previous studies have investigated whether purpose orientations in life can predict student academic engagement and burnout, research has suggested that life purpose orientations play an important role in academic outcomes, including college application decisions and postsecondary education completion (e.g., Sharma
et al., 2017, 2021). Therefore, these direct relationships were investigated in the present study (hypotheses 3a and 3b below). In addition to examining whether life purpose orientations predicted student academic engagement and burnout directly, this study also thought to examine the extent to which student academic engagement and burnout (outcomes) can be predicted by life purpose orientations (predictors) indirectly via disposition towards gratitude in life (“mediator”). Indirect relationships would be possible, but not guaranteed, when the direct relationships between life purpose orientation and gratitude (hypotheses 1a and 1b below) and between gratitude and student academic engagement and burnout (hypotheses 2a and 2b below) emerge significant. Notably, research has not yet connected life purpose orientations with student academic engagement and burnout through disposition towards gratitude in life. Because disposition towards gratitude is viewed as a greater life orientation, it is possible that it plays an important role in the relationships between life purpose orientations and student academic engagement and burnout in university students.

Therefore, this study examined whether life purpose orientations predicted academic engagement and burnout directly and indirectly through disposition towards gratitude in university students. Based on the reviewed literature (e.g., Bono & Froh, 2009; Gabana et al., 2017; Jans-Beken et al., 2020; Portocarrero et al., 2022; Ruser et al., 2020; Sharma et al., 2017, 2021; Wood et al., 2010), it was hypothesized that (1) self- and other-growth purpose orientations would positively predict dispositional gratitude (hypothesis 1a); whereas career-focused purpose orientation would be unrelated to dispositional gratitude (hypothesis 1b); (2) dispositional gratitude would positively predict engagement (hypothesis 2a) and negatively predict academic burnout (hypothesis 2b); and (3) career-focused purpose orientation would positively academic engagement (hypothesis 3a) and negatively predict academic burnout

![Dispositional Gratitude](image-url)

**Figure 1.** Tested structural model.
(hypothesis 3b). Additionally, self- and others-growth purpose orientation would indirectly through dispositional gratitude positively predict academic engagement (hypothesis 4a) and negatively predict academic burnout (hypothesis 4b). Figure 1 shows the tested model.

**Method**

**Participants**

Participants were 295 undergraduate students, 67.8% female and 32.2% male. The students were a diverse group one university that is designated as both a Hispanic-Serving Institution and an Asian American and Native American Pacific Islander-Serving Institution by the U.S. Department of Education. Specifically, the majority of students were Hispanic (56.3%), followed by Asian (18.3%), White (14.9%), Black (2.7%), and “other,” “two or more race/ethnic categories,” or unknown. The undergraduate students represented all academic levels: freshmen (21.7%), sophomores (19.7%), juniors (28.8%), and seniors (29.8%). Kyriazos (2018) provided a review of adequate sample size and power considerations in factor analysis and SEM in general, reporting that a minimum sample size of 200 generally offers adequate statistical power of data analysis and accurate results, especially in models with at least three indicators per latent variable. Therefore, a sample size of 295 was deemed adequate.

**Measures**

**Student Academic Engagement.** Student academic engagement was measured with the brief 9-item version of Utrecht Work Engagement Scale (UWES-9, Schaufeli et al., 2006) that was adapted for the use with students by changing the word “work” to “schoolwork.” An example item is “I am enthusiastic about doing my schoolwork,” which used a 5-point response scale ranging from “almost never” to “almost always.” Schaufeli et al. (2006), who shortened the original 17-item UWES to UWES-9, examined its validity and reliability and concluded that the UWES-9 items have acceptable psychometric properties. Specifically, the UWES-9 was suggested valid as both a three-factor and single-factor measure, with estimates of reliability being reported to range from.85 and.92 (Schaufeli et al., 2006). The UWES has been used with university students in the past research (e.g., Schaufeli et al., 2002).

**Student Academic Burnout.** Student academic burnout was measured with a 15-item scale adapted from Raedeke and Smith (2001) for the use with university students to measure burnout from schoolwork. Specifically, the scale assessed three dimensions of student academic burnout: reduced sense of schoolwork accomplishment (five items, e.g., “I am not performing up to my ability in my schoolwork”), schoolwork
devaluation (five items, e.g., “I don’t care as much about my schoolwork performance as I used to”), and mental exhaustion from schoolwork (five items, e.g., “I feel overly tired from my schoolwork”). The items used a 5-point response scale ranging from “almost never” to “almost always.” The scale was shown to be valid and reliable, with reliability estimates reported to be .84–.85 for reduced accomplishment, .88–.91 for exhaustion, and .87–.90 or devaluation (Raedeke & Smith, 2001).

**Life Purpose Orientations.** Life purpose orientations were measured with the Specific Life Purpose Orientations Scale (Yukhymenko-Lescroart & Sharma, 2021), which consists of 12 items designed to assess the dimensions of others-growth (four items, e.g., “To make a positive impact on others”), self-growth (four items, e.g., “To develop a healthy and happy lifestyle”), and career-focused purpose orientations (four items, e.g., “To reach excellence in my work”). Participants are asked to indicate their agreement on a 7-point response scale ranging from “strongly disagree” to “strongly agree.” This scale showed evidence of reliability and validity, including convergent, discriminant, and nomological validity, with reliability estimates reported to be .85–.87 for others-growth purpose orientation, .84–.87 for self-growth purpose orientation, and .87–.88 for career-focused purpose orientation (Yukhymenko-Lescroart & Sharma, 2021).

