



The Effects of a Character Strength Focused Positive Psychology Course on Undergraduate Happiness and Well-Being

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Published online: 18 February 2020
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Abstract

This study investigated the effects of a character strength focused positive psychology course on student well-being. The Values in Action character strengths were each presented as ways to increase both individual and community well-being. There were 112 undergraduate students in the positive psychology course and a comparison group of 176 undergraduates who took other psychology courses. They all completed the *PERMA-Profiler* (Butler and Kern in *Int J Wellbeing* 6:1–48, 2016) during the first and last week of the semester. This questionnaire assessed the five elements of positive emotion, engagement, relationships, meaning, accomplishment (PERMA) plus happiness, health, loneliness, and negative emotion. The hypotheses were that (1) the positive psychology students would have significant improvements in each of the measures during the semester and (2) these changes would be significantly greater in the desired direction than the changes for the students in other psychology courses. The first hypothesis was supported in that the positive psychology students had significant improvements in all of the measures, including the total PERMA score. The second hypothesis was also strongly supported in that these improvements were significantly greater relative to the students taking other psychology courses. The effect sizes for the difference between the groups were large for the total PERMA score ($d = .846$) and the element of meaning; medium-to-large for positive emotion and relationships; medium for happiness, accomplishment, and negative emotion (decrease); and small-to-medium for engagement, health, and loneliness (decrease).

Keywords Well-being · Happiness · Strengths · Positive psychology · Teaching

1 Introduction

What is the potential of teaching positive psychology for increasing happiness and well-being? There are a host of exercises and activities that may increase happiness and well-being (Sin and Lyubomirsky 2009). These have included identifying and using our

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strengths in new ways, noting good things that happen to us every day, and expressing our gratitude to those who are important to us (Seligman et al. 2005). They have included smart phone and internet apps to remind and enable us to use and apply them (Davis 2018). There are science-based books about these exercises (Lyubomirsky 2007), TED talks about character strengths (Schwartz 2014), and positive psychotherapy (Rashid 2015). All these things are important for bringing us the benefits of the latest research on happiness and well-being.

However, there is one conventional mode of sharing the benefits of positive psychology that may not have been fully tapped. Although there are important cautions to teaching happiness in school settings (Suissa 2008; Wilding and Griffey 2015), there may also be great potential for teaching positive psychology to boost individual and community well-being (Ramachandram 2016; Seldon 2006). While there have been successful attempts to involve whole educational institutions (Oades et al. 2011; Seligman et al. 2009), a more accessible approach for many educators may be to offer a positive psychology course (Bridges et al. 2012; Maybury 2013).

1.1 The Potential of Positive Psychology Courses

Positive psychology courses at the undergraduate level may be uniquely situated to have a substantial impact on happiness and well-being (Goodmon et al. 2016; Russo-Netzer and Ben-Shahar 2011; Shimer 2018). First, they can be offered for adults of all ages who would like to earn credit towards a degree, continuing education credit for their work, or for a lower cost to those who prefer to audit. Second, there are college and universities in most relatively large communities and growing opportunities for people in more remote settings to take courses online. Third, college courses have the advantage of giving students the chance to both learn about the science of positive psychology and begin to apply it to their own lives.

Although undergraduate positive psychology courses are not new, we do not fully understand their potential impact. The popular “happiness” courses at Harvard and Yale received much media attention for being the largest classes at their (855 and 1182 students, respectively; Russo-Netzer and Ben-Shahar 2011; Shimer 2018). They have shown that many students are interested in taking a science-based course in human happiness. Moreover, there has been initial research with smaller positive psychology classes showing significant increases in happiness and well-being (Goodmon et al. 2016; Lambert et al. 2019; Lefevor et al. 2018; Maybury 2013).

But even if a positive psychology course may increase happiness and well-being, how large of an effect is—possible? The effect sizes of Cognitive Behavioral Therapy interventions for anxiety and depressive disorders have generally been medium-to-large (Cohen’s $d = .50-.80$) for pre-post changes and small-to-medium ($d = .20-.50$) when comparing these changes to a control group (Butler et al. 2006; Hofmann et al. 2012). As for positive psychology interventions, Bolier et al. (2013) did a meta-analysis showing relatively small effects for increasing subjective and psychological well-being ($d = .20$ and $.34$, respectively).

Although there have not yet been any meta-analyses of the effects of positive psychology courses, we found that the weighted mean effect size for increases in measures of happiness and well-being in previous studies is also relatively small ($d = .327$; Goodmon et al. 2016; Lambert et al. 2019; Lefevor et al. 2018; Maybury 2013). But these are just initial studies. With sufficient attention and development, might it be possible to boost this into

the medium range or even higher? Also, could larger effects occur in a large undergraduate class? If so, the combination of having substantial effects on individuals and affecting a large group of students might have a strong potential for impacting public health and the larger community.

1.2 The Current Study

The purpose of the current study was to better understand the potential of a positive psychology course to increase happiness and well-being in a relatively large class (White and Waters 2015). Although not as large as the Harvard and Yale courses, the course we studied has consistently had 180–200 students every semester for the past 7 years. In addition, while the Harvard and Yale courses were taught only a few times and were expensive with large numbers of paid teaching assistants (Russo-Netzer and Ben-Shahar 2011; Shimer 2018), our course has relied primarily on peer teaching assistants who have volunteered or worked for course credit. Thus, we wanted to understand whether a low cost and sustainable positive psychology course could have a beneficial impact on a relatively large group of students.

