

Impact of Positive Psychology Education and Interventions on Well-Being: A Study of Students Engaged in Pastoral Care

Inna R. Edara, Haw-Lin Wu

Abstract—Positive psychology investigates human strengths and virtues and promotes well-being. Relying on this assumption, positive interventions have been continuously designed to build pleasure and happiness, joy and contentment, engagement and meaning, hope and optimism, satisfaction and gratitude, spirituality, and various other positive measures of well-being. In line with this model of positive psychology and interventions, this study investigated certain measures of well-being in a group of 45 students enrolled in an 18-week positive psychology course and simultaneously engaged in service-oriented interventions that they chose for themselves based on the course content and individual interests. Students' well-being was measured at the beginning and end of the course. The well-being indicators included positive automatic thoughts, optimism and hope, satisfaction with life, and spirituality. A paired-samples *t*-test conducted to evaluate the impact of class content and service-oriented interventions on students' scores of well-being indicators indicated statistically significant increase from pre-class to post-class scores. There were also significant gender differences in post-course well-being scores, with females having higher levels of well-being than males. A two-way between groups analysis of variance indicated a significant interaction effect of age by gender on the post-course well-being scores, with females in the age group of 56-65 having the highest scores of well-being in comparison to the males in the same age group. Regression analyses indicated that positive automatic thought significantly predicted hope and satisfaction with life in the pre-course analysis. In the post-course regression analysis, spiritual transcendence made a significant contribution to optimism, and positive automatic thought made a significant contribution to both hope and satisfaction with life. Finally, a significant test between pre-course and post-course regression coefficients indicated that the regression coefficients at pre-course were significantly different from post-course coefficients, suggesting that the positive psychology course and the interventions were helpful in raising the levels of well-being. The overall results suggest a substantial increase in the participants' well-being scores after engaging in the positive-oriented interventions, implying a need for designing more positive interventions in education to promote well-being.

Keywords—Hope, optimism, positive automatic thoughts, satisfaction with life, spirituality, well-being.

I. INTRODUCTION

SINCE the evolution of the field of positive psychology, many psychologists and scholars in other related areas have been willing to take the positive approach to

understanding and researching human functioning. Positive psychology emphasizes the role of psychology and clinical practice in investigating the human strengths and virtues that help people endure their life's challenges and continue to find meaning and flourish in their lives. Scholars engaged in positive psychology not only have been developing positive models and theories to understand human psyche and behavior, but also have been designing positive interventions to achieve the clinical goal of living a meaningful and purposeful life. More recently, positive psychology concepts and interventions are also being integrated into educational curricula. Taking into consideration these various developments in the field of positive psychology, this research project attempted to analyze the impact of a positive psychology course and positive interventions on the selected indicators of well-being in a class of theology students who engaged in service-oriented ministries.

II. LITERATURE REVIEW

Although positive psychology has become a lingua franca of both the scholars and ordinary people, its descriptions have been varied, and its relative interventions have been expanding into various spheres of individuals and institutions. In the following paragraphs, we will briefly describe the development of positive psychology and positive interventions, their relation to education, and their role in the well-being of people and institutions.

A. Positive Psychology

Although not systematically recorded or empirically studied, the traces of positive psychology can be dated back to Aristotle's idea of happiness in the earlier centuries to William James's writings on healthy mindedness, Allport's interest in positive human characteristics, Maslow's advocacy for the study of healthy people in lieu of sick people, and Frankl's work on finding meaning under the direst human circumstances. In spite of these traces, the psychology in the second half of the 20th century focused more on abnormal symptoms and learned in depth about anxiety, depression, stress, and other psychological disorders [28], [37], [56], but said or did very little about positive traits such as character strengths, virtues, and the conditions and processes that may lead to higher levels of well-being and optimal functioning [16], [22], [33], [45]. In other words, psychology has been investigating how to help people move from negative symptoms to normal, but not at understanding how people rise

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from normal to positive flourishing. Thus, positive psychology movement grew largely from the recognition of an imbalance in clinical psychology's research that mostly focused on mental illness [22].