**Disposition Towards Gratitude.** Students also completed six items of the Gratitude Questionnaire-6 (GQ-6, McCullough et al., 2002), which is a unidimensional measure of disposition towards gratitude. An example of an item is “I have so much in life to be thankful for,” and participants were asked to indicate their agreement on a 7-point response scale ranging from “strongly disagree” to “strongly agree.” The GQ-6 has been shown to be a valid and reliable measure of disposition towards gratitude, with reliability estimate reported to be .82 (McCullough et al., 2002).

**Procedure**

After institutional approval was obtained for conducting this study, students were recruited via an email in the Spring 2021 semester. Four thousand students were invited to participate by completing the survey administered in Qualtrics, the link to which was shared through the email. Students also received three or fewer follow-up reminder emails, with the follow-up emails sent to only those students who had not provided responses and had not opted-out from future emails. There was no incentive or compensation offered to students for participation.

**Data Analysis**

Data were analyzed in Mplus, version 8.6 (Muthén & Muthén, 2012–2021). Main analyses were structural equation modeling (SEM), which was used to address the study purpose. Before testing the structural model, factorial validity of each scale was examined using confirmatory factor analysis (CFA). After each scale was tested
separately, aligned with recommendations by Hair et al. (2019), an overall measurement model was tested, in which all items were specified simultaneously as indicators of their intended factors in one big model. The models were estimated using maximum likelihood estimation method with robust standard errors and evaluated based on comparative fit index (CFI), Tucker Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR) consistent with the Hair et al.’s (2019) guidelines for samples of more than 250 participants and models with over 30 indicators (i.e., CFI and TLI ≥.92, RMSEA <.07, SRMR ≤.08).

Then, the structural model was specified to test the study’s hypotheses, specifically: (a) whether life purpose orientations (others-growth, self-growth, career-focused) predicted disposition towards gratitude; (b) whether disposition towards gratitude predicted student academic engagement and burnout; and (c) whether life purpose orientations predicted student academic engagement and burnout directly and indirectly via disposition towards gratitude. In this model, life purpose orientations were exogenous variables, dispositional gratitude was a mediator, and student academic engagement and burnout were outcomes. All variables were allowed to freely correlate. Following recommendations for testing mediation effects (e.g., Asparouhov & Muthén, 2021; Preacher & Hayes, 2008; Shrout & Bolger, 2002), indirect effects were tested using a bootstrapping procedure with 2,000 samples. Statistical significance was determined based on the 95% confidence intervals and the strength of relationships was based on standardized results for the estimated coefficients, because standardized estimates are unaffected by scaling and are interpreted as effect sizes.

Results

Preliminary Analysis

Missing data on observed items ranged from 0 to 1.0% and were missing completely at random (MCAR) as indicated by a non-significant value of the Little’s MCAR test, \( \chi^2 (81, N=295) = 50.59, p = .997. \)

The nine items of student academic engagement specified as a single CFA factor showed that the value of RMSEA was suggesting a misfit: \( \chi^2 (27, N=295) = 107.67, p < .001, \text{RMSEA} = .101, 90\% \text{ CI } [.082,.122], \text{CFI} = .948, \text{TLI} = .930, \text{SRMR} = .036. \) Modification indices suggested that two pairs of correlation uniqueness (i.e., among two items of vigor and two items of adsorption) would improve the model fit. Indeed, the revised model showed a better fit: \( \chi^2 (25, N=295) = 60.15, p < .001, \text{RMSEA} = .069, 90\% \text{ CI } [.047,.092], \text{CFI} = .977, \text{TLI} = .967, \text{SRMR} = .027. \) The CFA model with items of student academic burnout specified to represent their intended factors of reduced sense of schoolwork accomplishment, schoolwork devaluation, and mental exhaustion from schoolwork showed a misfit: \( \chi^2 (87, N=295) = 351.15, p < .001, \text{RMSEA} = .102, 90\% \text{ CI } [.091,.113], \text{CFI} = .881, \text{TLI} = .856, \)
SRMR = .067. Examination of factor loadings and modification indices suggested that six items, two from each dimension, should be deleted due to non-significant loadings on the intended factor or high cross-loadings on the non-intended factors. The CFA model with the remaining was reran, showing a good model fit: $\chi^2 (24, N=295) = 45.34, p = .005$, RMSEA = .055, 90% CI [.030,.080], CFI = .980, TLI = .970, SRMR = .035. The fit of the CFA model with 12 purpose orientation items specified to represent their respective three dimensions was acceptable: $\chi^2 (51, N=295) = 153.37, p < .001$, RMSEA = .082, 90% CI [.925,.904], CFI = .925, TLI = .904, SRMR = .055. Thus, no modifications were made to the model. The CFA model with six items of disposition towards gratitude showed an unacceptable fit: $\chi^2 (9, N=295) = 88.58, p < .001$, RMSEA = .173, 90% CI [.142,.207], CFI = .828, TLI = .714, SRMR = .074. Examination of modification indices and items for conceptual sense suggested that two pairs of correlated uniquenesses were needed (i.e., two negatively worded items, and two items with common wording), adding which improved the model fit: $\chi^2 (7, N=295) = 4.67, p = .700$, RMSEA = .000, 90% CI [.000,.055], CFI = 1.000, TLI = 1.000, SRMR = .014. An overall measurement model showed a good fit: $\chi^2 (562, N=295) = 964.12, p < .001$, RMSEA = .049, 90% CI [.044,.054], CFI = .937, TLI = .929, SRMR = .054.