The conceptual framework of our course was drawn from central theories of positive psychology about (1) the nature of happiness and well-being, (2) what we can do to foster them, and (3) the relationship between individual and community well-being. First, we used Seligman's PERMA theory to frame our thinking about happiness and well-being (Seligman 2011) because it is broad, inclusive, and has been used extensively in research (Ascenso et al. 2018; Birch et al. 2019; Kern et al. 2015; Tansey et al. 2018). The acronym PERMA refers to the five elements that are thought to encompass well-being: positive emotion, engagement, relationships, meaning, and accomplishment. Positive emotion refers to having a pleasant life; engagement to being absorbed, interested, and involved in activities and includes the experience of flow (Csikszentmihalyi 1998); relationships to feeling loved, supported, and valued by others; meaning to a having a sense direction and purpose and feeling that life is worth living; and accomplishment to achieving goals and handling responsibilities (Butler and Kern 2016; Seligman 2011).

Second, we used the Values in Action (VIA) classification of character strengths (Peterson and Seligman 2004) to organize our thinking about what we can do to foster happiness and well-being. We selected the VIA classification because it is also broad and includes strengths that foster both individual and community well-being (Peterson and Seligman 2004). This classification was developed by a select group of social scientists early in the positive psychology movement to identify positive qualities that have been valued across culture and time (Niemiec 2017). There are 24 strengths organized under the six overarching "virtues" of wisdom, courage, humanity, justice, temperance, and transcendence. In addition, each strength has been positively correlated with at least one of the elements of PERMA and may be developed and used to increase them (Wagner et al. 2019). Finally, while these strengths may become relatively stable personal characteristics, they can also be broken down into attitudes and behaviors that can be practiced in building and using the strengths.

Third, our course was rooted in the idea of a strong reciprocal relationship between individual and community well-being. This idea is reflected in PERMA theory and the VIA classification and has growing theoretical and empirical support (Layous et al. 2017; Schueller 2009). While all of the elements of PERMA may involve and affect the larger community, the positive connections that are a part of the element of relationships and

the prosocial behavior frequently involved with the element of meaning (Baumeister et al. 2012) highlight the close relationship between individual and community well-being. Also, one of the criteria for selecting the VIA strengths was that they have the potential for fostering both individual and community well-being and the strengths associated with the virtues of humanity (e.g., love, kindness) and justice (e.g., justice, citizenship) are often necessary and particularly relevant for community well-being.

In addition, there are many ways that recent theory and research have linked individual and community well-being. Schueller (2009) has advocated for the integration of positive and community psychology. He developed a model of the reciprocal relationship between individual and community well-being where they are linked by empowerment and the use of strengths. Verdugo (2012) has argued that the presence of positive characteristics and positive emotions in individuals makes it more likely they will engage in behaviors that help sustain the environment. Grant and Gino (2010) found that the expression of gratitude increased prosocial behavior both towards the recipient and others in the larger community. Layous et al. (2017) found evidence for a positive feedback loop between positive activities, kindness, and well-being. Thus, we thought that the relationship between individual and community well-being might mean that increases in student well-being would have beneficial effects on the university community that could reverberate back to the students further enhancing their individual well-being.

Finally, we integrated these three aspects of our theoretical framework in designing our course in the following way. First, we began the course by focusing on the nature of happiness and well-being in the context of PERMA theory and the five elements of well-being. We encouraged students to identify the elements that they would like to increase and use this as motivation for learning how to do it in the course. Second, for the rest of the course we focused on each of the VIA strengths and how they could be developed and used to foster well-being. Although we did not see a simple one-to-one correspondence between each strength and element of PERMA, we gave examples of how each strength might be used to increase one or more of the elements of PERMA. Third, we emphasized the connection between individual and community well-being throughout the semester by presenting the theory and research that links them, giving assignments that encourage prosocial behavior and community engagement, and presenting examples of how using the strengths may increase community well-being.

1.3 The Comparison Group

One of our greatest challenges was identifying a comparison group for the positive psychology course. This was important because of findings indicating that the well-being of college students may decrease during the semester (Barker et al. 2018). As with previous studies of positive psychology courses (Goodmon et al. 2016; Lambert et al. 2019; Lefevor et al. 2018; Maybury 2013), we could not randomize students into taking positive psychology or another course. However, we were able to recruit students taking other psychology courses. In addition, we controlled for variables upon which the groups might differ.

Thus, we were able to compare changes in happiness and well-being for the students in the positive psychology course with students taking other psychology courses. To do this, we administered a questionnaire to both groups of students during the first and last weeks of the semester. Since Seligman's PERMA theory (Seligman 2011) was our guiding framework for understanding happiness and well-being, we selected the *PERMA Profiler* (Butler

and Kern 2016) because it assesses all five of the PERMA elements of well-being and also has the advantage of assessing happiness, health, negative emotion, and loneliness.

1.4 Hypotheses

The purpose of this study was to examine changes in happiness and well-being in the students taking our positive psychology course and compare them with students taking other psychology courses. Although we were also interested in changes in health, negative emotion, and loneliness, we were primarily interested in the elements of PERMA and the summary score because they were specifically targeted and addressed in the course. Our hypotheses were (1) that the students in the positive psychology course would show improvements in all of the measures of happiness and well-being as well as improvements in health and decreases in loneliness and negative emotion, and (2) that all of these improvements would be greater relative to the students taking other psychology courses.

2 Methods

2.1 Participants

The participants were 288 undergraduate students taking psychology courses, including 112 students in our positive psychology course and 176 students taking other psychology courses. The overall mean age was 22.51 years ($SD=5.71$), the mean grade point average (GPA) was 3.42 ($SD=0.43$), and the mean credit hours completed was 73.27 ($SD=35.97$). The sample was 72.6% female and were 40.3% Hispanic, 32.3% White, 6.9% Asian, 4.5% Native American, and 4.2% Black.

