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Eudainomic and hedonic orientations in Physical Education and their relation with motivation and wellness

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Two main ways in which people seek fulfillment are through hedonia (seeking pleasure, comfort) and eudaimonia (seeking growth, excellence, virtue). Past research on hedonic and eudaimonic orientations has largely focused on these constructs as traits, rather than their pursuit within specific life contexts, and much of the research has been in North American contexts. In this research, we translated the HEMA, a measure of these orientations (Huta & Ryan, 2010), into Persian, inquiring about hedonic and eudaimonic orientations in the physical education (PE) domain and their links with both well-being and motivation within an Iranian sample. EFA and CFA of the Persian Physical Education HEMA indicated three factors: eudaimonic, hedonic pleasure, and hedonic comfort orientations. In the PE context we found that eudaimonia related to more life satisfaction, meaning and vitality, whereas hedonia (both subscales) related to carefreeness and elevation, but also to higher negative affect. Eudaimonic orientation for PE was linked with intrinsic and identified motivation but also with introjection; both hedonia subscales were linked with external regulation. Findings suggest that a eudaimonic orientation may better fit with PE as offered, rather than a hedonic focus.

KEY WORDS: Eudaimonia; Hedonism; Well-being; Self-determination theory; Physical education.

Introduction

There is growing empirical interest in the ways that people seek fulfillment (e.g., Huta & Ryan, 2010; Peterson, Park, & Seligman, 2005; Vittersø, Søholt,

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Hetland, Thoresen, & Røysamb, 2010; Waterman, 1993). Among approaches to fulfillment are two commonly discussed types: hedonic pursuits and eudaimonic pursuits (Huta & Waterman, 2014; Keyes & Annas, 2009; Ryan & Deci, 2001; Ryff, 1989; Waterman, 1993). The hedonic approach, first explicitly espoused by Greek philosophers such as Aristippus, consists of maximizing subjective happiness, enjoyment, and pleasure, and minimizing subjective discomfort, strain, and pain (Huta & Waterman, 2014; Kahneman, Diener, & Schwarz, 1999). The eudaimonic approach, associated primarily with Aristotle (350 BCE/1985) involves the pursuit of growth, excellence, and virtue(Huta, 2013, 2015; Ryan, Curren, & Deci, 2013; Waterman, 1993). In the eudaimonic view, the aim of life is not just to seek pleasant feelings but rather to develop one's capacities and do one's best (Ryan & Martela, 2016).

To date people's orientations toward eudaimonia or hedonia have generally been explored as general traits, crossing domains of activity. In this study, we look at how these orientations might apply within the specific domain of Physical Education (PE). In part our interest here is that the pursuit of excellence and growth (eudaimonia) as well as the pursuit of pleasure (hedonia) may relate to both common and distinct outcomes in the PE context.

1.1. Defining Hedonia and Eudaimonia as Orientations

Huta and Waterman (2014) reviewed the hedonic and eudaimonic concepts as studied by different researchers, and classified them into four definition categories, Orientations, Behaviors, Experiences, and Functioning. Huta (2015) suggested that hedonia and eudaimonia are often more empirically distinct when assessed as orientations rather than experiences. She also highlighted that when studied as orientations, hedonia and eudiamonia reflect people's chosen ways of living, and thus represent variables over which they have some control. This approach also concurs with the position of self-determination theory (Ryan & Deci, 2017) which views eudaimonia, not as an affective outcome, but rather as a way of living well that typically yields positive affective consequences (see Ryan et al., 2013; Ryan, Huta, & Deci, 2008). Here we look at how these orientations within the specific context of PE, and their relations with motivation and affective outcomes.

Measuring Hedonic And Eudaimonic Orientations

To assess hedonic and eudaimonic orientations, we adapted Huta and Ryan (2010) HEMA (Hedonic and Eudaimonic Motives for Activities) mea-

sure for the PE context. Factor analyses of the trait-level HEMA have typically produced two factors, representing hedonia and eudaimonia (Ani , 2014; Huta, 2016; Huta & Ryan, 2010). However, Braaten, Huta, and Thompson (2017) recently identified a three factor solution in which hedonia is separated into two factors– *hedonic pleasure orientation* (seeking pleasure, enjoyment, and fun), and *hedonic comfort orientation* (seeking relaxation, and seeking to take it easy). Similar solutions have appeared on translated versions of the HEMA (e.g., Asano, Igarashi, & Tsukamoto, 2014 - Japanese; Bujacz, Vittersø, Huta, & Kaczmarek, 2014 - Polish and English versions). Because of their potential relevance to PE we assess for these two types of hedonia in the current study.

1.2. HEMA Orientations in the Physical Education Domain

Although most studies with the HEMA have focused on orientations in general (i.e., across life domains) (e.g., Huta, Pelletier, Baxter, & Thompson, 2012; Huta & Ryan, 2010; Ton i & Ani , 2015), several studies have adapted the HEMA to specific domains, including leisure time physical activities (Mack et al., 2011), health enhancing physical activities (Ferguson, Kowalski, Mack, Wilson, & Crocker, 2012), favorite leisure activity (Ani , 2014), and the workplace (Ramirez, 2013). To date, no study has specifically examined hedonic and eudaimonic motives in physical education (PE). Our focus is on motivation for a PE course in a sample of Iranian university students. In Iran PE is a mandatory element of university studies, and the course's mandate is similar to that of North American high school classes in PE – to promote physical, social, emotional, and lifestyle health through not only physical activities but also conceptual learning (Wuest & Bucher, 1999).