Table 1 shows estimates of reliability and correlations among the measured constructs specified as latent variables in the measurement model of the SEM analysis. Reliability estimates ranged from .77 to .94. As expected, the three dimensions of student academic burnout were all positively correlated and ranged from .54 to .79; whereas the correlations between student academic engagement and the three dimensions of student academic burnout were all negative and ranged from −.79 to −.60. The discriminant validity was examined between the factors representing student academic engagement and reduced sense of schoolwork, $r(293) = −.79, 95\% CI [−.88, −.70]$, and between reduced sense of schoolwork and mental exhaustion from school work (burnout), $r(293) = .79, 95\% CI [.70,.88]$. Complete redundancy would be indicated if the confidence intervals included a value of |1.0|. As shown in Table 1, the confidence intervals around the correlations were below |1.0|, indicating that these measures were related but not fully redundant constructs, providing evidence of discriminant validity. The three dimensions of life purpose orientations and disposition towards gratitude were all positively correlated with academic engagement and negatively correlated with two dimensions of student academic burnout (reduced sense of schoolwork accomplishment, schoolwork devaluation). Additionally, disposition towards gratitude was correlated negatively with mental exhaustion from schoolwork.

Next, structural model was tested, which allowed examining whether life purpose orientations could predict burnout and academic engagement directly and indirectly through disposition towards gratitude. Results are shown in Figure 2 and Table 2.

As shown in Table 2 and Figure 2, disposition towards gratitude was positively predicted by others-growth purpose orientation, $\hat{\beta} = .22, SE = .09, 95\% CI [.05,.40], p = .014$, and self-growth purpose orientation, $\hat{\beta} = .25, SE = .13, 95\% CI [0,.49], p = .049$. Overall, 31.9% of the variance was explained in disposition towards
| Measure                                                                 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  |
|-----------------------------------------------------------------------|----|----|----|----|----|----|----|----|
| 1. Student academic engagement                                        | —  |    |    |    |    |    |    |    |
| 2. Reduced sense of schoolwork accomplishment (burnout)               | —  | —  |    |    |    |    |    |    |
|                                                                       | [.79***] |    |    |    |    |    |    |    |
|                                                                       | [.88,] | [.70] |    |    |    |    |    |    |
| 4. Schoolwork devaluation (burnout)                                   | [.49***] | [.54***] |    |    |    |    |    |    |
|                                                                       | [.60,] | [.42,.67] |    |    |    |    |    |    |
|                                                                       | [.38] |    |    |    |    |    |    |    |
| 3. Mental exhaustion from schoolwork (burnout)                        | [.60***] | [.79***] | [.74***] |    |    |    |    |    |
|                                                                       | [.70,] | [.70,.88] | [.67,.82] |    |    |    |    |    |
|                                                                       | [.50] |    |    |    |    |    |    |    |
| 5. Others-growth life purpose orientation                             | [.38***] | [.38***] | [.23***] | -.04 |    |    |    |    |
|                                                                       | [.28,.49] | [.50,] | [.35,] | [.17,.09] |    |    |    |    |
|                                                                       | [.25] | [.10] |    |    |    |    |    |    |
| 6. Self-growth life purpose orientation                               | [.40***] | [.41***] | [.27***] | -.07 | .70*** |    |    |    |
|                                                                       | [.29,.52] | [.54,] | [.38,] | [.20,.06] | [.58,.83] |    |    |    |
|                                                                       | [.28] | [.15] |    |    |    |    |    |    |
| 7. Career-focused life purpose orientation                            | [.42***] | [.52***] | [.33***] | -.10 | .59*** | .76*** |    |    |
|                                                                       | [.32,.52] | [.63,] | [.44,] | [.24,.03] | [.46,.71] | [.65,.86] |    |    |
|                                                                       | [.43] | [.22] |    |    |    |    |    |    |
| 8. Disposition towards gratitude                                      | [.38***] | [.53***] | [.36***] | -.13* | .49*** | .53*** | .48*** |    |
|                                                                       | [.28,.48] | [.64,] | [.48,] | [.26,] | [.37,.62] | [.40,.66] | [.36,.60] |    |
|                                                                       | [.43] | [.24] | [.01] |    |    |    |    |    |

**Composite reliability estimate**

|                                 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  |
|---------------------------------|----|----|----|----|----|----|----|----|
|                                | .94 | .77 | .86 | .91 | .91 | .83 | .92 | .78 |

*Note. 95% confidence intervals are in parentheses. *p < .05. ***p < .001.*
gratitude. Thus, indirect associations between these two dimensions of life purpose orientations (i.e., others-growth, self-growth) and student academic engagement and burnout were possible for those measures of engagement and burnout, for which gratitude emerged as a significant predictor, the results for which are reported below.