2.2 Procedures

The participants were undergraduate students at a medium-sized state university in a medium-sized southwestern U.S. metropolitan area. The study was approved by the main campus Institutional Review Board. The students in the positive psychology course were recruited at the end of the first class by study investigators. The investigators who recruited and consented interested students were not involved with the course in any way. The instructor and teaching assistants for the course were kept blind to who was in the study during the semester to reduce any pressure students might feel to be in the study.

When the study investigators came to class, they asked students if they would allow the questionnaires administered in class to be used as part of a study on student well-being. Of the 184 undergraduate students enrolled in the course, 127 gave their consent to be in the study and completed the first questionnaire (69.0%). The study investigators returned at the end of the last class of the semester. They gave the students who had consented to be in the study the chance to complete the second questionnaire. Of the 127 who consented and completed the first questionnaire, there were 112 students present who completed the second questionnaire (88.2%).

The comparison group for the positive psychology course was students taking other psychology courses during the same semester. These students were recruited from five psychology courses (*Cognitive Psychology, Statistics, Neuropsychology, Psychology of Perception, and Research Methods*). During the first class, a study investigator went to class

to ask students if they were interested in being in study about student well-being. The students were told the study involved completing questionnaires during the first and last weeks of the semester. There were 410 students who consented for the study and completed the first questionnaire and of these there were 261 who completed the second questionnaire (63.7%). After the semester ended, 85 students were removed from the study because a review of the rosters of positive psychology classes showed they had just taken or had previously taken the course. Of the remaining 325 students, there were 176 who completed both questionnaires (54.2%).

2.3 The Positive Psychology Course

This was a face-to-face course that met twice a week for 75 min for 16 weeks during the fall of 2016. The course had evolved over 10 years, had been taught every semester to 180–200 students the previous 5 years, and students had voted it the best course at the university. Over the years, the instructors and teaching assistants made full use of student feedback to continue to improve the course. It was designed to be challenging through requiring attendance and having three exams, and assignments due every week. It was also flexible through offering students multiple ways to succeed and earn extra credit. There were two paid graduate student teaching assistants working 10 h per week grading assignments. Although a text has now been written specifically for the course (Smith 2018), students were assigned 3–4 articles or chapters from other books per class during the semester that this data was collected.

As already noted, the course covered the VIA character strengths (Peterson and Seligman 2004) as ways to increase individual and community well-being. The first 2 weeks introduced positive psychology and focused on happiness and well-being in the context of Seligman's PERMA theory (Seligman 2011). The third week presented the idea of a “hero's journey” as a way to think about moving towards greater well-being (Campbell 2004) and the character strengths as what may enable students to make the journey. The rest of the semester took them through the strengths associated with the virtues of wisdom, courage, humanity, justice, temperance, and transcendence (Peterson and Seligman 2004). The last week included a review of the course highlights and encouraged students to continue to apply what they learned.

There are two ways that the VIA character strengths were central in the course. The first was in how they were illustrated through video clips and personal examples. “Appendix 1” shows many of the YouTube videos, TED Talks, and movies that have been highly rated by students across semesters. In addition to the videos, peer TAs and former students often gave examples of when and how they used their strengths to foster their well-being. The rationale for using these videos and personal examples was to illustrate the character strengths as they were introduced, enable students to better see them in their own lives, and challenge them to use their strengths in the future.

The second way that the strengths were at the center of the course was by emphasizing how they can benefit community, as well as individual, well-being. The strengths were presented as ways of organizing the growing scientific knowledge about what we can do to both increase our own happiness and contribute to the greater good. There were many assignments (e.g., *Best Love and Kindness*, *Creative Kindness*, *The Hero's Path*) and extra credit opportunities that emphasized applying the strengths for the benefit of other people and the larger community. Finally, students were offered extra credit for writing about how

they could use what they were learning about the strengths to address current events that affected the community.

Next, even though this was a relatively large class, there were several ways it was designed to be personally engaging. First, the students were strongly encouraged to identify goals for increasing happiness and well-being in the first couple weeks and use the semester to achieve them. Second, they got credit for coming to class and the lectures focused on active and experiential learning. Third, there were undergraduate peer teaching assistants (TAs) who had taken the course and received teaching practicum credit for working with 25–30 students each during the course. Fourth, pictures were taken of the students with their names during the first week of class and the instructor and peer TAs used them to learn student names.

In addition, the students had to complete a different assignment each week to put what they were learning into practice and discover what worked best for them. “Appendix 2” lists the progression of assignments which was developed as different empirically supported positive psychology interventions were tried, rated, and refined across the semesters. The assignments included variations of common positive psychology exercises such as *Using Signature Strengths in a New Way*, *Three Good Things*, *Gratitude Visit*, and *Best Possible Self* (King 2001; Seligman et al. 2005). They also included novel assignments created or adapted for the course such as *Finding Flow*, *Best Love and Kindness*, *The Hero’s Path*, and *Strengths and Goals*.

Finally, we thought about the weekly assignments as ways that the students could practice what they were learning to improve their own well-being. Just as we did not see a one-to-one correspondence between each VIA strength and each element of PERMA well-being, we also did not see a simple correspondence between each strength and weekly assignment or between each weekly assignment and element of well-being. Rather, we were careful to select a variety of assignments that would involve the full range of strengths and likely impact all the elements of well-being. In addition, we gave examples of how each assignment involved at least one of the strengths and might increase at least one element of PERMA. For example, we talked about how the *Best Love and Kindness*, *Gratitude Expression*, and *Sharing Strengths* assignments all involved the strengths under the virtue of humanity (love, kindness, and social intelligence) and how the use of three strengths and three assignments may be used to foster the element of relationships.