Research has shown that PE can yield benefits in enhancing health and well-being in college and high school students (e.g., Behzadnia, Ahmadi, & Amani, 2017; Behzadnia, Mohammadzade, Farokhi, & Ghasemnejad, 2014; Ntoumanis, 2001; Standage, Gillison, Ntoumanis, & Treasure, 2012). Much of the previous research in PE has focused on how PE contexts influence people's intrinsic motivation (vs. extrinsic) and adaptive (vs. maladaptive) behaviors in PE (Aelterman et al., 2012; De Meyer et al., 2016; Haerens, Aelterman, Vansteenkiste, Soenens, & Van Petegem, 2015). Less examined have been the goals and orientations students themselves bring to the setting. Here we approach this through the lens of hedonic and eudaimonic orientations toward PE. That is, we expected that in the PE domain, hedonic pleasure orientation can be distinguished from hedonic

comfort orientation (see 2.4. *Explanatory and Confirmatory Analyses of the HEMA*).

Correlations between HEMA hedonia and HEMA eudaimonia have varied widely, depending on the life domain and time frame studied (Huta, 2016). The correlation is around +.3 at the trait level but -.3 at the momentary state level (Huta, 2012; Huta et al., 2012; Huta & Ryan, 2010). When examining separate life domains, the correlation between hedonia and eudaimonia has ranged from about +.3 (during social activities, reading, music/media, and outdoor activities) to +.7 (during artistic activities and sports/physical activities) (Ani , 2014; Ferguson et al., 2012; Mack et al., 2011). In HEMA studies with a three-factor solution, the correlation between hedonic pleasure and hedonic comfort has averaged around .7, between eudaimonic and hedonic pleasure it has averaged .5, and between eudaimonic and hedonic comfort it has averaged .2 (Asano et al., 2014; Braaten et al., 2017; Bujacz et al., 2014).

Given the past findings that hedonic and eudaimonic orientation were positively correlated during sports and physical activities, and given our expectation that a comfort orientation would be the "odd one out" and a pleasure orientation would be "interesting and entertaining" we predicted:

Hypothesis 1. *In the PE domain, eudaimonic orientation will be moderately correlation with hedonic pleasure orientation, but not with hedonic comfort orientation.*

Hedonic And Eudaimonic Orientations And Well-Being

Trait/state-level hedonic orientations versus eudaimonic orientations have been linked to somewhat different sets of well-being experiences. Research with the HEMA has shown that hedonia has been more related to carefreeness, state satisfaction, and positive affect and low negative affect; eudaimonia has been related to feelings of meaning (significance, value, broad implications, purpose), elevation (awe, moral elevation, inspiration, sense of connection with a greater whole), self-connectedness/mindfulness of one's values, interest/engagement, and feelings of accomplishment; and both orientations have been related similarly to life satisfaction, vitality, and self-esteem (see also Henderson, Knight, & Richardson, 2013; Huta, 2012, 2016; Huta et al., 2012; Huta & Ryan, 2010; Ton i & Ani , 2015). When hedonic pleasure and hedonic comfort were distinguished, only hedonic pleasure correlated with positive affect, life satisfaction, and self-esteem, and both hedonic pleasure and hedonic comfort have correlated with calmness (Asano et al., 2014).

When adapting the HEMA to the domain of health-enhancing physical activities, Ferguson et al. (2012) found that experiencing eudaimonic and hedonic orientations via health-enhancing physical activity was positively related to psychological well-being (i.e., autonomy, positive relations with others, environmental mastery, personal growth, self-acceptance and purpose in life). When adapting the HEMA to the domain of university education in general, Braaten et al. (2017) found that a composite of various well-being experiences was strongly related to eudaimonic orientation, weakly related to hedonic pleasure orientation, and unrelated to hedonic comfort orientation.

In this investigation we examine the links of hedonic and eudaimonic orientations for PE with a set of well-being experiences studied by Huta and Ryan (2010): carefreeness, positive affect, negative affect, meaning, elevation, life satisfaction, vitality, and self-esteem. We expected the effort and learning required in the PE domain to be most compatible with a eudaimonic orientation, somewhat compatible with a hedonic pleasure orientation, and incompatible with a hedonic comfort orientation. We therefore predicted:

> **Hypothesis 2**. *In PE, eudaimonic orientation will relate to positive affect, negative affect, meaning, elevation, life satisfaction, vitality, and self-esteem. Hedonic pleasure orientation will also relate to positive affect, life satisfaction and carefreeness, but less consistently than eudaimonic orientation. Finally, hedonic comfort orientation in PE would have negative or null relationships with well-being experiences in PE, but would relate to carefreeness.*

Hedonic and Eudaimonic Orientations Combine in Their Relations to Well-being

A handful of studies have examined the combination of eudaimonic and hedonic orientations in relation to well-being. Peterson et al. (2005) using their *Orientations Toward Happiness* (Cothran et al.) scale showed that the highest life satisfaction was reported by people oriented toward both hedonia and eudaimonia (as well as engagement) – which they called "the *full life*" – as compared with people who had only one orientation or who had an "*empty life*" devoid of any of these pursuits. Ani and Ton i (2013), also using the OTH, showed that the *full life* (i.e., scoring high on both hedonia and eudaimonia/engagement) was related to higher life satisfaction and positive affect than the *primarily hedonic life* (high on hedonia and low on eudaimonia), the *primarily eudaimonic life* (high on eudaimonia and low on hedonia) or the *empty life*. Huta and Ryan (2010), using the HEMA, found that the *full life* (scoring high on eduaimonia and hedonia) was related to greater life sat-

isfaction, positive affect, meaning, elevation, and vitality than the *primarily hedonic life*; the *full life* was also related to greater positive affect and carefreeness than the *primarily eudaimonic life*; and the *full life* was related to greater life satisfaction, positive affect, meaning, elevation, vitality, and carefreeness than the *empty life*.

