



Thriving amidst adversity: Flourishing and grit in Ukrainian college students with strong life purpose before and after the onset of the Russian war in Ukraine

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ABSTRACT

This multi-study examined the role of life purpose in the well-being of Ukrainian university students before (Study 1) and during the Russian war in Ukraine (Study 2) during the 2021-22 academic year using a cross-sectional design. University students from a city highly affected by the war, a region which borders Russia, completed measures of sense of purpose in life (awakening to purpose, awareness to purpose, altruistic purpose), specific purpose orientations (others-growth, self-growth, career-focused), flourishing, and grit (consistency of interests, perseverance of effort). Structural equation modeling was used to test four alternative path models. In Study 1 ($N = 159$), flourishing was positively predicted by all measures of purpose, except for awareness of purpose, which was a negative but weak predictor. Similar to flourishing, both dimensions of grit were positively predicted by career-focused purpose orientation above and beyond the overall sense of life purpose. Additionally, perseverance of effort was predicted positively by awakening to purpose. Consistent with Study 1, in Study 2 ($N = 107$), flourishing and perseverance of effort were positively predicted by career-focused purpose orientation above and beyond the overall sense of life purpose. Additionally, flourishing was positively predicted by awakening to purpose and others-growth purpose orientation. Overall, students with a strong life purpose reported high sense of flourishing and grit. Findings also highlighted the salient role of career-focused purpose orientation in students' well-being. It is thereby important to support students in exploring and connecting life's purpose with their career aspirations.

1. Introduction

The Russian invasion and war in Ukraine from February 24th, 2022 onwards has resulted in the deaths of immeasurable civilians, massive destruction of infrastructure, excruciating suffering caused by limited access to the basic needs of fresh water, food, and sanitation, and an unprecedented humanitarian crisis, which continues to worsen [1,2]. Countless college students have become displaced refugees and are dealing with the deterioration of their psycho-emotional well-being including depression, existential anxiety, loss of direction, and ability to persevere [3,4]. During similar existential crises, building on Friedrich Nietzsche's philosophy that "He who has a why to live for can bear with almost any how," Frankl emphasized the significance of strengthening one's sense of

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purpose and meaning in life to persevere amidst the adversity of armed conflict [5, p. 101].

Empirical studies have reaffirmed this assertion by showing that college students with stronger sense of purpose experience greater resilience, gratitude, engagement, well-being, flourishing, and perseverance of effort amidst various difficulties [6–8]. Research has also shown that despite experiencing multiple traumas caused by war, students continue to maintain strong goal-orientation beliefs and aspirations for their future that help them to persevere towards their educational and career goals [9]. However, there is a lack of research on the role of life purpose amidst the unprecedented sufferings caused by war. The aim of this multi-study was to examine the role of life purpose in contributing to Ukrainian college students' sense of flourishing and grit while facing adversities caused by the Russian war.

One of the reasons for us to conduct this multi-study was that times of chronic adversity often require an intentional shift from pathology to positive, strengths-based approaches that could help people tap into their inherent potential to persevere [5,10,11]. The three constructs of purpose, flourishing, and grit are strengths-based constructs that play an important role in promoting college students' academic, career, and well-being-oriented outcomes [12,13]. Similar to grit and flourishing, purpose focuses on people's most cherished life values and interests as well as the drive to continue to meet their far-reaching goals [14,15]. It is possible that even during the sufferings caused by war, some college students continue to experience a strong sense of purpose that might further contribute to their ability to persevere.

We first conducted Study 1 to explore the empirical connections between purpose, flourishing, and grit among Ukrainian college students in the context of them facing the COVID-19 pandemic. However, with the onset of the Russian invasion in February 2022, we expanded our research to examine the role of life purpose among Ukrainian college students facing the challenges of war in Study 2. This resulted in two sets of data from significant time periods in history of the pandemic and the war, offering valuable insights into the impact of strengths-based intrapersonal factors during unprecedented adversities. By leveraging the findings from this multi-study, we aimed to provide insights into educational approaches that can enhance students' resilience in the face of war-related difficulties.

1.1. Sense of purpose in life

Frankl was one of the first psychologists to assert the central role of life purpose in promoting people's well-being and ability to persevere amidst chronic adversity and trauma. For Frankl, life purpose refers to the most essential reason for living [16]. Frankl's theory of noö-dynamics suggests that the essence of well-being does not lie in achieving emotional equilibrium but rather in experiencing the drive to fulfill life's most important purpose(s) [17]. Various other wellness models have also highlighted the important role of purpose in people's well-being [18–20]. For instance, the wheel of wellness theory proposed by Myers et al. conceptualized purpose as the spokes of a wheel, highlighting its role in enhancing the momentum for goal-fulfillment [20].

Likewise, several researchers have defined purpose as the driving force for clarifying and achieving goals [15,21]. Research among college students has affirmed the important role of purpose in motivating students to set clear personal and professional goals, apply to college, and persevere towards degree completion [22,23]. Recent studies on purpose have also shown sense of purpose in life as a critical predictor of well-being, resilience, healthy coping, and persistence amidst adverse challenges [6,8,24].

Humanistic philosophers such as Ikeda have further emphasized that even during the most challenging circumstances, people possess within them the limitless potential to transform adversity into a deeper sense of purpose in life [25]. Empirical studies have reaffirmed this assertion by showing that when students are able to experience a sense of purpose, they tap into their inner potential to stay motivated, hopeful, and determined to not give up on their life's goals through fulfilling which they might even contribute to others' well-being [26]. Recently, amidst the chronic adversity of COVID-19 pandemic, research has demonstrated the significant role of life purpose in predicting resilience and persistence [6] as well as gratitude and engagement [8], among college students. Some other quantitative studies have similarly demonstrated the positive role of purpose in strengthening college students' happiness, life satisfaction, motivation, self-efficacy, and mental health [24,27,28].

These studies have also shown purpose development as a phenomenon that encompasses not only awareness about life's goals but also the resolve to make consistent efforts to further strengthen one's sense of purpose and resolve to make a difference in society [15, 29]. Therefore, in this multi-study we have explored not only the role of awareness of purpose in Ukrainian students' life but also awakening to purpose and altruistic purpose as assessed by the Revised Sense of Purpose Scale (SOPS-2) [30,31].

1.2. Sense of purpose and purpose orientations

In addition to focusing on the construct of sense of purpose, we have conducted this multi-study to investigate the role of specific purpose orientations. Sharma and Yukhymenko-Lescroart conceptualized purpose as people's "underlying intention behind achieving life's most important goals that, when fulfilled, might not only actualize a positive change in their own life, but also in society at large" [14, p. 2]. Recent studies have begun to explore not only the importance of having a general sense of purpose in life, but also the specific nature of life's purpose. Hill et al. described the nature and content of life's purpose as purpose orientations [32]. According to Hill et al., purpose orientations refer to the constellation of life's most important goals, which are often closely related [32]. For example, some people might have several important life goals such as helping others, serving society, or advancing systemic change that align with altruistic nature of life's purpose. Hill et al. conceptualized such constellation of life goals as pro-social purpose orientation [32].