2.4 Measures

The *PERMA Profiler* (Butler and Kern 2016) was used to assess happiness and well-being for students in the positive psychology course and the other psychology courses at the beginning and end of the semester. It contains 23 items responded to on a 0 to 10-point scale with anchors that vary. These items form the measures described below and include the five elements of PERMA (Seligman 2011), a summary score that includes all five elements, and four additional measures.

1. The Five Elements of PERMA

Positive Emotion There were three items assessing how often and the extent to which participants felt joyful, content, and positive (e.g., “How often do you feel joyful?”). Cronbach’s alpha was .827 at the beginning and .801 at the end of the semester.

Engagement There were three items assessing how much they were interested and absorbed in what they were doing (e.g., “How often do you lose track of time doing something you enjoy?”). Cronbach’s alpha was .648 at the beginning and .676 at the end of the semester.

Relationships There were three items assessing the extent they feel loved and receive help and support from others when they need it (e.g., “How satisfied are you with your personal relationships?”). Cronbach’s alpha was .719 at the beginning and .743 at the end of the semester.

Meaning There were three items assessing the extent they had a sense of direction in life and feel their life is worthwhile (e.g., “To what extent do you lead a purposeful and meaningful life?”). Cronbach’s alpha was .820 at the beginning and .871 at the end of the semester.

Accomplishment There were three items assessing how often they made progress with their goals and handle their responsibilities (e.g., “How often do you achieve the goals you set for yourself?”). Cronbach’s alpha was .686 at the beginning and .780 at the end of the semester.

2. The PERMA Summary Score

PERMA Total There were 15 items consisting of the three items from each of the five elements of PERMA presented above. Cronbach’s alpha was .901 at the beginning and .920 at the end of the semester.

3. Additional Measures in the *PERMA Profiler*

Happiness There was one item assessing happiness: “Taking all things together, how happy would you say that you are?”

Health There were three items assessing their general physical health (e.g., “Compared to others of your same age and sex, how is your health?”). Cronbach’s alpha was .890 at the beginning and .911 at the end of the semester.

Loneliness One item assessed loneliness: “How lonely do you feel in your daily life?”

Negative Emotion Three items assessed how often participants feel angry, anxious, and sad (e.g., “In general, how often do you feel anxious?”). Cronbach’s alpha was .703 at the beginning and .709 at the end of the semester.

2.5 Data Analysis

Independent samples *t* tests were used to compare the students who completed both questionnaires with the students who only completed the first questionnaire in the positive psychology course and the other psychology course groups. Paired *t* tests were used to compare the pre and post scores in both groups. Repeated measures GLMs were used to compare the positive psychology course and other psychology course groups to assess differences in pre-post changes in the PERMA scores. The alpha for testing statistical significance was $p < .05$. The guidelines of Cohen (1988) were used for interpreting the effect size of correlations (small: $r = .10$, medium: $r = .30$, large: $r = .50$) and group differences (small: $d = .20$, medium: $d = .50$, large: $d = .80$). SPSS Version 26 was used for all analyses.

3 Results

Table 1 shows the descriptive statistics and independent samples *t*-tests comparing the students who completed both questionnaires with the students who only completed the first questionnaire in the positive psychology course and other psychology course groups at the beginning of the semester. There were no significant differences between the students who completed both and those who only completed the first questionnaire in the positive psychology course on the 14 study variables. However, at the beginning of the study the students who completed both questionnaires in the other psychology courses were significantly higher on loneliness and negative emotion than those who only completed the first questionnaire.

There were also differences between the students who completed both questionnaires in the positive psychology course and those who completed both questionnaires in the other psychology courses. Those who completed both questionnaires in the positive psychology course were older and scored lower on engagement, meaning, and negative emotion than those who completed both questionnaires in the other psychology courses. Finally, there was one difference between those who only completed the first questionnaire in both courses; those who only completed the first questionnaire in the positive psychology course were lower in meaning than those who only completed the first questionnaire in the other psychology course group.

Table 2 shows the zero-order correlations among the study variables for the students who completed both questionnaires in both groups during the first week of the semester. Not surprisingly, being older was positively correlated with number of credit hours and was also negatively correlated with loneliness and negative emotion. Female participants were lower than male participants in GPA and higher than male participants in negative emotion. GPA was positively correlated with accomplishment and number of credit hours was negatively correlated with health.

All the elements of PERMA had large positive correlations between them ($r_s = .427-.677$). The largest correlations were between meaning and accomplishment and between meaning and positive emotion. The smallest correlations were between relationships and accomplishment and between relationships and engagement. The PERMA total and positive emotion also had very large positive correlations with happiness, large positive correlations with health, and large negative correlations with loneliness and negative emotion.

Engagement, relationships, meaning, and accomplishment all had large positive correlations with happiness and generally medium-to-large correlations in the expected directions with health, negative emotion, and loneliness. In addition, happiness had a large positive correlation with health and a large negative correlation with negative emotion and loneliness. Finally, negative emotion had a large positive correlation with loneliness and health had medium negative correlations with both negative emotion and loneliness.

Hypothesis 1 Did the Students in the Positive Psychology Course Show Improvements in the PERMA Measures?