In this project, we aimed to compare the *full life*, the *primarily hedonic life*, the *primarily eudaimonic life*, and the *empty life* in the PE domain. Given our expectation that eudaimonic orientation would be strongly adaptive in the domain of PE, hedonic pleasure orientation would be modestly adaptive, and hedonic comfort orientation would not be adaptive, we predicted:

> **Hypothesis 3**. *In PE, people with an empty life profile (i.e., low on all three orientation) will report lower well-being than those with more either primarily eudaimonic or full life orientation profiles. The primarily hedonic life will also not confer benefits beyond the benefits of the primarily eudaimonic life or full life.*

Autonomous And Controlled Motivation: Self-Determination Theory

Based on self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2017), people's well-being is predicted via their motivations towards activities which they pursue so it is also necessary to explore people's motivation, and the effects that result from hedonic and eudaimonic orientations. SDT particularly emphasizes the importance across both cultures and domains of intrinsic motivation and autonomous self-regulation for full functioning (e.g., Chirkov & Ryan, 2001; Ryan & Deci, 2017).

SDT (Deci & Ryan, 2000; Ryan & Deci, 2017) posits that it is not enough to measure a person's overall degree of motivation, it is essential to also measure their type of motivation. The theory defines a spectrum of different types of motives, ranging from more autonomous to more controlled (Ryan & Connell, 1989). On the autonomous end, *intrinsic motivation* refers to participating in an activity for genuine personal interest and enjoyment. Also autonomous is *identification*, which refers to personally valuing the activity. On the controlled end, *introjection* refers to being motivated by internal pressures such as guilt, shame, anxiety, or ego-involvement. *External regulation* is the form of controlled motivation that refers to acting from external pressures, such as rewards, punishments, or expectations imposed by others. SDT also describes *amotivation* as the absence of any motivation, either from a belief that the activity is not worth doing, or because one feels unable to do it. Finally, SDT posits that people are more likely to experience autonomous

forms of motivation in contexts where they can experience satisfaction of three psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 2000).

Previous research showed that autonomous motivation is related to various positive outcomes, such as enjoyment (Behzadnia & Deci, 2017; Ryan & Connell, 1989; Vallerand, Blais, Brière, & Pelletier, 1989), engagement (Aelterman et al., 2012), effort (Ryan & Connell, 1989; Taylor, Ntoumanis, Standage, & Spray, 2010), and participation in physical activities (Behzadnia & Deci, 2017; Haerens, Kirk, Cardon, De Bourdeaudhuij, & Vansteenkiste, 2010; Keshtidar & Behzadnia, 2017). Controlled motivation has been related to various negative outcomes, such as anxiety (Ryan & Connell, 1989) and unhappiness (Standage, Duda, & Pensgaard, 2005) and low self-esteem (Quested & Duda, 2011). A similar pattern of findings has been obtained specifically in sports. Gagne, Ryan, and Bargmann (2003) studied gymnasts, and showed that intrinsic motivation related to positive affect and low negative affect; amotivation related to negative affect and low positive affect.

Few studies have examined how variables from SDT relate to hedonic and eudaimonic orientations. In unpublished research, trait-level HEMA eudaimonia has been associated with intrinsic, identified, and introjected motives, and with the satisfaction of competence; hedonia has been more associated with amotivation (see Huta, 2013, 2016). In contrast, Mack et al. (2011) studied individuals with osteopenia and found that HEMA hedonic and eudaimonic orientations for physical activity were similarly related to autonomy, competence, and relatedness satisfactions during leisure-time physical activity.

In this paper, we examine the relations between orientations and motivations in the PE domain. In past research, eudaimonia was the orientation more related to intrinsic/autonomous variables, though eudaimonia has also been related to introjection. In PE, we expected a similar pattern of results: eudaimonia involves a desire to learn and improve and thus should be associated with intrinsically motivated interest for an activity like PE, eudaimonia is conceptually related to identified motivation because it is built on personal values, and high personal standards can sometimes spill into introjected pressures, as people may pressure themselves to excel. Though hedonic pleasure and hedonic comfort orientations have not been studied separately in relation to SDT variables, it would be reasonable to expect hedonic comfort orientation to be associated with *amotivation*, especially in the context of PE where a desire for ease is in conflict with the requirements of effort and learning. A focus on hedonic pleasure, on the other hand, is conceptually related to *intrinsic motivation* (i.e., enjoyment and interest), but may also be related

to *introjection* because of the strong focus on ego-related concerns (Pearce, Huta, & Voloaca, 2017). Finally, hedonic orientations would be associated with external regulation, because those actually wanting more pleasure-focused activities may find the mandate of PE to be more salient and experience it as controlling. Those focused on relaxation and comfort may also be amotivated. We therefore expected:

Hypothesis 4. *In PE eudaimonic orientation will relate to intrinsic motivation, identification, and introjection; hedonic pleasure orientation to intrinsic motivation, introjection, and external regulation; and hedonic comfort orientation to amotivation.*

1.4. Relations of Hedonic and Eudaimonic Orientations to Motivational Regulations

From the SDT approach (Ryan, 1995; Ryan & Deci, 2017), to be fully functioning is defined in terms of integrative self-regulation and high-quality motivation. Although either eudaimonic and hedonic orientations to PE could be associated autonomous motivation, we would expect eudaimonic orientations to more consistently be so. Nonetheless a pleasure focus in PE might well add to intrinsic motivation. We thus predicted the following:

Hypothesis 5. *In PE, people with primarily comfort life, or empty life will report lower levels of intrinsic motivation or report high levels of external regulation and amotivation than people with primarily eudaimonic, or primarily pleasure orientation.*

Method

Participants

Participants were 345 undergraduate PE students in Iran. Participants were 42% female; their mean age was 20.79 years (*SD* = 1.38; range 18-24); and 87% were single. Preliminary analyses showed that age was not related to variables employed in this study.