In this multi-study, we have used the Specific Purpose Orientations Scale [33], which was validated to assess three distinct dimensions of purpose orientations: (a) others-growth orientation, defined as actualizing life's purpose through engaging in activities that can benefit others; (b) self-growth orientation, described as actualizing life's purpose through engaging in activities for one's own

betterment and personal growth; and (c) career-focused orientation, which refers to the resolve to excel in one's chosen career path and actualize career related potential. Yukhymenko-Lescroart found that college students were more likely to be academically engaged and less likely to suffer academic burnout when they had a strong sense of career-focused purpose amidst the adversities of the COVID-19 pandemic [8]. The results of the current multi-study will expand the literature on the role of general sense of purpose as well as specific purpose orientations in contributing to Ukrainian college students' flourishing and grit amidst the adversities caused by the war.

1.3. Sense of purpose and flourishing

Flourishing is a distinct dimension of social-psychological well-being that represents self-perceived success in life's important aspects of relationships, self-esteem, purpose, and optimism [12]. Research has shown a strong association between people's sense of flourishing and their levels of competence, mastery, and success in achieving various goals [12]. With regard to students' well-being-related outcomes, research has shown a close relationship between students' sense of flourishing and their reduced sense of loneliness, increased calmness, and greater positive affect [34]. In terms of achievement-related functioning, research has shown students classified as flourishing were more likely to endorse mastery-approach goals, report high self-control, and achieve high grades [35]. Scholars have therefore advocated for incorporating positive psychology and flourishing-promoting programs within educational settings [34].

Based on a comprehensive review of literature, VanderWeele explained four pathways as major determinants of flourishing: family, work, education, and religious community [36]. A vast number of studies have shown family life and experiences related to marriage, parenting, and family structure as significant determinants of people sense of flourishing and well-being [36]. Meta-analysis of various studies has also shown employment as not only a source of income and financial stability but also subjective well-being and flourishing [36]. Further, higher education has been linked with long-term happiness and life satisfaction [37]. Finally, community engagement and in particular participation in religious community is longitudinally associated with different dimensions of flourishing [38]. In relation to sense of purpose, college students with higher sense of meaningfulness experience greater flourishing [39]. Further, purpose was found as one of the strongest positive predictors of college students' psychological flourishing [40]. Studies within educational settings have further shown that people experience a greater sense of flourishing when they focus on their work from the value of fulfilling their life purpose [41].

1.4. Sense of purpose and grit

Grit is a future-oriented, motivational characteristic that involves "passion and perseverance" to achieve long-term goals [42, p. 1087]. As an intrapersonal strength, grit supports college students to maintain effort towards fulfillment of their goals [42]. The two major components of grit are: consistency of interests and perseverance of effort [42]. Research has shown that college students with stronger levels of grit report greater motivation to pursue higher education, better career performance, and persistence even when they do not see the immediate benefits of their efforts [13,42,43]. Empirical studies have also shown positive relations between grit and subjective-wellbeing [44] in addition to negative correlations with stress and depression [45].

With regard to factors that contribute to grit, research has shown hope, meaning in life, family support, and positive childhood experiences as significant predictors of grit [44,46]. In addition to similar demographic factors, childhood experiences, and cultural differences, research has shown sense of purpose as a significant predictor of grit [24,46]. By definition, both grit and purpose are intrapersonal factors that focus on future-mindedness and promote persistence towards life's long-term goals [47]. Research has also shown purpose in life as a positive contributor for students' subjective well-being and grit [47]. Indeed, purpose commitment was found as a unique and independent predictor of grit that played an even more important role than positive affect in predicting which students will become grittier over a college semester [24]. When students experience a greater sense of purpose in life, they report stronger will or grit to achieve their goals [46].

1.5. Purpose of this multi-study

In sum, previous research has demonstrated both flourishing and grit as important aspects of college students' sense of well-being and predictors of success [12,13]. This multi-study was conducted in two phases to investigate the role of purpose in flourishing and grit among Ukrainian students. The first phase focused on examining the relationship between purpose (awareness of purpose, awakening to purpose, altruistic purpose, and specific purpose orientations) and flourishing and grit during the COVID-19 pandemic. The second phase of this multi-study extended the investigation to examine these relationships in the context of the war following Russia's invasion of Ukraine on February 24th, 2022. The central research question aimed at examining the extent to which various dimensions of purpose (awakening to purpose, awareness of purpose, altruistic purpose, specific purpose orientations) explained the variance in flourishing and grit (consistency of interest, perseverance of effort). To answer this question, four statistical models were tested, as described in the data analysis section below. Based on the existing literature, we hypothesized that purpose in life and specific purpose orientations would positively and significantly contribute to both flourishing and grit. Given the novel exploration of these relationships in the context of war among Ukrainian college students, no specific hypotheses or anticipated distinctions between the findings of Study 1 and Study 2 (before and during the war) were postulated.

2. Study 1 method

2.1. Participants

The data that were analyzed in this study is a subset from a larger study conducted with full-time undergraduate and graduate students studying in a Physical Education Department. The city is located in an oblast that borders with Russia and was one of the cities heavily affected by the war in Ukraine. Specifically, by early April 2022, only approximately 30 % of the city population remained in the city; however, some citizens returned to the city once the Russians vacated the region.

Study 1 was conducted during the COVID-19 pandemic before the Russian war in Ukraine, with surveys being completed between November 24, 2021 and January 20, 2022, which corresponded to the end of the first semester. At the time of Study 1 data collection, approximately 330 students were full-time, but approximately 30 were chronically absent. A total of 300 students were invited to participate in the study. Of them, 230 students opened the link. Responses were provided by 159 participants (65.8 % male) who were, on average, approximately 19 years old ($M = 19.41$, $Mdn = 19.00$, $SD = 2.44$). This sample represented a 69.0 % response rate based on those who opened the survey and 53.0 % of those who were invited to participate.

2.2. Measures

All measures used in this study were previously developed and validated scales with items showing strong psychometric properties of validity and reliability. All scales were translated into Ukrainian for the purpose of this study. These were Likert-type scales, ranging from *strongly disagree* (1) to *strongly agree* (7) with all response options labeled.

2.2.1. Sense of life purpose and purpose orientations

Sense of life purpose was measured with two scales. Specifically, participants completed the Revised version of the Sense of Purpose Scale (SOPS-2) [30,31]. This scale was designed to assess three dimensions of life purpose: awakening to purpose (four items, e.g., “*I am awakening to my life’s ultimate goal*”), awareness of purpose (five items, e.g., “*I have a good understanding of my life’s purpose*”), and altruistic purpose (five items, e.g., “*I aspire to make a positive difference in my community*”). In addition to being used to measure three separate dimensions, this scale can also be used to measure a general presence of *sense of life purpose* [31]. Reliability estimates were reported to be: 0.87 for awakening to purpose, 0.94 for awareness of purpose, and 0.88 for altruistic purpose [30].

In addition to measuring the presence of life purpose, we assessed the specific types of purpose using the scale developed and validated by Yukhymenko-Lescroart and Sharma [33]. Specifically, this scale was designed to assess others-growth purpose orientation (four items, e.g., “*To make a positive impact on others*”), self-growth purpose orientation (four items, e.g., “*To actualize myself in one or many areas*”), and career-focused purpose orientation (four items, e.g., “*To reach for excellence in my work*”). Across three studies in Yukhymenko-Lescroart and Sharma, reliability estimates were reported to be: 0.85-0.87 for others-growth, 0.84-0.87 for self-growth, and 0.87-0.88 for career-focused purpose orientations [33]. The Ukrainian versions of these two scales, which can be accessed online, exhibited strong psychometric properties based on the description of the validation process and the results [48].