Student academic engagement was positively predicted by career-focused purpose orientation, $\beta = .22$, $SE = .10$, 95% CI $[.03, .42]$, $p = .027$, and disposition towards gratitude, $\beta = .18$, $SE = .06$, 95% CI $[.06, .30]$, $p = .003$. Others-growth and self-growth purpose orientations did not emerge as direct or indirect predictors of academic engagement. Overall, 23.0% of the variance was explained in academic engagement.

Reduced sense of schoolwork accomplishment was negatively predicted by career-focused purpose orientation, $\beta = -.41$, $SE = .10$, 95% CI $[-.61, -.21]$, $p < .001$, and disposition towards gratitude, $\beta = -.39$, $SE = .07$, 95% CI $[-.52, -.26]$, $p < .001$. While others-growth purpose orientation was not a significant direct predictor of reduced accomplishment, it emerged as a significant indirect predictor via disposition towards gratitude, $\beta = -.09$, $SE = .04$, 95% CI $[-.17, -.01]$, $p = .036$. Self-growth purpose orientation did not emerge as a direct or indirect predictor of reduced schoolwork accomplishment. Overall, 37.9% of the variance was explained in reduced schoolwork accomplishment.

Schoolwork devaluation was negatively predicted by career-focused purpose orientation, $\beta = -.25$, $SE = .11$, 95% CI $[-.46, -.04]$, $p = .018$, and disposition towards gratitude, $\beta = -.28$, $SE = .08$, 95% CI $[-.43, -.13]$, $p < .001$. Others-growth and self-growth purpose orientations did not emerge as direct or indirect predictors of schoolwork devaluation. Overall, 16.4% of the variance was explained in schoolwork devaluation.

Figure 2. Results for structural model: standardized results for predicting student academic engagement and three dimensions of burnout. Note. Non-significant paths are not displayed in the figure for readability purposes. *$p < .05$, **$p < .01$, ***$p < .001$. 

![Diagram of the structural model](image)
Finally, for mental exhaustion from schoolwork, none of the three dimensions of purpose orientations emerged significant. Disposition towards gratitude also was not a significant predictor. The model explaining 2.3% in mental exhaustion from schoolwork.

### Discussion

Many studies have shown a positive role that life purpose orientations play in relation to various academic outcomes as well as overall well-being (e.g., Hill et al., 2010; Sharma et al., 2017, 2021). Most recently, sense of life purpose was shown to play an important role in predicting resilience and persistence in college students during the COVID-19 pandemic (Sharma & Yukhymenko-Lescroart, 2022). Similar to sense of life purpose, disposition towards gratitude has also been shown to play a positive role in people’s well-being (e.g., Bono & Froh, 2009; Jans-Beken et al., 2020; Table 2. Standardized Results for Predicting Student Academic Engagement and Three Dimensions of Burnout.

| Path                                                      | Estimate (SE) | 95% CI        |
|-----------------------------------------------------------|---------------|---------------|
| Others-growth PO → academic engagement                    | .13 (.09)     | [−.05,.31]    |
| Self-growth PO → academic engagement                      | .05 (.12)     | [−.19,.28]    |
| Career-focused PO → academic engagement                   | .22* (.10)    | [0.03,0.42]   |
| Gratitude → academic engagement                           | .18** (.06)   | [0.06,.30]    |
| Others-growth PO → reduced sense of schoolwork accomplishment | −.04 (.09)   | [−.22,.14]    |
| Self-growth PO → reduced sense of schoolwork accomplishment | .13 (.13)     | [−.12,.39]    |
| Career-focused PO → reduced sense of schoolwork accomplishment | −.41*** (.10) | [−.61,−.21]  |
| Gratitude → reduced sense of schoolwork accomplishment     | −.39*** (.07) | [−.52,−.26]  |
| Others-growth PO → schoolwork devaluation                 | .02 (.10)     | [−.17,.21]    |
| Self-growth PO → schoolwork devaluation                   | .06 (.13)     | [−.19,.31]    |
| Career-focused PO → schoolwork devaluation                | −.25* (.11)   | [−.46,−.04]   |
| Gratitude → schoolwork devaluation                        | −.28*** (.08) | [−.43,−.13]  |
| Others-growth PO → mental exhaustion from schoolwork      | .06 (.10)     | [−.13,.25]    |
| Self-growth PO → mental exhaustion from schoolwork        | .03 (.14)     | [−.24,.30]    |
| Career-focused PO → mental exhaustion from schoolwork     | −.10 (.12)    | [−.34,.14]    |
| Gratitude → mental exhaustion from schoolwork             | −.13 (.08)    | [−.29,.02]    |
| Others-growth PO → gratitude                              | .22* (.09)    | [0.05,0.40]   |
| Self-growth PO → gratitude                                | .25* (.13)    | [0.49]        |
| Career-focused PO → gratitude                             | .16 (.10)     | [−.03,.36]    |

Note. PO = purpose orientation.

*p < .05. **p < .01. ***p < .001.
Portocarrero et al., 2022; Ruser et al., 2020). The purpose of this study was to examine whether specific life purpose orientations predicted student academic engagement and burnout directly and indirectly through their disposition towards gratitude. Overall, findings for student academic engagement and burnout were mostly similar. Specifically, findings showed that university students with a clear work-focused purpose orientation and a strong disposition towards gratitude reported greater academic engagement and lesser student academic burnout of reduced sense of schoolwork accomplishment and schoolwork devaluation. Additionally, findings showed others-growth purpose orientation was an indirect negative predictor of reduced sense of schoolwork accomplishment via disposition towards gratitude, showing that university students who view their life purpose aligned with helping others reported greater disposition towards gratitude and, because of greater disposition towards gratitude, also felt more positively about schoolwork accomplishment.