Procedures

The English version of the HEMA and the well-being scales were translated into Persian by two Iranian bilingual researchers fluent in English. Back translations were done by a psychologist with expertise in the area of current study (and fluent in English). Disagreements and non-equivalencies by researchers and the psychologist were resolved through a consensus meeting. The motivation measures had previously been translated into Persian as detailed below.

Participants were recruited through participation in PE classes and by word of mouth. They completed the measures as a paper-and-pencil questionnaire two sessions before the end of the PE course. Participation was voluntary, and identifying information was not collected. There was no compensation for participating. Questions were focused specifically on experiences during PE classes. Analyses were carried out with PASW (former SPSS) 19.0 and Amos 20.0 (Arbuckle, 2011). The Cronbach alphas found in this study for all scales are reported in the Results section as we first wished to establish the distinctness of some of the translated measures through factor analysis.

Measures

Hedonic and Eudaimonic Motives for Activities (HEMA). Students' eudaimonia and hedonia were assessed as orientations toward PE by adapting the measure developed by Huta and Ryan (2010). In the English version, the instructions are: "To what degree do you approach your PE classes with each of the following intentions, whether or not you actually achieve your aim?" The scale has 4 items assessing a eudaimonic orientation (e.g., "Seeking to develop a skill, learn, or gain insight into something"), 3 items assessing a hedonic pleasure orientation (e.g., "Seeking enjoyment"), and 2 items assessing a hedonic comfort orientation (e.g., "Seeking relaxation"). Items are rated from 1 (*not to all*) to 7 (*very much*). The full English version and translation appear in Appendix 1.

Well-being experiences. For all scales students were asked "During PE classes, how much do you feel each of the following…". For the well-being experience scales that had not been previously translated into Persian, we performed the same back-translation procedure as for the HEMA. All of the following measures were rated on 7-point Likert scales from 1 (*not to all*) to 7 (*extremely*):

Life Satisfaction: Students' *life satisfaction* during PE lessons was measured through the five-item *Satisfaction with Life Scale* (e.g., "I am satisfied with my life") (Diener, Emmons, Larsen, & Griffin, 1985), which was previously translated into Persian and was shown to have an acceptable alpha of .83 (Bayani, Koocheky, & Goodarzi, 2007).

Positive and Negative Affects: *Positive* (e.g., "happy") and *negative affect* (e.g., "unhappy") were assessed using nine items developed by Diener and Emmons (1984). The positive and negative affects scale had been previously used by Aghdasi and Behzadnia (2016) with Persian samples and shown to have alphas of .80 and .79, respectively.

Subjective Vitality: Vitality was assessed with the recommended five-item version *Subjective Vitality Scale* (e.g., "I feel alive and vital") that developed by Ryan and Frederick (1997). This scale had been widely used (see Martela, DeHaan, & Ryan, 2016) and recent research (e.g., Kawabata, Yamazaki, Guo, & Chatzisarantis, 2017) supports the use of the 5-item version of SVS employed in the current study. The SVS has been previously used with Iranian PE students with good reliability (Behzadnia, Ahmadi, & Keshtidar, 2013).

Experience of Meaning: *Experience of meaning* was assessed with the four-item short-version of the scale (e.g., "my activities and experiences feel meaningful") (Huta, 2013).

Elevating Experience: To assess *elevating experience*, we used the five-item short-version of the elevating experience scale (e.g., "inspired", "morally elevated") by Huta (2013).

Carefreeness: To assess *carefreeness* we used the six-item *carefreeness* scale (e.g., "carefree", "free of concerns") used by Huta and Ryan (2010).

Self-esteem: Students' self-esteem was measured using the single item which has developed by Robins, Hendin, and Trzesniewski (2001).

In the current study, the authors also created a *composite well-being* variable that equally weighted each positive well-being variables (i.e., positive affect, carefreeness, life satisfaction, vitality, elevation, meaning, and self-esteem) by standardizing the scores and then use the mean across them.

Assessment of SDT's regulatory styles for PE. The different SDT motivations were measured using a translation of the regulatory style questionnaire developed by Goudas, Biddle, and Fox (1994). In English, the question stem is "I take part in this PE class because …". Sample items for each motivation are "I enjoy learning new skills" (intrinsic motivation), "I want to improve in sport/PE" (identified motivation), "I would feel bad about myself if I didn't" (introjected motivation), "I'll get into trouble if I don't" (external regulation), and "I really feel I'm wasting my time in PE" (amotivation). Each subscale had four items on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Behzadnia et al. (2017) translated the measure into Persian and found good factorial validity, construct validity, and reliability (alphas were above .75 for all subscales).