2.2.2. Flourishing

Participants completed the Flourishing Scale, which consisted of eight items (e.g., “*I am a good person and live a good life*”) measuring a single dimension [49]. The reliability estimate was reported to be 0.82 [49]. The Ukrainian version of the Flourishing Scale, which is accessible online, showed strong psychometric properties [50].

2.2.3. Grit

Participants also completed a scale measuring grit that was shown to assess the following two dimensions: consistency of interests (six items, e.g., “*I often set a goal but later choose to pursue a different one*”) and perseverance of effort (six items, e.g., “*I finish whatever I begin*”) [42]. All items of the consistency of interest subscale were negatively valenced, which were recoded prior to the analyses so that higher scores represent a greater consistency of interest. The reliability estimates were reported to be 0.75 for consistency of interests and 0.83 for perseverance of effort [42]. The Ukrainian version of the Grit Scale showed good psychometric properties and is available online [51].

2.3. Procedure

Prior to the data collection, ethical approvals were obtained according to the policies and procedures of involved institutions (protocol: #1203, status: approved, approving ethical committee: Institutional Review Board). According to the procedures and normal educational practices in Ukraine, all students were able to provide consents for their participation in this study. The surveys were administered in the participants’ native language, Ukrainian. For the purposes of this study, the translation of the scales into Ukrainian was performed by two researchers, both fluent in Ukrainian, Russian, and English, from Russian (the Flourishing Scale and the Grit scale) and English (the SOPS-2 and the Specific Purpose Orientations Scale). The translation process followed the committee approach [52], with one researcher conducting the initial translation and the other verifying the accuracy and ensuring linguistic equivalence. The survey was administered through the Qualtrics platform, the link to which was shared through Google Classrooms during online class meetings by one of the authors of this paper. Once a student completed the survey, they marked it as a completed assignment on Google Classroom. This assignment was voluntary and did not carry any point value. Only one author of this paper had

access to the data in Qualtrics, while another author had access to the Google Classroom, and the third author had access to neither. As a result, it was not possible to link the survey responses to specific individuals' identities. Overall, the survey was voluntary and fully anonymous and no information was collected that would allow linking participants with their real identities.

2.4. Data analysis

Analyses were conducted in Mplus, version 8.8 [53]. During the preliminary stage of analyses, the factorial validity of the items was investigated with confirmatory factor analyses and reliability analyses. Supplementary Material shows the diagrams with Mplus syntax for these models, which were tested using Maximum likelihood estimation method with robust to non-normality and missing at random data standard errors. The fit of the models was assessed using chi-square test as well as several fit indices, specifically the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root-mean-square-error of approximation (RMSEA), and the standardized-root-mean residual (SRMR). Traditionally, values of CFI and TLI higher than 0.90 and 0.95, values of RMSEA and SRMR of lower than 0.08 and 0.06 are interpreted as good and excellent fit [54]. However, the recommended fit indices are not always met. In small samples, for example, RMSEA tends to have higher values and, thus, less preferable [51, p. 562].

Once the factorial validity of the items was established, scores were computed for each measure by averaging their corresponding items. Then, path analyses were used to address the study purpose by testing four alternative models. Because path analysis allows for examining a set of relationships between measured variables to address questions that involves multiple regression analyses of measured variables [55, pp. 528–529], it was appropriate for addressing the study purpose. The path models were tested using Maximum Likelihood estimation method, which allowed us to use all available data to estimate the model using full information maximum likelihood. We opted to employ path models instead of structural equation modeling, as it allowed us to maintain consistent analytical procedures across both studies. The decision was influenced by the limited sample size of Study 2, which posed constraints on the application of structural equation modeling. In Model 1, the outcomes of well-being (flourishing and two dimensions of grit) were predicted by the three dimensions of sense of purpose in life (awakening to purpose, awareness of purpose, altruistic purpose). In Model 2, the outcomes of well-being were specified to be predicted by the three dimensions of specific purpose orientations (others-growth, self-growth, career-focused). Model 3 was a combination of Model 1 and Model 2 with the outcomes of well-being specified to be predicted by both the three dimensions of sense of purpose in life and the three dimensions of specific purpose orientations. Finally, in Model 4, consistent with Yukhymenko-Lescroart and Sharma [31], an overall score of *life purpose* was computed by averaging the three sense of purpose dimensions (awakening to purpose, awareness of purpose, altruistic purpose), and the outcomes of well-being were specified to be predicted by the overall life purpose and by the three specific purpose orientations dimensions. Fig. 1 illustrates the graphical representations of the tested path models, while the Supplementary Material includes both the model diagrams and the Mplus syntax. Each of the four models was a fully identified model and, thus, it had a perfect fit because all paths were estimated. Testing four alternative models allowed for a more comprehensive examination of the relationships between sense of life purpose and the outcomes of flourishing, grit: consistency of interests, and grit: perseverance of effort. No previous study

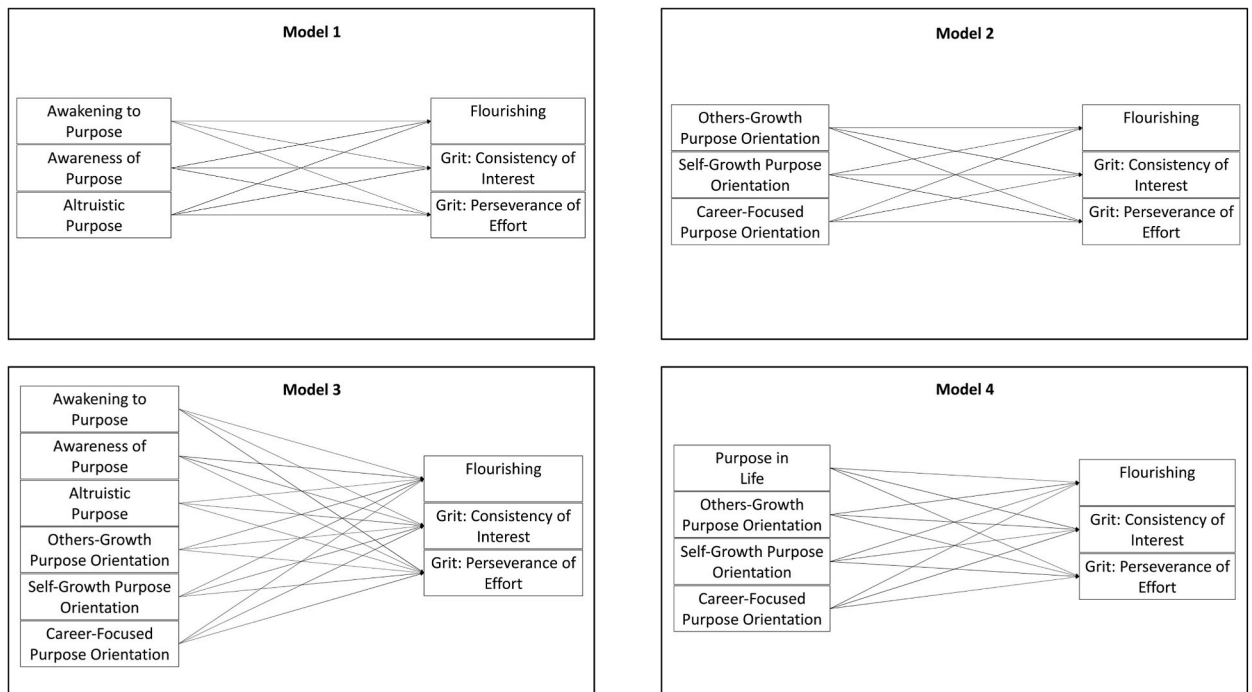


Fig. 1. The tested path models depicted graphically.

has examined the role of sense of life purpose in flourishing and grit with four alternative specifications, which can provide an important contribution to the body of literature on the role of sense of life purpose in well-being. Results are presented in standardized values of parameter estimates, as they are not influenced by scaling [56]. Standard errors (SEs), 95 % confidence intervals (CIs), and p-values are also provided.