Table 3 displays the results regarding the pre and post PERMA scores for the students in the positive psychology course. The results show that there were significant improvements in all five elements of PERMA and on the PERMA total. All the effects were significant at $p < .001$ except for engagement which was significant at $p < .05$. The largest effects

Table 1 Descriptive statistics and independent sample *t* tests for positive psychology and other psychology courses at time 1

	Positive psychology course			Other psychology courses			Positive psychology versus other courses					
	Both ^a	First only ^b	<i>t</i>	<i>p</i>	Both	First only	<i>t</i>	<i>p</i>	Both	First only		
	(<i>n</i> = 112)	(<i>n</i> = 15)			(<i>n</i> = 176)	(<i>n</i> = 149)			(<i>n</i> = 288)	(<i>n</i> = 164)		
<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)			<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)			<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>	
<i>Demographics</i>												
Age	23.5 (6.4)	23.6 (4.3)	.084	.993	21.9 (5.1)	22.0 (4.7)	.261	.795	2.263	.024	1.220	.224
Gender (% female)	75.0%	73.3%	-.139	.890	71.0%	69.1%	-.759	.448	-.736	.463	-.488	.626
GPA	3.43 (0.40)	3.37 (0.33)	-.590	.557	3.42 (0.45)	3.41 (0.44)	-.097	.923	.220	.826	-.405	.686
Credit hours	77.5 (37.7)	78.4 (45.2)	.087	.931	69.5 (34.6)	65.8 (32.4)	-.989	.323	1.835	.068	1.376	.171
<i>PERMA well-being</i>												
PERMA total	7.31 (1.15)	7.16 (1.43)	-.417	.649	7.55 (1.22)	7.65 (1.15)	.759	.448	-.1.663	.097	-.1.530	.128
Positive emotion	6.99 (1.33)	6.91 (1.58)	-.210	.834	7.14 (1.56)	7.28 (1.45)	.822	.412	-.835	.404	-.921	.358
Engagement	7.34 (1.35)	7.11 (2.02)	-.420	.680	7.74 (1.36)	7.66 (1.29)	-.589	.556	-.2.482	.014	-.1.024	.322
Relationships	7.43 (1.70)	7.42 (2.14)	-.010	.922	7.59 (1.71)	7.85 (1.63)	1.352	.177	-.812	.417	-.934	.352
Meaning	7.22 (1.77)	6.87 (1.64)	-.727	.469	7.66 (1.58)	7.74 (1.52)	.459	.647	-.2.206	.028	-.2.099	.037
Accomplishment	7.59 (1.20)	7.51 (1.28)	-.248	.804	7.63 (1.27)	7.74 (1.27)	.855	.393	-.1.95	.845	-.678	.499
<i>PERMA other</i>												
Happiness	7.24 (1.62)	7.40 (2.10)	.344	.731	7.38 (1.74)	7.54 (1.78)	.795	.427	-.681	.496	-.279	.781
Health	6.87 (1.84)	6.53 (1.77)	-.660	.511	6.92 (1.98)	7.06 (1.93)	.642	.521	-.221	.825	-.1.011	.313
Loneliness	4.41 (2.62)	3.87 (2.92)	-.739	.461	4.56 (2.73)	3.80 (2.58)	-.2.557	.011	-.464	.643	.098	.635
Negative emotion	4.81 (1.94)	4.53 (1.90)	-.510	.611	5.27 (1.72)	4.80 (1.85)	-.2.373	.018	-.2.114	.035	-.523	.602

^aBoth, students who completed both questionnaires^bFirst only, students who only completed the first questionnaire

Table 2 Zero-order correlations between the study variables for all participants during the first week of the semester (n = 452)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	-													
2. Gender	.073	-												
3. GPA	.050	-.126**	-											
4. Credit hours	.170**	.050	.041	-										
5. PERMA total	.075	.012	.048	-.066	-									
6. Positive emotion	.062	.036	-.027	-.063	.843**	-								
7. Engagement	.033	.053	-.003	-.043	.744**	.520**	-							
8. Relationships	.058	-.095*	.067	-.013	.784**	.647**	.429**	-						
9. Meaning	.087	.044	.050	-.082	.870**	.675**	.566**	.554**	-					
10. Accomplishment	.058	.028	.105*	-.071	.762**	.512**	.519**	.427**	.677**	-				
11. Happiness	.060	.026	.003	-.049	.801**	.857**	.485**	.646**	.707**	.482**	-			
12. Health	-.008	.044	.046	-.094*	.469**	.467**	.270**	.370**	.382**	.387**	.455**	-		
13. Loneliness	-.129**	-.011	-.056	.008	-.467**	-.487**	-.218**	-.471**	-.402**	-.254**	-.537**	-.273**	-	
14. Negative emotion	-.155**	-.167**	-.050	.030	-.414**	-.530**	-.165**	-.327**	-.362**	-.256**	-.530**	-.337**	.573**	-

p* < .05; *p* < .01

Table 3 Comparison of the students in the positive psychology course and other psychology courses on the PERMA-profiler scores