Explanatory And Confirmatory Factor Analyses Of The Hema

In PE domain we excepted that hedonic pleasure orientation would be distinct from hedonic comfort orientation. Huta (2013) showed that those people who are generally motivated by hedonia exhibit greater extrinsic motivation, whereas those who are motivated by eudaimonia evidence more intrinsic motivation, an issue of relevance to PE contexts. Indeed, we suspect that PE contexts would be an apt domain for eudaimonic orientations, as people may want to engage challenges, develop skills and purse excellence. Hedonia as an orientation has a more complex relation to PE. There can be pleasure in physical activity, which can lead to engagement and positive experience. Less apt for PE may be those focused on the comfort and relaxation type of hedonia, outcomes incompatible with most PE activities. That is, seeking excellence and growth or pleasure in physical activities may be more PE context adaptive goals.

In this study, we translated the HEMA into Persian, for use with Iranian samples. To our knowledge this is the first study to examine hedonic and eudaimonic orientations in a PE context in any nation. We expected that hedonic pleasure and comfort would be distinguished in a Persian translation, generating the three factor HEMA observed in some other languages. Further, given the demands of physical exercise, we expected that a mindset that prioritized ease and relaxation would be at odds with both a mindset that prioritized excellence and a mindset that prioritized enjoyment. Therefore, to test this, we performed Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy was .81, which is above .60 and thus indicates adequate sample size for EFA and CFA (Tabachnick & Fidell, 2013).

EFA of the Persian HEMA revealed three factors with eigenvalues above one, and the scree plot also indicated a three-factor solution, accounting for 64% of the variance. When using either orthogonal (Varimax) or oblique (Direct Oblimin, Delta = 0) rotations, we found that all items separated cleanly into three groups: eudaimonia (items 2, 3, 5 and 8), hedonic pleasure (items 4, 6 and 9), and hedonic comfort (items 1 and 7).

Confirmatory factor analysis was performed to test the strict assumption that the HEMA items had no cross-loadings. Model parameters were estimated using maximum likelihood. In

a three-factor model that differentiated eudaimonia, hedonic pleasure, and hedonic comfort, the factor loadings ranged from .65 to .88, and the fit indices was adequate to good: $\chi^2(24) = 79.85$, $p < .001$; normed $\chi^2 = 3.33$; RMSEA = .08; RMSEA 90% CI = .06 to .10; CFI = .96; TLI = .94; NFI = .94; SRMR =.055. In a two-factor model that differentiated between eudaimonia and hedonia, the factor loadings ranged from .34 to .86, and the fit indices was adequate to poor: $\chi^2(26) = 161.06$, $p < .001$; normed $\chi^2 = 6.20$; RMSEA = .12; RMSEA 90% CI = .11 to .14; CFI = .90; TLI = .86; NFI = .88; SRMR =.08. The fit of the three-factor model was significantly better than the two-factor model, χ^2 difference = 81.21, *df* difference = 2, $p < .001$.

As shown in Table 1, internal consistency (Cronbach alpha) was excellent for eudaimonic orientation ($\alpha = .88$), and good for hedonic pleasure ($\alpha = .78$) and hedonic comfort orientations ($\alpha = .72$).

Results

Preliminary Analyses: Relations Between Variables Employed In The Study (Testing Hypotheses 1, 2, 4)

Hypothesis 1 predicted that in the PE context eudaimonic orientation would have a moderate correlation with hedonic pleasure orientation but not with hedonic comfort orientation. As reported in Table 1, eudaimonic orientation moderately correlated with hedonic pleasure orientation ($r = .35$), whereas the correlation between eudaimonic and hedonic comfort orientations ($r = .15$) was modest, but significant. The hypothesis was thus partially supported.

In Hypothesis 2, we expected a pattern of correlations such that, within the PE context eudaimonic orientation would relate to all well-being experiences, except carefreeness; hedonic pleasure orientation would relate to positive affect, life satisfaction and carefreeness, albeit more weakly than eudaimonic orientation; and hedonic comfort orientation would have negative or null relationships with well-being experiences, with the exception carefreeness.

These correlations are reported in Table I. As expected, eudaimonic orientation was associated with all well-being experiences. The results for hedonic comfort orientation were reasonably in line with expectations – comfort orientation related to higher negative affect and had null relationships with the majority of well-being experiences, though it did relate positively to carefreeness and elevation. The results for hedonic pleasure orientation were mixed– pleasure orientation was associated with positive affect, elevation, self-esteem, and carefreeness, and to greater negative affect.

In Hypothesis 4, we predicted that, in PE, eudaimonic orientation would relate to intrinsic motivation, identification, and introjection; hedonic

TABLE I
Orientations, Well-being, and Motives in the Physical Education Domain: Correlation, Means, Standard Deviations, and Reliability Scores