3. Study 1 results

3.1. Preliminary analysis

Missing data on individual scale items ranged from 0 to 1.9 % in Study 1 and were assumed to be missing at random. Table 1 shows the results of a series of confirmatory factor analysis results, which were performed to check the validity of the items. In these models, items were specified to represent their respective latent factors and no modifications to the models were made unless explicitly outlined below (see Supplementary Material for the diagrams and Mplus syntax). Overall, all scales except for the one measuring grit showed a good fit to the data without any modifications. The 12 items of the grit scale, when specified as two correlated latent factors, did not show a good fit. Examination of the factor loadings and modification indices suggested the removal of two items, one from the consistency of interest dimension (“I become interested in new pursuits every few months”) and one from the perseverance of effort dimension (“I have overcome setbacks to conquer an important challenge”). The model with the remaining 10 items specified as two correlated factors showed a good model fit (see Table 1). Thus, mean scores for the two grit dimensions were computed based on the five items each. Mean scores for all other measures were based on all items.

Table 2 shows correlations among the measured variables as well as means, standard deviations, and reliability estimates. Reliability estimates ranged from 0.74 to 0.94 and were all above 0.70, suggesting high internal consistency of the measures [57, p. 676]. Additionally, reliability estimate for the second-order overall life purpose was .84. Mean values showed that participants scored above the mid-points of the response scale on all measures except for the consistency of interest dimension of grit, which suggest that participants were generally agreeing with scale items. All correlations in Study 1 were positive and in the expected directions. Flourishing and perseverance of effort were significantly correlated with all measures of life purpose; whereas the consistency of interest dimension of grit was significantly correlated only with awakening to purpose, awareness of purpose, and career-focused purpose orientation.

3.2. Main results: relationships between life purpose and well-being before the war

In the next step, four alternative path models were specified to address the study purpose and test whether flourishing and the two dimensions of grit were significantly predicted by the dimensions of life purpose and purpose orientations. Fig. 1 depicts the tested path models graphically. Table 3 show the results for the four tested models. Across the four models, Model 3 consistently explained the most variance and, thus, is the main focus of the results described below. This model considered the three dimensions of sense of purpose in life and three specific purpose orientations as predictors of flourishing, consistency of interests, and perseverance of effort. Results for Model 4, which also included all measures of purpose (overall life purpose and the three specific purpose orientations) as predictors of flourishing and grit, are also discussed below.

3.2.1. Flourishing

As shown in Table 3, the four models explained between 50.5 % and 71.2 % of the variance in flourishing, with the most variance being explained by Model 3 (see Fig. 1). In Model 3, flourishing was predicted by all three dimensions of life purpose. Specifically, awakening to purpose, $\beta = 0.39$, $SE = 0.08$, 95 % CI [0.24, 0.55], $p < .001$, and altruistic purpose, $\beta = 0.22$, $SE = 0.06$, 95 % CI [0.10, 0.33], $p < .001$, emerged as positive predictors of flourishing. Awareness of purpose, on the other hand, was a negative predictor of

Table 1
Model fit indices for confirmatory factor analysis of the measured variables.

Measurement Model	χ^2	df	CFI	TLI	RMSEA	90 % CI	SRMR
Study 1: Before the Russian war in Ukraine							
Flourishing (one factor, eight items)	28.2	20	.964	.950	.051	[0, .091]	.046
Grit (two factors, 12 items)	109.8***	53	.843	.804	.082	[.060, .104]	.087
Grit (two factors, 10 items)	49.5*	34	.946	.928	.054	[.011, .084]	.063
Sense of purpose in life: SOPS-2 (three factors, 14 items)	96.6*	74	.981	.977	.044	[.010, .067]	.055
Purpose orientations (three factors, 12 items)	109.7***	51	.929	.909	.085	[.063, .107]	.052
Study 2: During the Russian war in Ukraine							
Flourishing (one factor, eight items)	25.0	20	.977	.967	.048	[0, .101]	.044
Grit (two factors, 12 items)	90.7***	53	.874	.843	.082	[.052, .110]	.091
Grit (two factors, 10 items)	34.4	34	.998	.998	.010	[0, .071]	.056
Sense of purpose in life: SOPS-2 (three factors, 14 items)	79.5	74	.992	.990	.026	[0, .063]	.043
Purpose orientations (three factors, 12 items)	73.5*	51	.962	.950	.064	[.026, .095]	.054

Note. df = degrees of freedom. CFI = the comparative fit index; TLI = the Tucker-Lewis index; RMSEA = the root-mean-square-error of approximation; CI = confidence interval; SRMR = the standardized-root-mean residual.

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Table 2
Study 1 (before the Russian war in Ukraine): Correlations, descriptive, and reliability statistics for the measured variables.

Measures	1	2	3	4	5	6	7	8	9
1. Flourishing	–								
2. Grit: Consistency of interests	.15* [0, .31]	–							
3. Grit: Perseverance of effort	.69*** [.61, .77]	.24*** [.09, .39]	–						
4. Awakening to purpose	.59*** [.49, .69]	.25*** [.10, .39]	.45*** [.32, .57]	–					
5. Awareness of purpose	.46*** [.33, .58]	.25*** [.10, .40]	.33*** [.19, .47]	.83*** [.78, .88]	–				
6. Altruistic purpose	.58*** [.48, .68]	.05 [–.11, .20]	.34*** [.20, .48]	.39*** [.26, .52]	.38*** [.25, .51]	–			
7. Others-growth purpose orientation	.65*** [.55, .74]	.10 [–.06, .25]	.44*** [.32, .57]	.45*** [.32, .57]	.41*** [.28, .54]	.69*** [.60, .77]	–		
8. Self-growth purpose orientation	.69*** [.61, .77]	.14 [–.02, .30]	.54*** [.43, .65]	.38*** [.25, .51]	.30*** [.15, .44]	.41*** [.28, .54]	.55*** [.44, .66]	–	
9. Career-focused purpose orientation	.68*** [.60, .77]	.23** [.08, .38]	.57*** [.46, .67]	.37*** [.23, .50]	.31*** [.17, .45]	.33*** [.19, .47]	.49*** [.37, .61]	.77*** [.71, .83]	–
<i>M</i>	5.30	4.09	5.12	4.62	4.25	5.10	5.03	5.71	5.87
<i>SD</i>	0.85	1.06	1.00	1.22	1.34	0.98	1.11	1.04	1.06
Reliability estimate	.84	.74	.77	.90	.94	.86	.87	.88	.90

Note. In brackets are 95 % confidence intervals for correlation estimates. * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Table 3
Study 1 (before the Russian war in Ukraine): Standardized results for the tested models.