**Student Academic Engagement**

Findings showed that student academic engagement can be viewed as the opposite of student burnout, especially of students’ feelings of reduced accomplishment and devaluing schoolwork. Specifically, findings showed that student academic engagement was positively predicted by disposition towards gratitude. As suggested by McCullough et al. (2008), feeling grateful may lead to real changes in people’s social relationships, which may include relationships with classmates and university instructors. Given that sense of belonging – the subjective feeling of deep connection with people, places, and experiences – has been shown to be salient to academic motivation, engagement, retention, and success (e.g., Allen et al., 2021; Gillen-O’Neel, 2021; Pedler et al., 2022), grateful undergraduate students might be more academically engaged because they might have a greater sense of belonging at university.

Additionally, findings showed that student academic engagement was positively predicted by their career-focused purpose orientation, suggesting that students who have clear career life goals and strong dedication to actualize career aspirations are more likely to be more engaged in their academic studies. Sharma et al. (2017) showed that adolescences’ desire to realize their career aspirations, such as gaining expertise and training to excel in their chosen profession, was associated with their decision to apply for college. Consistent with previous studies, the finding in this study indicates that university students’ clarity about their career goals and desire to be successful and excellent in their field of work appears to play the most crucial role in their academic engagement. Other scholars too have proposed such purpose-centered career development and career counseling of adolescence (e.g., Kosine et al., 2008). The findings in this study suggest that purpose-centered career development continues to be relevant to university students to help them establish career goals of what they expect and hope to become, explore the ways they can assist the greater good through their chosen career, recognize the importance of giving back, and find meaning and purpose in their careers.
Surprisingly, self-growth purpose orientation was not a significant direct or indirect predictor of student academic engagement. This finding suggests that students are likely to not see their academic engagement, learning, development and growth as a part of the larger self-growth. Because the career-focused purpose orientation emerged significant, the self-growth purpose orientation is likely to reflect areas of personal growth other than education related. This finding is also aligned with other studies, which showed that self-oriented purpose was unrelated to students’ decision to pursue postsecondary education (Sharma et al., 2017, 2021).

Notably, disposition towards gratitude was positively predicted by two dimensions of purpose orientation. Specifically, findings showed that others-growth purpose orientation and self-growth purpose orientation emerged as positive predictors of disposition towards gratitude. Gratitude reflects a wider life orientation (Wood et al., 2010), which can prompt people to recognize the benevolence of others as well as acknowledge personal effort in positive outcomes (McCullough et al., 2002). Findings generally suggest that students who are oriented towards growth, both actualizing oneself as well as inspiring others to actualize themselves, are inclined to be more grateful in life.

**Student Academic Burnout**

Findings showed that only one dimension of life purpose orientation was a significant predictor of student academic burnout. Specifically, career-focused life purpose orientation negatively predicted the two dimensions of student burnout: reduced sense of schoolwork accomplishment and devaluation of schoolwork. These findings suggest that university students who view their life purpose aligned with promoting their career reported feeling greater levels of accomplishment and valuation of their schoolwork. Career-focused purpose orientation has also been highlighted in previous studies, showing that high school students who are aiming to realize their life purpose through future career activities are more likely to apply for college and complete postsecondary education (Sharma et al., 2017, 2021). This study highlights that students who view their life purpose in terms of reaching excellence in their work are less susceptible to burnout.

Findings showed that disposition towards gratitude was a negative predictor of two dimensions of student academic burnout: reduced sense of schoolwork accomplishment and devaluation of schoolwork. These findings suggest that the more grateful a student feel, the more they feel accomplished and value schoolwork. Many studies have shown an adaptive function of disposition towards gratitude for a number of outcomes of psychological, subjective, and relational well-being (e.g., Jans-Beken et al., 2020; Portocarrero et al., 2022). Recently, disposition towards gratitude was shown to be negatively associated with student-athletes’ athletic burnout. Gabana et al. (2017), for example, showed that college student-athletes who reported higher levels of gratitude were less likely to experience symptoms of burnout in their sports and that student-athletes with greater disposition towards gratitude reported lower levels of reduced sense of accomplishment and sport devaluation because those who had
higher levels of gratitude perceived that more social support was available to them. Findings from the current study suggest that disposition towards gratitude may play a potentially preventative function against student burnout, specifically against reduced sense of schoolwork accomplishment and devaluation of schoolwork that a burned-out student may experience. Because the relationship was stronger for reduced sense of schoolwork accomplishment, disposition towards gratitude is suggested as especially valuable for students to feel like they are performing up to their ability in their schoolwork.

Additionally, disposition towards gratitude mediated the relationship between others-growth purpose orientation and reduced sense of schoolwork accomplishment. This finding showed that students who view their life purpose in terms of making a positive impact on others report higher disposition towards gratitude; therefore, they are less susceptible to student burnout. This finding is aligned with previous studies that have highlighted the importance of the beyond-the-self nature of life purpose in student success. Findings of Sharma and Yukhymenko-Lescroart (2018), for example, found that university students with altruistic purpose reported stronger degree commitment. Similarly, Hill et al. (2010) demonstrated that only prosocial purpose orientation predicted personal growth and development among college students.