	Positive psychology course (n = 112)				Other psychology courses (n = 176)				Group comparisons ^a				
	Pre	Post	<i>t</i>	<i>p</i>	<i>d</i> ^b	Pre	Post	<i>t</i>	<i>p</i>	<i>d</i> ^b	<i>F</i>	<i>p</i>	<i>d</i> ^c
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)				<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)						
<i>Well-being measures</i>													
PERMA total	7.31 (1.15)	7.91 (1.05)	-6.20	<.001	.586	7.55 (1.22)	7.36 (1.36)	2.93	.004	-.221	48.622	<.001	.846
Positive emotion	6.99 (1.33)	7.60 (1.38)	-5.33	<.001	.504	7.14 (1.56)	6.96 (1.57)	2.08	.039	-.157	30.635	<.001	.671
Engagement	7.34 (1.35)	7.60 (1.38)	-2.02	.046	.191	7.74 (1.36)	7.54 (1.49)	2.03	.044	-.153	8.319	.004	.350
Relationships	7.43 (1.70)	8.13 (1.44)	-4.66	<.001	.440	7.59 (1.71)	7.40 (1.69)	1.90	.059	-.143	26.244	<.001	.621
Meaning	7.22 (1.77)	8.09 (1.35)	-7.44	<.001	.703	7.66 (1.58)	7.41 (1.80)	2.46	.015	-.185	51.774	<.001	.873
Accomplishment	7.59 (1.20)	8.12 (1.08)	-4.60	<.001	.435	7.62 (1.27)	7.47 (1.57)	1.87	.063	-.141	23.530	<.001	.588
<i>Other measures</i>													
Happiness	7.24 (1.62)	7.99 (1.60)	-4.68	<.001	.442	7.38 (1.74)	7.34 (1.83)	.35	.728	-.026	16.189	<.001	.488
Health	6.87 (1.84)	7.33 (1.66)	-3.74	<.001	.353	6.92 (1.98)	6.86 (1.98)	.54	.591	-.041	8.482	.004	.353
Loneliness	4.41 (2.62)	3.46 (2.44)	4.09	<.001	.386	4.56 (2.73)	4.35 (2.67)	1.03	.304	-.078	6.403	.012	.307
Negative emotion	4.81 (1.94)	4.16 (1.86)	3.89	<.001	.368	5.27 (1.72)	5.29 (1.75)	-.22	.830	.017	13.044	<.001	.438

^aRepeated measures GLMs comparing groups on pre-post changes controlling for age, gender, GPA, and credit hours

^bA positive *d* indicates a pre-post improvement (e.g., increased happiness, PERMA well-being, health or decreased loneliness and negative emotion)

^cA positive *d* indicates improvement in the positive psychology course relative to the other psychology courses

were for meaning and the PERMA total with the effects for positive emotion, relationships, and accomplishment being somewhat smaller. The effect sizes for the elements of PERMA were all generally in the medium range except that of a small effect for engagement and a larger effect for meaning.

There were also significant improvements in each of the four additional measures in the *PERMA Profiler*. All these effects were significant at $p < .001$. There were increases in both happiness and health and decreases in both loneliness and negative emotion. The effect size was medium for happiness and small-to-medium for loneliness, negative emotion, and health.

Hypothesis 2 Did the Students in the Positive Psychology Course Show Improvements in the PERMA Measures That Were Greater Relative to Students Taking Other Psychology Courses?

Table 3 also shows the results regarding the pre and post PERMA scores for the other psychology course group and the comparisons with the positive psychology course group. There is clearly a different pattern in the direction of changes for students in the two groups. For the students in the other psychology courses, all the changes on the PERMA measures were for the worse except for loneliness which decreased slightly. In addition, there were significant decreases in positive emotion, engagement, and the PERMA total and trends for decreases in meaning and accomplishment. The decreases for the PERMA well-being measures were small with even smaller non-significant decreases in happiness, health, and loneliness. There was also a very small and non-significant increase in negative emotion.

The results of the repeated measures GLM analyses comparing the pre-post changes between the groups are also shown in Table 3. These analyses indicated that the changes in the positive psychology course group on each of the dependent variables were significantly greater in the desired direction than in the other psychology course group. These group differences in pre-post changes were significant at $p < .001$ for PERMA total, positive emotion, relationships, meaning, accomplishment, happiness, and the decrease in negative emotion. They were significant at $p < .01$ for engagement and health and at $p < .05$ for loneliness.

Finally, regarding the effect size of the group differences in the five elements of PERMA and the PERMA total, the effect size was large for meaning and the PERMA total; medium-to-large for positive emotion, relationships, and accomplishment; and small-to-medium for engagement. Regarding the other four PERMA measures, the effect size was medium for happiness, small-to-medium for health and negative emotion, and small for loneliness.

4 Discussion

The purpose of this study was to investigate the effects of a character strength focused positive psychology course on undergraduate student happiness and well-being. The course was based on the VIA classification of strengths, the PERMA theory of well-being, and the connection between individual and community well-being. Happiness and well-being were assessed during the first and last weeks of the semester among students taking the course and in students taking other psychology courses. Both of our hypotheses were supported. First, students in the positive psychology course had significant improvements in happiness, all five elements of well-being, the summary score for all five elements, and health,

loneliness, and negative emotions. Second, these improvements were each significantly greater in the desired direction for the students in the positive psychology course when compared with students taking other psychology courses.

There are several ways in which this study may contribute to our understanding of the potential impact of positive psychology courses. First, this study demonstrated that a course focused on the VIA character strengths and the PERMA theory of well-being may have a broad and beneficial impact on the happiness and well-being of students. Our course was designed to enable students to learn about the character strengths as ways to increase the five elements of PERMA. While the best developed psychological interventions usually target one or two specific outcomes, such as anxiety or depression (Butler et al. 2006; Hofmann et al. 2012), our course effectively targeted happiness and all five elements of well-being, while also achieving the educational goals of teaching positive psychology and enabling students to earn course credit.

Second, the students in the positive psychology course also had a significant increase in health and significant decreases in negative emotion and loneliness. The changes in health and negative emotion are particularly noteworthy because they represent relatively independent aspects of our lives that have been primary targets in other interventions and may be important in their own right. Positive psychology was founded to compensate for an over-emphasis on reducing negative emotions and what goes wrong with us and to focus more on increasing positive emotions and what can go right (Seligman and Csikszentmihalyi 2000). This study suggests that teaching positive psychology may not only be effective in increasing happiness and well-being but may at the same time decrease negative emotions and improve physical health.