Measure	Model 1		Model 2		Model 3		Model 4	
	Est (SE)	95 % CI	Est (SE)	95 % CI	Est (SE)	95 % CI	Est (SE)	95 % CI
Flourishing								
Awakening to purpose	.58*** (.10)	[.39, .77]	n/a		.39*** (.08)	[.24, .55]	n/a	
Awareness of purpose	–.18 (.10)	[–.37, .02]	n/a		–.15* (.08)	[–.30, 0]	n/a	
Altruistic purpose	.42*** (.06)	[.31, .54]	n/a		.22*** (.06)	[.10, .33]	n/a	
Purpose in life (second-order)	n/a		n/a				.31*** (.06)	[.20, .42]
Others-growth purpose orientation	n/a		.35*** (.06)	[.24, .46]	.13* (.07)	[.01, .26]	.19** (.06)	[.07, .31]
Self-growth purpose orientation	n/a		.26*** (.08)	[.10, .41]	.19** (.07)	[.05, .33]	.23** (.07)	[.08, .37]
Career-focused purpose orientation	n/a		.32*** (.08)	[.17, .47]	.31*** (.07)	[.18, .44]	.29*** (.07)	[.15, .43]
Variance Explained (R²)	50.5 %		61.9 %		71.2 %		68.0 %	
Grit: Consistency of interests								
Awakening to purpose	.15 (.14)	[–.12, .43]	n/a		.11 (.15)	[–.18, .39]	n/a	
Awareness of purpose	.15 (.14)	[–.13, .42]	n/a		.15 (.14)	[–.12, .43]	n/a	
Altruistic purpose	–.06 (.09)	[–.23, .10]	n/a		–.08 (.11)	[–.30, .14]	n/a	
Purpose in life (second-order)	n/a		n/a				.24* (.10)	[.05, .42]
Others-growth purpose orientation	n/a		0 (.09)	[–.18, .19]	–.03 (.12)	[–.26, .20]	–.12 (.10)	[–.32, .09]
Self-growth purpose orientation	n/a		–.09 (.13)	[–.34, .16]	–.09 (.13)	[–.34, .17]	–.11 (.13)	[–.36, .14]
Career-focused purpose orientation	n/a		.29* (.12)	[.06, .52]	.25* (.12)	[.02, .48]	.27* (.12)	[.04, .50]
Variance Explained (R²)	7.0 %		5.2 %		10.1 %		8.8 %	
Grit: Perseverance of Effort								
Awakening to purpose	.50*** (.12)	[.27, .74]	n/a		.32** (.12)	[.10, .55]	n/a	
Awareness of purpose	–.16 (.13)	[–.41, .08]	n/a		–.12 (.11)	[–.35, .10]	n/a	
Altruistic purpose	.21** (.08)	[.06, .36]	n/a		.03 (.09)	[–.15, .20]	n/a	
Purpose in life (second-order)	n/a		n/a				.20** (.08)	[.05, .36]
Others-growth purpose orientation	n/a		.18* (.08)	[.03, .32]	.09 (.10)	[–.09, .28]	.07 (.08)	[–.09, .24]
Self-growth purpose orientation	n/a		.18 (.10)	[–.03, .38]	.15 (.10)	[–.06, .35]	.16 (.10)	[–.04, .37]
Career-focused purpose orientation	n/a		.34*** (.10)	[.15, .53]	.32*** (.10)	[.13, .51]	.32*** (.10)	[.13, .51]
Variance Explained (R²)	24.1 %		36.5 %		41.2 %		39.1 %	

Note. Est = estimate. CI = confidence interval. N/a = not applicable. * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

flourishing in Model 3, $\beta = -0.15$, $SE = 0.08$, 95 % CI [–0.30, 0], $p = .047$. Notably, while it was a negative, but weak, predictor in Model 3, it was not a significant predictor of flourishing in Model 1.

Additionally, all three specific life purpose orientations also emerged as significant and positive predictors above and beyond the three dimensions of life purpose in Model 3: career-focused purpose orientation, $\beta = 0.31$, $SE = 0.07$, 95 % CI [0.18, 0.44], $p < .001$, personal-growth purpose orientation, $\beta = 0.19$, $SE = 0.07$, 95 % CI [0.05, 0.33], $p = .008$, and others-growth purpose orientation, $\beta = 0.13$, $SE = 0.07$, 95 % CI [0.01, 0.26], $p = .042$.

3.2.2. Grit: consistency of interests

Between 5.2 % and 10.1 % of the variance were explained in consistency of interests by the four tested models. Model 3 explained the most variance: 10.1 %. In this model, only career-focused purpose orientation emerged as a significant predictor of consistency of effort, $\beta = 0.25$, $SE = 0.12$, 95 % CI [0.02, 0.48], $p = .036$ (see Table 3).

3.2.3. Grit: perseverance of effort

As shown in Table 3, between 24.1 % and 41.2 % of the variance were explained in perseverance of effort by the four tested models, with the most variance being explained by Model 3. In this model, perseverance of effort was predicted significantly and positively by awakening to purpose, $\beta = 0.32$, $SE = 0.12$, 95 % CI [0.10, 0.55], $p = .005$, but not by awareness of purpose or altruistic purpose. In terms of the specific purpose orientations, perseverance of effort was significantly predicted only by career-focused purpose orientation, $\beta = 0.32$, $SE = 0.10$, 95 % CI [0.13, 0.51], $p = .001$.

Notably, perseverance of effort was positively predicted by altruistic purpose in Model 1 and by others-growth purpose orientation in Model 2. But these dimensions of purpose were not significant in Model 3.

3.3. Summary of Results for Model 4

Similar to Model 3, Model 4 included all measures of purpose, but the three dimensions of purpose (awakening to purpose, awareness of purpose, and altruistic purpose) were specified as a second-order factor, representing an overall general sense of life purpose. Thus, this model examined whether specific purpose orientations (others-growth, self-growth, and career-focused) contributed to flourishing and grit above and beyond an overall sense of life purpose. Results from Model 4 showed that when at least one dimension of specific life purpose orientations significantly predicted an outcome of well-being, an overall sense of purpose in life also emerged as a significant and positive predictor. This was true for all outcomes (flourishing, consistency of interests, and perseverance of effort). Overall, these results provide further validity to the Study 1 findings related to the role of specific purpose orientations in well-being and highlight that life purpose may be manifested through different types of purpose.

4. Study 1 discussion

The purpose of Study 1 was to examine the role of sense of life purpose in the well-being of students in Ukraine. Overall, findings showed that having an overall sense of purpose in life was positively related to all three outcomes of well-being. These findings suggest that students with sense of direction of their life reported higher flourishing, greater consistency of interest, and stronger perseverance of effort. Additionally, career-focused purpose orientation seemed to play a special role in students' well-being. Career-focused purpose orientation was consistently the only predictor that demonstrated significant associations with all measured outcomes, thereby surpassing other purpose orientations in its predictive power. These results indicate that students who actualize their purpose in life through engagement in activities related to excelling in their chosen field of work lead more meaningful lives, are more engaged in their daily lives, are more consistent with their interests, and show more effort in achieving their life goals.

Study 1 was conducted before the Russian invasion in Ukraine; but students were experiencing the COVID-19 context. Because the context within which Study 1 was conducted changed drastically soon after its completion, we also conducted Study 2 to examine whether the identified relationships between sense of life purpose and well-being of students persisted when students were facing and experiencing the challenges of the war. Given the scholarly and philosophical assertions about the central role that purpose plays in strengthening people's ability to stay motivated to fulfill their life's ultimate purpose and persevere amidst adversities [16], we believed that the results of such a study will further inform purpose-centered approaches that could promote sense of well-being and persistence during challenging times.