Measure	*M*	SD		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Eudaimonic Orientation	5.54	1.33	(.88)	1															
Pleasure Orientation	4.42	1.26	(.78)	.35**	1														
Comfort Orientation	3.88	1.53	(.72)	.15**	.43**	1													
Composite Well-being	4.92	.92	(.79)	.58**	.25**	.09	1												
Positive Affect	5.30	1.40	(.90)	.49**	.20**	.06	.78**	1											
Carefreeness	3.34	1.15	(.60)	.15**	.26**	.15**	.40**	.18**	1										
Life Satisfaction	4.81	1.24	(.84)	.30**	.09	-.03	.66**	.39**	.09	1									
Vitality	5.41	1.15	(.87)	.38**	.07	.01	.76**	.47**	.14**	.71**	1								
Elevation	5.16	1.52	(.90)	.57**	.26**	.14**	.77**	.60**	.24**	.29**	.45**	1							
Meaning	5.60	1.24	(.92)	.47**	.10	.01	.69**	.48**	.12*	.37**	.49**	.43**	1						
Self-esteem	4.81	1.84	—	.41**	.18**	.10	.71**	.58**	.14*	.28**	.34**	.65**	.39**	1					
Negative Affect	2.37	1.23	(.86)	-.13*	.11*	.13*	-.19**	-.31**	.22**	-.16**	-.24**	-.08	-.20**	-.14*	1				
Intrinsic Motivation	5.57	1.29	(.89)	.49**	.18**	.07	.67**	.63**	.21**	.31**	.46**	.61**	.43**	.55**	-.29**	1			
Identified Motivation	5.44	1.48	(.93)	.47**	.13*	.02	.58**	.56**	.14**	.21**	.35**	.58**	.43**	.50**	-.19**	.80**	1		
Introjection	4.29	1.52	(.83)	.37**	.14**	.09	.44**	.35**	.19**	.20**	.26**	.46**	.21**	.41**	-.03	.49**	.57**	1	
External Regulation	3.40	1.09	(.58)	.05	.12*	.14**	.11*	.04	.17**	.04	.05	.10	.05	.08	.24**	.01	.12*	.35**	1
Amotivation	2.52	1.57	(.83)	-.28**	.01	.12*	-.33**	-.37**	.07	-.12*	-.23**	-.35**	-.25**	-.34**	.32**	-.49**	-.46**	-.11*	.23**

Note. *$p < 0.05$ (2-tailed); **$p < 0.01$ (2-tailed). Cronbach's alpha (α) is in parentheses.

pleasure orientation would relate to intrinsic motivation, introjection, and external regulation; and hedonic comfort orientation would relate to amotivation. Correlations in Table 1 show that although most of these predictions were supported, hedonic pleasure orientation was significantly related to identification, albeit weakly (.13), and hedonic comfort orientation was related to external regulation.

Secondary Analyses: How a Combination of Hedonic and Eudaimonic Orientations Relate to Well-Being Experiences and SDT Motives (Testing Hypotheses 3 and 5)

To test Hypothesis 3, we formed several profiles. The first full life profile comprised people above on the median on eudaimonic and hedonic pleasure orientation, but below the median on hedonic comfort orientation ($N = 48$). The second full life was made up of those above the median on all three orientation ($N = 83$). That is, the first full life profile was comprised of people with above median scores on eudaimonic orientation and hedonic pleasure orientation, but not hedonic comfort orientation, whereas in the second full life a score above the median for hedonic comfort orientation was added to the criteria. A eudaimonic life represented those above the median on eudaimonia, but below the median on both hedonic orientations ($N = 72$). The hedonic life consisted of those below the median on eudaimonia, but above the median on both hedonic orientations ($N = 65$). Finally, the empty life profile included those below the median on all three orientations ($N = 77$) (see also Huta and Ryan's (2010) study for more details about the formation of the profiles).

We predicted that, in PE, people with either *primarily eudaimonic* or *full life orientation profiles* would report higher well-being than those with an *empty life*. The primarily eudaimonic life or full life also were expected to confer benefits beyond the benefits of the *primarily hedonic life.* We also predicted that, compared to people with *primarily eudaimonic life*, people with *primarily eudaimonic* and *pleasure life* or people with all three orientations would score similarly on well-being; in other words, *primarily hedonic life* would not confer benefits beyond the benefits of *primarily eudaimonic life.* This hypothesis was tested with the ANOVAs and post-hoc Scheffé comparisons presented in Table 2.

As expected, people with *primarily eudaimonic life* were higher on most well-being variables, including the well-being composite, positive affect, elevating experience, vitality, and meaning, than people with *primarily hedonic*

TABLE II
Comparing Orientations in the PE Domain: Full1 (Eudaimonic-Pleasure) Full2 (Eudaimonic-Pleasure-Comfort), Eudaimonic, Hedonic, and Empty (Neither Hedonic nor Eudaimonic)

	Full. 1 (Eud-Pls)		Full. 2 (Eud-Pls-Cmt)		Eud. 3		Hed. 4		Empty. 5				Scheffé
Variable	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***F* (4, 340)**	**η^2**	
Positive Well-being Composite	5.29	0.65	5.28	0.74	5.23	0.7	4.57	0.84	4.30	1.07	22.64***	.21	1,2,3>4,5
Positive Affect	5.87	0.85	5.54	1.15	5.75	1.27	4.92	1.28	4.3	1.73	11.78***	.12	1,3>4,5; 2>5
Carefreeness	3.76	.97	3.88	1.02	3.54	.88	3.84	1.21	3.30	1.16	3.83**	.03	2>5
Life Satisfaction	5.17	1.08	5.12	1.16	5.04	1.25	4.42	1.15	3.11	1.32	7.17***	.08	1,2>4,5; 3>5
Vitality	5.76	0.94	5.76	1.03	5.69	1.14	5.10	1.04	4.92	1.13	10.05***	.11	1,2,3>4,5
Elevating Experience	5.51	1.22	5.8	1.04	5.63	1.17	4.68	1.52	4.92	1.82	18.26***	.18	1,2,3>4,5
Meaning	6.12	0.97	5.98	0.92	6.1	0.9	5.04	1.17	4.21	1.47	21.13***	.20	1,2,3>4,5
Self-esteem	5.15	1.7	5.25	1.7	5.29	1.67	4.4	1.74	4.86	1.98	7.72***	.08	1,2,3>5
Negative Affect	2.13	0.92	2.46	1.21	2.22	1.13	2.54	1.33	4.03	1.42	1.18	.01	-
Intrinsic Motivation	5.89	0.99	6.03	1.0	5.81	1.19	5.15	1.35	2.43	1.47	10.64***	.11	1,2,3>4,5
Identified Motivation	5.84	1.11	5.86	1.26	5.85	1.12	4.8	1.69	4.99	1.66	10.67***	.11	1,2,3>4,5
Introjection	4.57	1.41	4.95	1.28	4.33	1.5	3.73	1.56	4.89	1.54	8.93***	.10	2>4,5
External Regulation	3.46	0.86	3.65	1.1	3.33	1.19	3.38	0.95	3.86	1.17	2.00	.02	-
Amotivation	2.19	1.44	2.58	1.72	2.0	1.1	2.91	1.47	3.19	1.79	4.37**	.05	3<4,5