Third, this study suggests that a positive psychology course may have a stronger effect on happiness and well-being than the relatively small effects (weighted mean $d = .327$) found in previous studies (Goodmon et al. 2016; Lambert et al. 2019; Lefevor et al. 2018; Maybury 2013). The effect size for the increase in the PERMA total was in the medium range when comparing pre and post scores ($d = .586$) and large in relation to the comparison group ($d = .846$). Similarly, the effects for pre-post changes in the individual elements of PERMA were generally in the medium range and medium-to-large in relation to the comparison group. Indeed, the effects were consistently larger in relation to the comparison group than when just examining pre-post changes. This is consistent with previous research indicating that happiness and well-being may decrease during the semester and emphasizes the value of having a comparison group (Barker et al. 2018).

Fourth, the students in the positive psychology course had an especially large increase in the element of meaning. There are several aspects of the course that may help explain this. First, the students were challenged to think about their lives as a “hero’s journey” which implies a meaningful path towards a valued goal or purpose. In addition, the connection made between individual and community well-being may have helped increase meaning because it is often associated with giving to others or to something greater than the self (Baumeister et al. 2012). Finally, the *Creative Kindness* assignment may have also helped increase meaning because many students used it to serve the community and wrote about how meaningful it was for them.

Fifth, the effect sizes of the other four elements of PERMA may also provide some valuable information and direction for future research. Although not as large as the increase in meaning, the positive psychology students reported relatively large increases in positive emotion, relationships, and accomplishment—especially in relation to the comparison group. This highlights the potential of such a course for having a substantial effect on a variety of domains that are both important and relatively

independent. Finally, although the increase in engagement was significant, the effects were about half as large as for the other elements. While we plan to try new ways to increase the effect of the course on engagement, it is possible that our results may have been affected by the low reliability of our measure and the general difficulty of assessing flow-like experiences with self-report measures (Csikszentmihalyi 1998).

4.1 Implications

The most important implication of this study is that a positive psychology course may have a substantial impact on all aspects of happiness and well-being while reducing negative emotions and improving health. While positive psychology has been taught at the college level for almost 20 years, research on its potential effects on health, happiness, and well-being has only begun relatively recently. Building on earlier research (Goodmon et al. 2016; Lambert et al. 2019; Lefevor et al. 2018; Maybury 2013), this study provides encouraging evidence about the breadth and depth of the potential impact of positive psychology courses. First, they may improve well-being for a large number of students while also imparting the latest science—all for course credit. Second, it may be possible to achieve the larger effect sizes that have been found with some of the best developed interventions for psychological disorders. Third, unlike the one or two targets in these interventions, a positive psychology course may impact a full range of the aspects of health and well-being.

The second major implication is the need for additional research to identify the most important ingredients for fostering well-being in a course. The ongoing research on the effectiveness of positive psychology interventions has given us a good head start because these can be assigned in courses (Bolier et al. 2013; Seligman et al. 2005). Also, the growing body of research supporting the PERMA theory of well-being (Ascenso et al. 2018; Birch et al. 2019; Kern et al. 2015; Tansey et al. 2018) and the VIA classification (Niemiec 2017; Peterson and Seligman 2004; Wagner et al. 2019) lend support to focusing on them in a course. However, the potential effects of several ingredients in our course might be better understood by comparing classes with and without them. We think that primary candidates for studying this way may be learning student names, having peer teaching assistants recommending movies to illustrate the VIA strengths.

The final implication is simply that positive psychology courses be offered at more colleges and universities. Even as we continue to identify the active ingredients and learn to maximize their impact, offering more of these courses will likely be a wise investment of time, money, and human resources. Not only do students learn and get credit, there is also a good chance that many will reap the benefits in what is most important to them—their health, happiness, and well-being. Just from a public health perspective, it is hard to imagine what might have a greater impact on both individual and community well-being for such a small investment. One of the aims in developing positive psychology interventions is to make them so intrinsically rewarding that people continue to practice them on their own (Niemiec 2017; Seligman et al. 2005). After years of teaching our course, we have often seen this go a step farther in producing a steady stream of enthusiastic alumni who are not only eager to continue to practice what they learn for themselves but are also eager to give back to the larger community.

4.2 Limitations

There are several limitations to this study. First, the students were not randomly assigned to the groups and there may be important differences between those in the positive psychology course and those taking other psychology courses. Still, it is unlikely that there would be substantial differences between two groups of students who are similar in so many ways. Second, the improvements in happiness and well-being of the students in the positive psychology course may have been affected by the expectation that they would improve. However, we have found that student expectations for this kind of course may be a “double-edged sword” in that they often begin with high expectations that could easily set them up for disappointment. Third, although our positive psychology course was designed to teach students about strengths as ways to increase well-being for both the course and beyond, we only assessed pre-post changes during one semester and do not know how lasting or sustainable the changes might be.

4.3 Future Directions

There are several directions that we see for the future. First, regarding research, next steps could include following students over a longer time period, identifying the primary mediators of improvements, and determining what kind of people may benefit more or less from such a course. In addition, we have developed an online version of the course and are conducting a study to determine whether the students who take it will report increases in well-being that are similar to the face-to-face course. As with other online interventions (Mitchell et al. 2009; Seligman et al. 2005), an online course may be an efficient way to affect many people at a relatively low cost.

Second, because we have emphasized the connection between individual and community well-being, we think it would be particularly valuable to study the effects of such a course on the relationship of the students with other people and the larger university community. We have already begun to include self-report measures of the willingness of students to give to others and hope to soon begin adding reports about their giving from friends, family, and significant others. Although challenging, we think it may be particularly fruitful to find ways to assess the effects of such a course on strangers and more peripheral aspects of the larger community.