5. Study 2 method

5.1. Participants

Study 2 was conducted during the Russian war in Ukraine, which started on February 24, 2022, but after the Russians left the territory and the University resumed online classes. Specifically, surveys were completed between April 11, 2022 and June 26, 2022, which corresponded to the end of the second semester. During that time, approximately 300 students were full-time (i.e., 30 master's students had graduated). Of them, approximately 30 students were chronically absent. As well, one student died as a result of the war, approximately 5 % were enlisted and fighting the Russian invasion, approximately 10 % had lost their housing due to the destruction by Russians and could not participate in the online classes, approximately 10 % did not have access to the Internet due to the war. Therefore, survey links were received by 200 students, of whom 180 opened the link but not all had the technical or physical ability to respond to the survey. Therefore, responses were provided by 107 participants (61.7 % male) who were, on average, approximately 20 years old ($M = 19.92$, $Mdn = 20.00$, $SD = 1.15$). This sample represented a 59.4 % response rate based on those who opened the survey and 53.5 % of those who were invited to participate.

Table 4
Study 2 (during the Russian war in Ukraine): Correlations, descriptive, and reliability statistics for the measured variables.

Measures	1	2	3	4	5	6	7	8	9
1. Flourishing	–								
2. Grit: Consistency of interests	.13 [-.05, .32]	–							
3. Grit: Perseverance of effort	.65*** [.55, .76]	.24** [.06, .42]	–						
4. Awakening to purpose	.54*** [.41, .68]	.18 [0, .37]	.46*** [.31, .61]	–					
5. Awareness of purpose	.40*** [.24, .56]	.20* [.02, .38]	.43*** [.27, .58]	.80*** [.73, .87]	–				
6. Altruistic purpose	.56*** [.44, .69]	.15 [-.03, .34]	.46*** [.31, .61]	.53*** [.40, .67]	.46*** [.31, .61]	–			
7. Others-growth purpose orientation	.65*** [.55, .76]	.15 [-.04, .33]	.43*** [.28, .59]	.40*** [.24, .56]	.30*** [.13, .48]	.65*** [.54, .76]	–		
8. Self-growth purpose orientation	.60*** [.48, .72]	.12 [-.07, .30]	.52*** [.38, .66]	.32*** [.15, .49]	.21* [.02, .39]	.49*** [.35, .64]	.60*** [.48, .72]	–	
9. Career-focused purpose orientation	.62*** [.51, .74]	.20* [.02, .38]	.58*** [.46, .71]	.29*** [.12, .46]	.20* [.02, .38]	.55*** [.41, .68]	.51*** [.37, .65]	.78*** [.71, .85]	–
<i>M</i>	5.33	3.82	5.11	4.51	4.22	5.24	5.21	5.67	5.76
<i>SD</i>	0.90	1.07	1.08	1.26	1.42	1.10	1.09	0.98	1.18
Reliability estimate	.87	.71	.81	.88	.93	.87	.87	.84	.93

Note. In brackets are 95 % confidence intervals for correlation estimates. * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

5.2. Measures

Participants completed the same measures as in Study 1.

5.3. Procedure

The survey and the procedures were the same across the two studies. The samples in Study 1 and Study 2 were not independent; however, because the survey was fully anonymous, it was not possible to link participants' responses.

5.4. Data analysis

Analyses were the same as in Study 1.

6. Study 2 results

6.1. Preliminary analysis

Missing data on individual scale items ranged from 0 to 2.8 % in Study 2 and were assumed to be missing at random. The results of a series of confirmatory factor analysis are summarized in Table 1. These models were consistent with models tested in Study 1 and are depicted graphically in Supplementary Material along with Mplus syntax. Consistent with results in Study 1, all scales except for grit showed a good fit without modifications. A two-factor model with 12 grit items showed a poor model fit; but when the same items were removed as in Study 1, the model fit was good (see Table 1). Thus, similarly to Study 1, mean scores for the two grit dimensions were computed based on the five items each.

Table 4 shows correlation, descriptive, and reliability statistics. Reliability estimates ranged from 0.71 to 0.93, indicating a high internal consistency of the measures ([57], p. 676). Additionally, reliability estimate for the second-order overall life purpose was .88. Participants scored above the mid-points of the response scale on all measures except for consistency of interests. All correlations were positive and in the expected directions. Flourishing and perseverance of effort were significantly correlated with all dimensions of life purpose; whereas the consistency of interest dimension of grit was significantly correlated only with awareness of purpose and career-focused purpose orientation.

6.2. Main results: relationships between life purpose and well-being during the war

Similar to Study 1, four path models were tested. Table 5 shows the results for the tested models. Similar to Study 1 results, Model 3 consistently explained the most variance compared to all other tested models. Specifically, 61.6 % of the variance in flourishing, 7.7 % in consistency of interests, and 45.5 % in perseverance of effort were explained by the dimensions of life purpose and specific purpose orientations.

Table 5
Study 2 (during the Russian war in Ukraine): Standardized results for the tested models.

Measure	Model 1		Model 2		Model 3		Model 4	
	Est (SE)	95 % CI	Est (SE)	95 % CI	Est (SE)	95 % CI	Est (SE)	95 % CI
Flourishing								
Awakening to purpose	.43*** (.13)	[.18, .68]	n/a		.33** (.11)	[.13, .54]	n/a	
Awareness of purpose	-.12 (.13)	[-.37, .12]	n/a		-.03 (.10)	[-.23, .16]	n/a	
Altruistic purpose	.39*** (.08)	[.23, .56]	n/a		-.03 (.09)	[-.21, .15]	n/a	
Purpose in life (second-order)	n/a		n/a				.27*** (.07)	[.13, .41]
Others-growth purpose orientation	n/a		.44*** (.08)	[.28, .59]	.36*** (.09)		.32*** (.08)	[.16, .48]
Self-growth purpose orientation	n/a		.06 (.11)	[-.16, .28]	.03 (.10)		.06 (.11)	[-.15, .27]
Career-focused purpose orientation	n/a		.36*** (.10)	[.15, .56]	.35*** (.10)		.31** (.10)	[.12, .50]
Variance Explained (R²)	40.4 %		54.2 %		61.6 %		59.5 %	
Grit: Consistency of interests								
Awakening to purpose	.03 (.17)	[-.29, .36]	n/a		.03 (.17)	[-.30, .35]	n/a	
Awareness of purpose	.14 (.16)	[-.17, .45]	n/a		.16 (.16)	[-.15, .46]	n/a	
Altruistic purpose	.07 (.11)	[-.15, .29]	n/a		-.06 (.14)	[-.34, .22]	n/a	
Purpose in life (second-order)	n/a		n/a				.15 (.11)	[-.06, .37]
Others-growth purpose orientation	n/a		.11 (.12)	[-.13, .34]	.09 (.14)	[-.18, .35]	.04 (.13)	[-.21, .29]
Self-growth purpose orientation	n/a		-.16 (.16)	[-.48, .16]	-.17 (.16)	[-.48, .15]	-.16 (.16)	[-.47, .16]
Career-focused purpose orientation	n/a		.27 (.15)	[-.02, .56]	.28 (.15)	[-.02, .58]	.25 (.15)	[-.05, .54]
Variance Explained (R²)	4.4 %		5.2 %		7.7 %		6.9 %	
Grit: Perseverance of Effort								
Awakening to purpose	.20 (.14)	[-.08, .48]	n/a		.13 (.13)	[-.12, .37]	n/a	
Awareness of purpose	.14 (.14)	[-.13, .40]	n/a		.22 (.12)	[-.02, .45]	n/a	
Altruistic purpose	.29** (.09)	[.11, .48]	n/a		-.02 (.11)	[-.23, .20]	n/a	
Purpose in life (second-order)	n/a		n/a				.33*** (.08)	[.17, .50]
Others-growth purpose orientation	n/a		.16 (.10)	[-.03, .35]	.07 (.10)	[-.14, .27]	.02 (.10)	[-.17, .21]
Self-growth purpose orientation	n/a		.09 (.13)	[-.17, .35]	.09 (.12)	[-.16, .33]	.10 (.12)	[-.15, .34]
Career-focused purpose orientation	n/a		.43*** (.12)	[.20, .66]	.41*** (.12)	[.18, .64]	.37*** (.11)	[.15, .59]
Variance Explained (R²)	28.4 %		36.6 %		45.5 %		44.7 %	

Note. Est = estimate. CI = confidence interval. n/a = not applicable. * $p < .05$, ** $p < .01$, *** $p < .001$.