Surprisingly, neither life purpose orientation nor disposition towards gratitude were able to predict mental exhaustion from schoolwork of the undergraduate students. Unlike the other two dimensions, which reflected negative attitudes towards one’s ability to be productive and complete schoolwork effectively, mental exhaustion from schoolwork is depicted by feelings of being overly tired, “wiped out,” and mentally worn out from the schoolwork and, thus, can be viewed as a traditional stress-related measure (Raedeke & Smith, 2001). The findings in this study suggest that broad life orientations, such as life purpose orientations and disposition towards gratitude, can modify and improve negative attitudes; however, the broad life orientations may not be enough to address stress-related aspect of burnout and processes.

Practical Implications

The study findings supported the supposition that the nature of purpose is related to student success, suggesting several practical implications. First, findings suggest that fostering student sense of life purpose overall and of career-focused purpose orientation in particular can have positive implications for student academic engagement, sense of accomplishment, and valuation of schoolwork and, thus, potentially for persistence, retention, and graduation. Therefore, administrators should recognize the important role that sense of life purpose on students’ important outcomes that can lead to student academic success. Second, disposition towards gratitude was also shown to play an important protective role against student academic burnout and in greater academic engagement. University administrators may offer seminars and other developmental opportunities for students to focus on ways to develop appreciation and gratitude for many aspects of one’s life, including viewing educational
opportunities as a roadway through which students’ professional goals can be achieved. These opportunities can be offered in person or online and could be a part of the first-year experience or training for incoming freshman students. Overall, findings of the current study can inform teaching practices that could improve student success. Providing students with opportunities to develop and connect their sense of purpose in life with their future profession may help students be more motivated and persevere despite the challenging circumstances that they might face. Students can also be provided with opportunities to reflect on various aspects of their lives to find the people, events, and situations for which they can be grateful to help students remain positive, engaged, and committed to their studies.

Limitations and Future Directions

It is important to mention several limitations of the current findings. First, because of the correlational nature of this study, no causal conclusions can be made based on current findings. It is recommended, therefore, to examine identified relationships in future studies using longitudinal and experimental designs. For example, a three-wave semester- or year-long longitudinal study of students’ sense of purpose orientation, disposition towards gratitude, and student academic engagement and burnout can shed light on the mediated effects among these constructs. Given the high attrition rates at the end of first year in college, it might be prudent to conduct such a study with incoming freshman students, observing them at the beginning and the end of the first semester in college and at the end of the first academic year. It would also be possible to incorporate a training for incoming freshman students with a focus on connecting their sense of purpose in life with their future careers, and encouraging them to reflect on how their studies can help them reach those goals. Second, the current study was conducted within the context of COVID-19 pandemic during the academic year of 2020–21. While findings inform us on the role of purpose orientations and disposition towards gratitude in students’ school experiences, it is important to examine whether these findings are replicable during the post-COVID context.

Conclusions

The current study investigated whether three dimensions of life purpose orientations (others-growth, self-growth, career-focused) can predict student academic engagement and burnout among undergraduate students and the role that disposition towards gratitude plays in these relationships. Findings showed that work-focused purpose orientation and disposition towards gratitude were negative predictors of two dimensions of burnout (reduced sense of schoolwork accomplishment, schoolwork devaluation) and positive predictors of student academic engagement. Additionally, findings showed that others-growth purpose orientation was an indirect negative predictor of reduced sense of schoolwork accomplishment via disposition towards gratitude. Thus, supporting undergraduate students to reflect upon the role of their future career aspirations in fulfilling their life purpose could promote their well-being, engagement,
and commitment to studies. The findings also suggest that intentional workshops and seminars are needed that help students link their sense of purpose in life with their future careers and promote disposition towards gratitude for the people, events, and situations that they face as they work to achieve their educational and professional goals.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD
Mariya A. Yukhymenko-Lescroart https://orcid.org/0000-0002-0054-6666

References
Alarcon, G. M. (2011). A meta-analysis of burnout with job demands, resources, and attitudes. *Journal of Vocational Behavior, 79*(2), 549–562. https://doi.org/10.1016/j.jvb.2011.03.007
Allen, K. A., Slaten, C. D., Arslan, G., Roffey, S., Craig, H., & Vella-Brodrick, D. A. (2021). School belonging: the importance of student and teacher relationships. In M. L. Kern & M. L. Wehmeyer (Eds.), *The Palgrave handbook of positive education* (pp. 525–550). Palgrave Macmillan.
Alrashidi, O., Phan, H. P., & Ngu, B. H. (2016). Academic engagement: an overview of its definitions, dimensions, and major conceptualisations. *International Education Studies, 9*(12), 41–52. https://doi.org/10.5539/ies.v9n12p41
Aristovnik, A., Keršič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability, 12*(20), 8438. https://doi.org/10.3390/su12208438
Asparouhov, T., & Muthén, B. (2021, February 21). Bootstrap p-value computation. https://www.statmodel.com/download/FAQ-Bootstrap%20-%20Pvalue.pdf
Backović, D. V., Ilić Živoinović, J., Maksimović, J., & Maksimović, M. (2012). Gender differences in academic stress and burnout among medical students in final years of education. *Psychiatria Danubina, 24*(2), 175–181. https://pubmed.ncbi.nlm.nih.gov/22706416/
Bono, G., & Froh, J. (2009). Gratitude in school: benefits to students and schools. In *Handbook of positive psychology in schools* (pp. 95–106). Routledge.
Bono, G., Reil, K., & Hescox, J. (2020). Stress and wellbeing in urban college students in the US during the COVID-19 pandemic: can grit and gratitude help? *International Journal of Wellbeing, 10*(3), 39–57. https://doi.org/10.5502/ijw.v10i3.1331
Chang, M. L. (2009). An appraisal perspective of teacher burnout: examining the emotional work of teachers. *Educational Psychology Review, 21*(3), 193–218. https://doi.org/10.1007/s10648-009-9106-y
Chu, T. L. (A.). (2020). Applying positive psychology to foster student engagement and classroom community amid the COVID-19 pandemic and beyond. *Scholarship of Teaching and Learning in Psychology*, 1–10. Advance online publication. https://doi.org/10.1037/stl0000238