Finally, we hope to foster a community of teachers and researchers who continue to develop positive psychology courses with the dual purpose of teaching the science and improving student well-being. In this spirit, we are happy to share our syllabus, textbook, and all that we have learned in developing our course (Smith 2018). At the same time, we realize there are many others with unique and creative approaches that we can all learn from. Most important, we would like to end with an open invitation to any who would like to collaborate or partner together in examining and building on the rich potential benefits of teaching positive psychology.

5 Conclusion

This study provided encouraging evidence about the potential of a positive psychology course that focuses on the character strengths as a way to foster happiness and well-being. First, it demonstrated that such a course may be an effective and efficient way to improve the well-being of a relatively large number of students. Second, it showed that the size of the improvements may be substantial and larger than might be expected based on previous research. Third, it suggests that such a course has the potential of not only improving different aspects of well-being but also reducing negative emotion and improving health.

Appendix 1: Weekly Assignments for the Positive Psychology Course

1. *Life Goals* Answer 12 key questions to help you identify what might make you happy and what you want most out of your life.
2. *Personal Strengths* Complete the Values in Action questionnaire online and write about examples of when you used your top strengths.
3. *Strengths and Goals* Identify several goals and write about how you can use your top strengths to make progress in achieving them in the next month.
4. *Creativity with Strengths* Identify new ways to use your top strengths and use them on at least 3 days during the week.
5. *Finding Flow* Make a list of things you can do that may put you in a flow state and do at least two different things on different days and write about the experience.
6. *Seeing the Good* Pay attention to what happens during the day and write down three good things that happen every day for a week.
7. *Creating the Good* Write down good things and write about how you think you can make at least one of them happen more often in the future.
8. *Savoring* Make a list of at least ten things that you can savor and savor at least one of them on three different days.
9. *Best Love and Kindness* Write about one of the best acts of love or kindness you have experienced, how it affected you, and how you can honor it.
10. *Gratitude Expression* Write a gratitude letter to someone who you haven't fully or properly thanked and share it with that person in as personal way as you can.
11. *Sharing Strengths* Having a friend take the VIA survey, share your strengths, and talk about how you can support each other in using your strengths.
12. *Creative Kindness* Make a list of the new and different kind acts you can perform and do different acts of kindness on three different days during a week.
13. *Best Possible Life* Write about the best possible life you can imagine in 5–10 years including who you would be with, what you would be doing, and how you could give back.
14. *The Hero's Path* Identify the most important things that you have learned in class and write about how you can use them to achieve your best possible life.

Appendix 2: Top-Rated Video Resources for Teaching Positive Psychology

The following are our “top ten” lists of videos that have been used in the positive psychology course to illustrate the character strengths and have consistently been rated as highly beneficial by students.

A. *YouTube Videos* These have typically been shown during class.

1. *Wisdom* Little girl talks to mother—www.youtube.com/watch?v=YsvQ7SsEFdQ.
2. *Creativity* Life is beautiful scene—<https://www.youtube.com/watch?v=Nk3eVTNFmek>.
3. *Perseverance* Heather Dornidan race—www.youtube.com/watch?v=uqngLrakxY8.
4. *Love* Love liberates by Maya Angelou—www.youtube.com/watch?v=cbecKv2xR14.
5. *Fairness* Monkey fairness experiment www.youtube.com/watch?v=meiU6TxyCg.
6. *Self-control* Marshmallow test—(funny) www.youtube.com/watch?v=Sc4EF3ijVJ8.
7. *Forgiveness* The power of forgiveness—www.youtube.com/watch?v=o2BITY-3Mp4.
8. *Appreciation of Beauty* Shawshank scene—www.youtube.com/watch?v=qzUM2XTnpSA.
9. *Gratitude* Lily’s Disneyland surprise—www.youtube.com/watch?v=OOpOhlGiRTM.
10. *Meaning* What’s makes a hero? www.youtube.com/watch?v=Hhk4N9A0oCA.

B. *TED Talks* These have typically been shown before class.

1. *Wisdom* Our loss of wisdom by Barry Schwartz.
2. *Creativity* Do schools kill creativity? by Ken Robinson.
3. *Courage* Coming out of your closet by Ash Beckham.
4. *Authenticity* The power of vulnerability by Brené Brown.
5. *Social Intelligence* The social brain and its superpowers by Matt Lieberman.
6. *Kindness* The power of kindness by Johann Berlin.
7. *Self-control* Self control by Dan Ariely.
8. *Forgiveness* The power of forgiveness—by Sammie Rangel.
9. *Gratitude* Gratitude by Louis Schwartzberg.
10. *Hope* Prescribing hope by Allan Hamilton.

C. *Movies* These have typically been recommended to illustrate VIA strengths.

1. *Amelie (2001)* Kindness, humor, creativity, love.
2. *Freedom Writers (2007)* Love of learning, hope, perseverance,
3. *Good Will Hunting (1997)* Hope, love, authenticity.
4. *Happy (2011)* Curiosity, love of learning, social intelligence.
5. *Hidden Figures (2016)* Courage, open-mindedness, fairness.
6. *Invictus (2009)* Forgiveness, leadership, wisdom.
7. *Life is Beautiful (1997)* Creativity, humor, vitality.
8. *Nicky’s Family (2011)* Gratitude, courage, humility.
9. *The King’s Speech (2010)* Creativity, humor, courage.
10. *To Kill a Mockingbird (1962)* Fairness, integrity, open-mindedness.

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