6.2.1. Flourishing

As shown in Table 5, between 40.4 % and 61.6 % of the variance in flourishing was explained by the four models, with the most variance being explained by Model 3. In this model, flourishing was predicted by the awakening to purpose dimension of life purpose, $\beta = 0.33$, $SE = 0.11$, 95 % CI [0.13, 0.54], $p = .002$, which was aligned with Study 1. In contrast to Study 1, awareness of purpose and altruistic purpose were not significant predictors of flourishing. In terms of the specific purpose orientations, both career-focused, $\beta = 0.35$, $SE = 0.10$, 95 % CI [0.15, 0.54], $p = .001$, and others-growth, $\beta = 0.36$, $SE = 0.09$, 95 % CI [0.19, 0.53], $p < .001$, purpose orientations were significant and positive predictors of flourishing, which was consistent with Study 1. Yet, in contrast to Study 1, self-growth purpose orientation was not a significant predictor of flourishing.

Notably, flourishing was significantly and positively predicted by altruistic purpose in Model 1 (which was also consistent with Study 1), but altruistic purpose was no longer significant once specific purpose orientations were also tested in Model 3.

6.2.2. Grit: consistency of interests

Between 4.4 % and 7.7 % of the variance in consistency of interests was explained in the four tested models. Yet, consistency of interests was not predicted significantly by the dimensions of life purpose and specific purpose orientations (see Table 5). In Study 1, however, career-focused purpose orientation was a significant positive predictor of consistency of interests. These results suggest that sense of life purpose is generally not related to consistency of interests during the war.

6.2.3. Grit: perseverance of effort

As shown in Table 3, between 28.4 % and 45.5 % of the variance was explained in perseverance of effort, with Model 3 explaining the most variance compared to the other three models. Specifically, in Model 3, perseverance of effort was significantly predicted only by career-focused purpose orientation, $\beta = 0.41$, $SE = 0.12$, 95 % CI [0.18, 0.64], $p < .001$ (see Table 5). In Study 1, perseverance of effort was predicted by both career-focused purpose orientation and awakening to purpose.

Similar to results from Study 1, perseverance of effort was significantly and positively predicted by altruistic purpose in Model 1, but it was no longer a significant predictor in Model 3, in which specific purpose orientations were also added.

6.3. Summary of results for Model 4

Similar to Study 1 results, Model 4 showed that when at least one dimension of specific life purpose orientations significantly predicted an outcome of well-being, it was also significantly and positively predicted by the overall sense of purpose in life. This was true for flourishing and perseverance of effort (see Table 5); whereas all three outcomes were predicted significantly by the overall

sense of purpose in life in Study 1. These results generally provided further validity to the specific purpose orientations and Study 2 findings overall.

7. Study 2 discussion

The purpose of Study 2 was to examine the role of sense of life purpose in the well-being of students in Ukraine after the start of the Russian war in Ukraine. Findings in Study 2 showed that sense of life purpose was positively connected with two dimensions of well-being: flourishing and perseverance of effort. These findings indicated that students with a sense of direction of their life are more engaged in their daily lives and show more effort in achieving their life goals. Similar to Study 1's findings, above and beyond the general sense of purpose in life, career-focused purpose orientation played a salient role in students' well-being during the war. Students who connected their life purpose with achieving success in their future careers reported greater levels of flourishing and perseverance of efforts even in the context of the war. Additionally, others-growth purpose orientation was as strong of a predictor of flourishing as career-focused purpose orientation. These findings suggest that students who aimed to enrich the lives of others also perceived having more supporting and rewarding social relationships, feeling more competent in the important to them activities, and leading more meaningful lives overall. Notably, sense of awareness of purpose was not related to consistency of interests during the war. This is likely because the war caused students to deeply reflect and reconsider their core life values and that their immediate goals changed from various pursuits to staying safe and alive during the war.

8. General discussion

We conducted this multi-study to investigate the role of life purpose in predicting flourishing and grit among Ukrainian college students before (Study 1) and during (Study 2) the Russian war in Ukraine. A unique contribution of these studies lies in not only examining the role of general awareness of purpose in life but also the process of awakening to purpose, altruistic purpose, and specific purpose orientations (career, others-growth, and self-growth focused) through using the Revised Sense of Purpose Scale (SOPS-2) [30, 31] and the Specific Purpose Orientations Scale [33].

Overall, these studies have shown that life purpose played a significant role in contributing to Ukrainian students' flourishing and grit – both before and amidst the Russian war during 2021-22 academic year. This finding affirms the value of life purpose in contributing to students' psychological flourishing [40] and also helping them in developing stronger grit over a college semester [24] and the will to continue to achieve their goals [46].

With regard to the three dimensions of sense of purpose: awareness of purpose, awakening to purpose, and altruistic purpose [30, 31], Study 1 demonstrated awakening to purpose and altruistic purpose as significant, positive predictors of Ukrainian students' sense of flourishing and grit. Further, Study 2 showed that even amidst the Russian war, Ukrainian students who continued to engage in the process of awakening to their purpose, reported a stronger sense of flourishing and grit. Yet, general awareness of purpose did not emerge as a significant predictor of flourishing. These results imply that for Ukrainian students during the Russian war, the process of actively reflecting upon and engaging with their life's purpose played a much more significant and positive role in contributing to their well-being than their current level of awareness of purpose in life. This finding aligns with a recent study that showed awakening to purpose as a significant and positive predictor of resilience among college students during the COVID-19 pandemic [6]. These findings suggest the importance of assessing and further strengthening students' experiences around actively exploring and engaging with their life's purpose instead of only feeling confident about the extent to which they feel clear about their purpose.

Additionally, students with altruistic purpose reported greater sense of flourishing. This close relationships between altruistic purpose and flourishing might be because both of them represent key aspects of well-being that provide a forward-momentum to advance a positive change within their own and others' lives [14,20] and also inspire enduring and meaningful efforts to achieve long-term hopes [58]. This finding further supports existential philosophers' assertions that when people are able to transcend their current sufferings and awaken to how they can use their life to contribute to others' well-being, they are able to persevere on their life's chosen path and transform adversity into deeper sense of meaning [11,16].

Finally, all specific purpose orientations (others-growth, self-growth, and career-focused) positively predicted flourishing. Additionally, in both Studies 1 and 2, career-focused purpose orientation predicted Ukrainian students' flourishing and grit (specifically, perseverance of effort) above and beyond the overall sense of life purpose. Previous research has shown that students who perceived their life purpose within the context of fulfilling their career goals reported greater persistence [22]. Thereby, research is suggesting the close relationship between students' career identity and life's purpose [59] as well as reaffirming the importance of engaging in purpose-centered career interventions such as career construction sessions [60]. Such sessions could help students articulate how they can use their life's struggles to construct a future career with a deeper sense of purpose.