Compton, W. C. & Hoffman, E. (2020). *Positive psychology: the science of happiness and flourishing* (3rd ed.). Sage.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59–109. https://doi.org/10.3102/00346543040001059

Gabana, N. T., Steinfeldt, J. A., Wong, Y. J., & Chung, Y. B. (2017). Gratitude, burnout, and sport satisfaction among college student-athletes: the mediating role of perceived social support. *Journal of Clinical Sport Psychology, 11*(1), 14–33. https://doi.org/10.1123/jcsp.2016-0011

Gillen-O’Neel, C. (2021). Sense of belonging and student engagement: A daily study of first-and continuing-generation college students. *Research in Higher Education, 62*(1), 45–71. https://doi.org/10.1007/s11162-019-09570-y

Hair, J. F. Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage.

Hill, P. L., Burrow, A. L., Brandenberger, J. W., Lapsley, D. K., & Quaranto, J. C. (2010). Collegiate purpose orientations and well-being in early and middle adulthood. *Journal of Applied Developmental Psychology, 31*(2), 173–179. https://doi.org/10.1016/j.appdev.2009.12.001

Jans-Beken, L., Jacobs, N., Janssens, M., Peeters, S., Reijnders, J., Lechner, L., & Lataster, J. (2020). Gratitude and health: an updated review. *The Journal of Positive Psychology, 15*(6), 743–782. https://doi.org/10.1080/17439760.2019.1651888

Kang, Y., Strecher, V. J., Kim, E., & Falk, E. B. (2019). Purpose in life and conflict-related neural responses during health decision-making. *Health Psychology, 38*(6), 545. https://doi.org/10.1037/heal0000729

Kleiman, E. M., Adams, L. M., Kashdan, T. B., & Riskind, J. H. (2013). Gratitude and grit indirectly reduce risk of suicidal ideations by enhancing meaning in life: evidence for a mediated moderation model. *Journal of Research in Personality, 47*(5), 539–546. https://doi.org/10.1016/j.jrp.2013.04.007

Kosine, N. R., Steger, M. F., & Duncan, S. (2008). Purpose-centered career development: A strengths-based approach to finding meaning and purpose in careers. *Professional School Counseling, 12*(2), 133–136. https://doi.org/10.1177/2156759X0801200209

Kyriazos, T. A. (2018). Applied psychometrics: Sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology (Savannah, Ga ), 9*(8), 2207–2230. https://doi.org/10.4236/psych.2018.98126

Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology, 81*(2), 123–133. https://doi.org/10.1037/0021-9010.81.2.123

Madigan, D. J., & Curran, T. (2021). Does burnout affect academic achievement? A meta-analysis of over 100,000 students. *Educational Psychology Review, 33*(2), 387–405. https://doi.org/10.1007/s10648-020-09533-1

Maimaiti, G., Jia, C., & Hew, K. F. (2021). Student disengagement in web-based videoconferencing supported online learning: an activity theory perspective. *Interactive Learning Environments, 1–20*. Advanced online publication. https://doi.org/10.1080/10494820.2021.1984949

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior, 2*(2), 99–113. https://doi.org/10.1002/job.4030020205
Maslach, C., & Leiter, M. P. (2016). Understanding the burnout experience: Recent research and its implications for psychiatry. *World Psychiatry, 15*(2), 103–111. https://doi.org/10.1002/wps.20311

McCullough, M. E., Emmons, R. A., & Tsang, J. A. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology, 82*(1), 112–127. https://doi.org/10.1037/0022-3514.82.1.112

McCullough, M. E., Kimeldorf, M. B., & Cohen, A. D. (2008). An adaptation for altruism: the social causes, social effects, and social evolution of gratitude. *Current Directions in Psychological Science, 17*(4), 281–285. https://doi.org/10.1111/j.1467-8721.2008.00590.x

Muthén, L. K., & Muthén, B. O. (2012–2021). Mplus (Version 8.7) [computer software] Muthén & Muthén. https://www.statmodel.com/

Park, C. L., Russell, B. S., Fendrich, M., Finkelstein-Fox, L., Hutchison, M., & Becker, J. (2020). Americans’ COVID-19 stress, coping, and adherence to CDC guidelines. *Journal of General Internal Medicine, 35*(8), 2296–2303. https://doi.org/10.1007/s11606-020-05898-9

Pedler, M. L., Willis, R., & Nieuwoudt, J. E. (2022). A sense of belonging at university: Student retention, motivation and enjoyment. *Journal of Further and Higher Education, 46*(3), 397–408. https://doi.org/10.1080/0309877X.2021.1955844

Portocarrero, F. F., Gonzalez, K., & Ekema-Agbaw, M. (2022). A meta-analytic review of the relationship between dispositional gratitude and well-being. *Personality and Individual Differences, 164*, 110101. https://doi.org/10.1016/j.paid.2020.110101

Preacher, K. J., & Hayes, A. F. (2008). Contemporary approaches to assessing mediation in communication research. In A. F. Hayes, M. D. Slater, & L. B. Snyder (Eds.), *Safe sourcebook of advanced data analysis methods for communication research* (pp. 13–54). Sage.