Note. *$p < 0.05$ (2-tailed); **$p < 0.01$ (2-tailed); ***$p < 0.001$ (2-tailed). Eud. = Eudaimonic; Hed. = Hedonic; Pls. = Pleasure; Cmt. = Comfort.

life. They also were higher than people with the *empty life* on the well-being composite, positive affect, life satisfaction, vitality, elevating experience, meaning, and self-esteem. Somewhat consistent with expectations – people with *primarily eudaimonic life*, people with *primarily eudaimonic-pleasure life* or people with all three orientations scored similarly on the positive well-being composite, vitality, elevating experience, and meaning – a pattern that suggests any profile that includes a *eudaimonic orientation* may have some benefits beyond a *primarily hedonic life* orientation. In addition, people with all three orientations reported higher on carefreeness than people with the *empty life*.

In Hypothesis 5, we predicated that, in PE, compared to people with *primarily eudaimonic life*, *or primarily pleasure orientation*, people with *primarily comfort life*, or *empty life* would report lower levels of intrinsic motivation, and higher levels of external regulation and amotivation. We also predicted that, compared to people with *primarily eudaimonic life*, people with *primarily eudaimonic-pleasure life* or people with all three orientations would score similarly on motivation; in other words, *primarily hedonic life* would not confer benefits beyond the benefits of *primarily eudaimonic life*. This hypothesis was tested with the ANOVAs and post-hoc Scheffé comparisons in Table 2.

As expected, people with *primarily eudaimonic life* reported higher on intrinsic motivation and lower on amotivation than people with *primarily hedonic life or the empty life profile*. Yet, there were few differences between people with *primarily eudaimonic life*, people with *primarily eudaimonic-pleasure life* or people with all three orientations on many positive variables, suggesting that as long as the eudaimoinic orientation is present, more autonomous forms of motivation and positive experiential outcomes result.

Discussion

The present study revealed a number of interesting findings – the most important is that motives for pursing excellence and growth and versus pleasure and comfort meaningfully relate to a variety of outcomes in the specific domain of PE, and for Iranian students. These findings generally align with SDT's contentions about the role of eudaimonia in wellness, and more specifically point to the adaptive role of eudaimonic orientations when it comes to the collegiate PE context in Iran. Here eudaimonic goals were associated with greater intrinsic motivation and a range of more positive experiences. In addition, when pleasure and comfort forms of hedonic orientations are combined with a eudaimonic orientation, adaptive outcomes are retained. This

means that having a eudaimonic orientation as at least a part of a student's approach is important in these PE contexts. In what follows, we summarize the findings for each of the well-being and motivation variables.

1.5. Factor Structure of the HEMA and Correlations Between Orientations

Based on a factor analysis of the HEMA, hedonia emerged as two factors, comfort and pleasure. This is in line with Asano et al. (2014) among Japanese samples, Bujacz et al. (2014) among Polish and English samples, and Braaten et al. (2017) among North Americans. The importance of separating these orientations was clear in the present data. Hedonic pleasure orientation was closer to eudiamonic orientation in its association with positive outcomes than the hedonic comfort orientation; pursuing pleasure rather than relaxation seems to be more optimal for PE contexts.

Correlations Of Orientations With Well-Being Experiences

Hedonic comfort orientation was not related to positive affect, and both hedonic orientations (comfort or pleasure) were related to greater negative affect. Huta and Ryan (2010) and Vittersø et al. (2010) have noted that one of the most important functions of hedonia is emotional self-regulation, but this function may be somewhat misdirected in the PE context where the goal is physical engagement. People wanting comfort are not experiencing it in PE as offered in this university context. In contrast, eudaimonic orientations were positively related to positive affect and negatively to negative affect, suggesting that the pursuit of excellence here may be more gratifying and emotionally positive.

Results also showed that eudaimonia and both hedonic comfort and pleasure seeking were positively related to carefreeness. These findings, in line with Huta and Ryan (2010) and Henderson et al. (2013), support the view that a key function of hedonia is being free of, or detaching from one's concerns, or perhaps unwanted activities.

There were no relations between hedonia comfort and pleasure with life satisfaction. Yet, in line with Asano et al. (2014), Braaten et al. (2017), Henderson et al. (2013), and Huta and Ryan (2010), eudaimonia was related to life satisfaction, supporting our hypothesis that this was a more satisfying approach within a PE context. It means that, seeking to develop a skill

and/or gain insight into something during PE lessons in college would be related to students having more sense of satisfaction.

In fact, an array of well-being variables were related to HEMA orientations. Extending work by Braaten et al. (2017) and Huta and Ryan (2010) eudaimonia was related to subjective vitality, or having more energy and spirit in PE. In contrast, hedonia orientations were not associated with subjective vitality. Eudaimonia related positively to elevating experience, as did both hedonia orientations, though less strongly. Eudaimonia and hedonia were associated with inspiration, moral elevating and part of something greater than oneself. Finally, eudaimonia was related positively to meaning and self-esteem, and hedonic pleasure was related to self-esteem, but less strongly.