8.1. Practical implications

The Russian war in Ukraine has caused unprecedented suffering among Ukrainian citizens, including college students. During the times of unprecedented adversity, it is important to make dedicated efforts that can support those who are suffering to continue to believe in their life's potential and to experience inner well-being [11]. Several philosophers and scholars have emphasized the critical role of life purpose in strengthening people's well-being, mental health, healthy coping, motivation, ability to persevere and inner-strength to not give up [6,15,21,24]. The results of this multi-study have further shown life purpose as a significant predictor of college students' flourishing and grit during the times of deep adversity, which includes global pandemic and war. Therefore, the

practical implications of this multi-study lie in advancing purpose-centered pedagogical and wellness approaches that could promote students' well-being and persistence amidst hardships.

Within educational settings, educators and counselors could implement various purpose-centered interventions that can help students to actively reflect upon, clarify, and fulfill goals towards accomplishing their life's purpose. Several scholars, such as Vaccaro et al. [7], have emphasized the importance of supporting college students to imagine, explore, and integrate their educational experiences, personal values, and passions into their evolving sense of self and purpose. Recently, specific learning activities have been identified to effectively engage students in purpose-centered pedagogical practices [14]. These processes include exploration, engagement, reflection, articulation, and actualization. For instance, in relation to the phase of exploration, reflection prompts can help students to reflect upon their life experiences, cultural values, and community aspirations that influence their sense of meaning and purpose in life [14]. By incorporating these activities into educational settings, students can actively explore and connect with their sense of purpose, leading to a more meaningful and fulfilling learning experience.

The findings of this multi-study have further shown the value of life purpose even amidst the adverse circumstances caused by war. Although, there is a lack of research on the nature and effectiveness of purpose-centered interventions amidst adversities caused by war, college educators and counselors could perhaps utilize Frankl's approaches to help students to continue to strengthen their sense of purpose [5]. In a recent study with Iranian students who were dealing with depression, Robatlili et al. [61] showed the effectiveness of group logotherapy [16] to help students in transcending current suffering and striving to live a life of deeper purpose and meaning. Robatlili et al. specifically engaged students in the process of clarifying their values, setting goals, identifying assets and deficits that would affect achieving these goals, and making intentional efforts to live in accord with their life's most important goals and values [61].

The present multi-study also highlighted the unique and significant role of career-focused purpose orientation in predicting college students' flourishing and grit – above and beyond general sense of purpose in life before and during the war. Thereby, suggesting the importance of helping students in setting educational and/or career goals that resonate with their life's purpose [14]. To support students to not give up on their future vision and career aspirations, college educators could also engage in encouragement-based mentoring sessions to impart hope and courage in students' hearts to continue to believe in their life's purpose and future possibilities.

8.2. Limitations and future directions

These two studies are not without limitations, which are important to acknowledge. First and foremost, while utilizing path analysis, this multi-study was based on cross-sectional data; therefore, no causal inferences may be concluded based on the results of these studies. Nevertheless, the directions of tested relationships in the path models were consistent with reviewed literature. Future studies should test identified relationships using longitudinal as well as experimental designs. However, given the current context of the war, it may be challenging to implement such designs in practice. The second limitation is the relatively small samples sizes, especially in Study 2, which was conducted after the Russian invasion of Ukraine. Because we sought to apply the same analytical approach consistently across the two studies, the relatively small sample size in Study 2 prevented being able to test the relationships through structural equation modeling, which is a superior analytical approach to the path analysis used in this multi-study. Further, there are several considerations related to representativeness of the sample and generalizability of results. For example, the sample included only those participants who had access to the Internet; thus, potentially omitting those who were most severely affected by the war.

Additionally, there has been great variability in the extent to which different territories in Ukraine were affected, and destroyed, by the time of Study 2 data collection. Therefore, the results obtained from Study 2 may not be generalizable to all young men and women in Ukraine. Because of the online instructional modality of the courses, some participants in Study 2 were no longer physically located in their home city, especially women who fled the war; thus, their responses to questions about their sense of purpose, flourishing, and grit might be qualitatively different from those who remained in Ukraine and continued to experience firsthand the devastating effect of the war. While we did not ask participants about where they were located in the survey and these values still dynamically change, based on information from the faculty member and one of the authors of this paper, at the time of Study 2, up to 40 % of the students left the city due to the acute phase of the war: approximately 25 % relocated to other cities in Ukraine and 15 % (mostly female students) related abroad. We were not able to address these limitations due to the procedures and to ensure anonymity of the participants.

Ultimately, this is the first effort that focused on the role of sense of life purpose in well-being of people who were experiencing a humanitarian crisis, such as the Russian war in Ukraine. A unique contribution of this multi-study lies in showing that awakening to purpose, altruistic purpose, and career-focused purpose orientation played a significant and positive role in predicting students' flourishing and grit – above and beyond their general awareness of purpose in life. Hence, future research should consider incorporating the instruments that assess specific purpose orientations and the role of actively engaging with one's purpose instead of only assessing the extent to which people are currently aware of their purpose in life. Future studies should further examine the relationships between purpose, flourishing, grit, and other such strengths-based aspects of well-being using more diverse samples of participants, including students from other departments as well as adult population. Finally, future studies should also employ qualitative approaches to examine in greater details the role that sense of life purpose plays in well-being of different subgroups of Ukrainians (e.g., those who remained in their home cities, moved within Ukraine, temporarily relocated outside of Ukraine).

8.3. Conclusions

Overall, the present multi-study is one of the first studies that investigated the role of current awareness of purpose, active engagement with purpose, altruistic purpose and specific purpose orientations in predicting flourishing and grit among college students who are dealing with adversities caused by war. The results of this multi-study that was conducted before and during the Russian war in Ukraine, has shown that students with stronger life purpose reported higher sense of flourishing and grit. Specifically, in contrast to having a general awareness of purpose, students who actively engaged in the process of discovering and fulfilling their life's purpose reported stronger sense of flourishing and scored higher on both dimensions of grit: greater consistency of interest and stronger perseverance of effort. Thereby, suggesting the importance of not only focusing on the extent to which students are currently aware of their purpose in life, but also helping students to actively reflect upon and engage with their life's purpose even amidst adversities. Additionally, students with altruistic purpose and others-growth focused purpose orientation reported greater sense of flourishing. Also, career-focused purpose orientation emerged as a significant and positive predictor of students' flourishing and grit – above and beyond the overall sense of life purpose. It is therefore, important to engage in purpose-centered approaches that can support students to explore the specific nature of their purpose in life and in particular, the relationship between their career aspirations and life's purpose.

Ethics declarations

This study was reviewed and approved by the Committee for the Protection of Human Subjects (CPHS) at California State University, Fresno, with the approval number: 1203. All participants provided informed consent to participate in the study.

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Data availability statement

The authors do not have permission to share data.

CRediT authorship contribution statement

Mariya Yukhymenko-Lescroart: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Visualization, Writing – original draft, Writing – review & editing. **Gitima Sharma:** Investigation, Writing – original draft, Writing – review & editing. **Olena Voiedilova:** Conceptualization, Data curation, Investigation, Resources, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2023.e21456>.

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