Raedeke, T. D., & Smith, A. L. (2001). Development and preliminary validation of an athlete burnout measure. *Journal of Sport and Exercise Psychology, 23*(4), 281–306. https://doi.org/10.1123/jsep.23.4.281

Ruser, J. B., Yukhymenko-Lescroart, M. A., Gilbert, J. N., Gilbert, W., & Moore, S. D. (2020). Gratitude, coach–athlete relationships, and burnout in collegiate student-athletes. *Journal of Clinical Sport Psychology, 15*(1), 37–53. https://doi.org/10.1123/jscp.2019-0021

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66*(4), 701–716. https://doi.org/10.1177/0013164405282471

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. *Career Development International, 14*(3), 204–220. https://doi.org/10.1108/13620430910966406

Schaufeli, W. B., Martinez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology, 33*(5), 464–481. https://doi.org/10.1177/0022022102033005003

Sharma, G., Kim, J., & Bernal-Arevalo, K. (2021). The relationship between high school sophomores’ purpose orientations and their postsecondary completion a decade later. *Professional School Counseling, 25*(1), 2156759X20981051. https://doi.org/10.1177/2156759X20981051

Sharma, G., Kim, J., & Bryan, J. (2017). The effects of purpose orientations on recent high school graduates’ college application decisions. *Journal of College Access, 3*(2), 98–117. https://scholarworks.wmich.edu/jca/vol3/iss2/8

Sharma, G., & Yukhymenko-Lescroart, M. (2018). The relationship between college students’ sense of purpose and degree commitment. *Journal of College Student Development, 59*(4), 486–491. https://doi.org/10.1353/csd.2018.0045
Sharma, G., & Yukhymenko-Lescroart, M. (2022). Life purpose as a predictor of resilience and persistence in college students during the COVID-19 pandemic. *Journal of College Student Retention: Research, Theory & Practice*. Advanced online publication, 1–21. https://doi.org/10.1177/15210251221076828

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: new procedures and recommendations. *Psychological Methods*, 7(4), 422–445. https://doi.org/10.1037/1082-989X.7.4.422

Taris, T. W. (2006). Is there a relationship between burnout and objective performance? A critical review of 16 studies. *Work & Stress*, 20(4), 316–334. https://doi.org/10.1080/02678370601065893

Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., Crockett, M. J., Crum, A. J., Douglas, K. M., Druckman, J. N., Drury, J., Dube, O., Ellemers, N., Finkel, E. J., Fowler, J. H., Gelfand, M., Han, S., Haslam, S. A., Jetten, J., & ... Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, 4(5), 460–471. https://doi.org/10.1038/s41562-020-0884-z

Windsor, T. D., Curtis, R. G., & Luszcz, M. A. (2015). Sense of purpose as a psychological resource for aging well. *Developmental Psychology*, 51(7), 975–986. https://doi.org/10.1037/dev0000023

Wood, A. M., Froh, J. J., & Geraghty, A. W. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review*, 30(7), 890–905. https://doi.org/10.1016/j.cpr.2010.03.005

Wood, A. M., Joseph, S., & Maltby, J. (2009). Gratitude predicts psychological well-being above the big five facets. *Personality and Individual Differences*, 46(4), 443–447. https://doi.org/10.1016/j.paid.2008.11.012

Yukhymenko-Lescroart, M. A., & Sharma, G. (2020). Sense of purpose and progress towards degree in freshman college students. *Journal of College Student Retention: Research, Theory & Practice*, 1–21. https://doi.org/10.1177/1521025120975134

Yukhymenko-Lescroart, M. A., & Sharma, G. (2021). Measuring specific purpose orientations in working adults. *Applied Research in Quality of Life*, 1–19. Advanced online publication. https://doi.org/10.1007/s11482-021-00980-0

Zhen, R., Liu, R. D., Ding, Y., Jiang, R., Jiang, S., & Hong, W. (2021). Gratitude and academic engagement among primary students: examining a multiple mediating model. *Current Psychology*, 40(5), 2543–2551. https://doi.org/10.1007/s12144-019-00202-3

**Author Biography**

Mariya A. Yukhymenko-Lescroart is an Associate Professor of Research and Statistics in the Department of Curriculum and Instruction. Dr. Yukhymenko’s research focuses on substantive-methodological synergy. Her substantive interests lie in the intersection of positive, educational, and sport psychology, with focus on positive development of college students and adults, and in providing methodological support to the research of other scholars. For methodological interests, she is particularly interested in scale development and validation and in application of advanced statistical modeling to the empirical data; however, as a scholar with a pragmatic research lens, she is equally versed in quantitative and qualitative approaches.