Overall, we see that a eudaimonic orientation was fitting with PE, which is mandated in Iran universities, and thus may be motivated in different ways for students. Those most fully motivated and emotionally benefiting were those approaching PE it with an eye to growing and exceling. In contrast, a focus on pleasure, and even more so comfort, appears less gratifying in this context.

1.6. Combinations of Hedonic and Eudaimonic Orientations and Well-being

People with the *primarily eudaimonic life* and people with both *full* orientations reported higher levels on most of positive well-being variables we assessed compared with people with the *primarily hedonic life* and or the *empty life*. The results suggested that in PE domain, both the *primarily eudaimonic* and *hedonic/eudaimonic life* can be beneficial for well-being. By contrast, a *hedonic life* has few benefits once a person already seeks *eudaimonia*. Again, these findings indicate that students experience the greater well-being in PE with a eudaimonic focus.

SDT Motivations And Hedonic And Eudaimonic Orientations

Results showed in line with SDT (Martela et al., 2016; Ryan & Deci, 2008) that intrinsic motivation is associated with all well-being variables, and negatively with negative affect. Identified motivation showed a similar pattern of findings. Introjected motivation was surprisingly positively related to all well-being variables at moderate levels. External regulation, a more con-

trolled form of motivation, was unexpectedly was related to a composite of well-being, albeit weakly (r=.11) and was related to negative affect. Finally, amotivation positively related to negative affect and carefreeness and negatively to the well-being variables.

Now considering how orientations related to motivations, both eudaimonia and hedonic pleasure were associated positively with intrinsic, identified, and introjected motivation. Hedonia, in both comfort and pleasure forms, was positively related to external regulation, and hedonic comfort was also positively related to amotivation. These findings supported our expectations that eudaimonic and hedonic pleasure approaches are more reliably associated with more autonomous forms of motivation, in this context with students' finding fun and enjoyment in PE. Those who were more hedonically oriented (comfort) may have felt more controlled and less volitional in PE classes.

Combinations Of Hedonic And Eudaimonic Orientations And Motivation

People with the *primarily eudaimonic life* and people with both *full* orientations had greater intrinsic and identified motivation than those with purer *hedonic* orientation. People with all three orientation also had greater introjection than people with *hedonic life* and people with *empty life*. Those with a *eudaimonic life* also scored lower than people with *hedonic life* and people with *empty life* on amotivation. Therefore, the result suggested that in PE domain, a *eudaimonic life* is associated with intrinsic motivation and less amotivation.

This finding is in line with SDT tenets (Deci & Ryan, 2008; Ryan et al., 2008), that *eudaimonic* living might be characteristic in terms of pursuing intrinsic goals rather than extrinsic goals, and behaving with autonomy rather than via external regulation. In a similar vein, our results show that people who pursued *hedonia* rather than *eudaimonia* and people who pursued neither *eudaimonia* nor *hedonia* reported higher levels of amotivation.

Additional Implications And Limitations

There are many limitations. First the sample is limited to Iranian students, and to the PE domain, which they were mandated to attend. Further the data is self-report and cross-sectional in nature. The idea was to demonstrate the relations between these constructs, but causal claims cannot be made on the bases of these relationships.

The findings of this study nonetheless provide an initial mapping of how hedonic and eudaimonic pursuits can be related to well-being and self-regulation in a PE context. A key finding is that students pursing eudaimonic goals fair better in this PE domain. This may be specific to the Iranian PE context, a question that awaits further research in other cultural contexts. Yet these results show how considering the type of orientations people have when participating in a domain specific event such as PE can help account for their experience. In this domain it appears to be the pursuit of excellence, rather than comfort, that has the best experiential payoff.

Conclusion

The current study examined the relations between eudaimonic and hedonic orientations with motivation and well-being experiences in PE context. The first important conclusion of this study was that hedonic orientations can be further distinguished as two dimensions: hedonic pleasure and hedonic comfort. The second important conclusion was that eudaimonic orientation related more to intrinsic, identified and introjected motivations and well-being experiences than did hedonic pleasure and comfort orientations. Third, both hedonic orientations were related to external regulation, and hedonic comfort related to amotivation as well. Finally, profile comparisons suggested that an orientation emphasizing eudaimonic living, or a combination of eudaimonic living with hedonic orientations, resulted in more positive wellbeing outcomes compared with hedonic or empty life orientations. Eudaimonic emphases, that is, are likely to result in more intrinsic motivation for PE activities and more positive experiences and sense of well-being.

APPENDIX

The Persian version of HEMA

1. Seeking relaxation?	1. در جستجوی آرامش بوده‌ای؟
2. Seeking to develop a skill, learn, or gain insight into something?	2. در پی تکامل یک مهارت، یادگیری، یا به دست آوردن بینشی در مورد برخی چیزها؟
3. Seeking to do what you believe in?	3. به دنبال انجام دادن چیزهایی که به آن اعتقاد داری؟
4. Seeking pleasure?	4. به دنبال خوشگذرانی؟
5. Seeking to pursue excellence or a personal ideal?	5. به دنبال پیگیری بهترین‌ها و یا ایده آل‌های شخصی؟
6. Seeking enjoyment?	6. به دنبال لذت بردن؟
7. Seeking to take it easy?	7. در پی آسان گرفتن زندگی (سخت نگرفتن)؟
8. Seeking to use the best in yourself?	8. به دنبال بهترین بودن در وجود خود؟
9. Seeking fun?	9. به دنبال سرگرمی؟

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