Although positive psychology movement is increasingly growing, its aim is not the denial of the clinical psychology that researches distressing, unpleasant, or negative aspects of life, nor is it an effort to see these mental illnesses through rose-colored lenses. In addition to fully acknowledging the existence of various forms of human suffering, dysfunctional family systems, and ineffective institutions, the main aim of positive psychology is to study the ways that people feel joy, express gratitude, show altruism, create healthy families and establish productive institutions, thereby addressing the full spectrum of human experience. In addition, positive psychology makes it a part of its overall aim that the inquiry of positive topics is important to understand them in their own right, not solely as buffers against the problems and disorders of life [22].

Given the increasing growth of the positive psychology movement, perhaps one of the most daunting challenges to positive psychology stems from defining what actually is positive. In psychology, labeling something as positive or good may not be simple [25]. For example, Diener and Suh [14] suggested three bases for what is positive or valuable. First, the *choice*; that is, if something is chosen regularly, the chooser probably believes in its value. Second, the *judgment*; that is, people are able to judge whether or not something is satisfying or pleasant. Third, the *reference*; that is, people's judgments of what is positive or good can be made with reference to some set of cultural norms or shared beliefs, which guide us regarding what goals to pursue. Duckworth and colleagues [16] suggested the conceptual organization of positive psychology as the pleasant life, the engaged life, and the meaningful life. Seligman [45] described positive psychology in terms of three pillars, which are positive subjective experiences, positive individual characteristics such as strengths and virtues, and positive institutions and communities. Duckworth and colleagues [16] described positive psychology as the scientific study of strengths and virtues, well-being, and optimal functioning. In short, the meaning of what is positive or good and defining positive psychology is complex and multidimensional, and therefore, the study of positive psychological topics requires recognition of this complexity in building theories and designing empirical interventions [22].

B. Positive Interventions

As indicated above, the underlying assumption of positive psychology movement is that persons who carry even the weightiest psychological burdens or experience severe clinical symptoms care much more in their lives than just the relief from their burdens or symptoms. Troubled persons want not just less sadness and worry, but also more satisfaction, contentment, and joy. They want to not just correct their weaknesses, but also build their strengths and imbue their lives with meaning and purpose. These states do not come

about automatically when pain is relieved, and suffering is removed. These states need to be cultivated [16]. Grounded in this basic assumption, positive interventions are being designed to increase positive aspects of pleasure and happiness, and engagement and meaning [16], [35], [42], [47], [49].

Researchers of positive psychology believe that positive psychology interventions are worthwhile and effective for two reasons. First, positive interventions by building positive emotions and traits may actually counter mental distress itself. Second, positive interventions, by definition, are fully justifiable in their own right in increasing positive growth, well-being, and optimal functioning [16]. With regard to the first reason for positive interventions, there is a mounting evidence for the undoing or buffering effect of positive emotions. Fredrickson and Joiner [21] have suggested a mechanism of an "upward spiraling" effect of positive emotion, in that the individuals who experience positive emotions are more likely to find meaning in negative events, which in turn leads to greater positive emotion. For example, research studies have indicated that positive emotions serve to undo the cardiovascular aftereffects of negative emotions [54]; positive emotions buffer individuals from stress [19], and instilling hope in therapy session appears to make the therapy more effective [53]. Also, the building of buffering strengths such as courage, optimism, purpose, perseverance, authenticity, insight, realism, pleasure capacity, future-mindedness, personal responsibility, and interpersonal skill suggests that positive psychology may play a critical and implicit role in the effectiveness of therapy [46].

There is also an increasing evidence for the second reason of positive interventions, that is, by definition, they are fully justifiable in their own right. For example, Burton and King [7] designed a random-assignment, placebo-controlled test to measure the effect of a writing intervention on mood and physical health and reported that writing about positive experiences caused a short-term boost in mood. Emmons and McCullough [18] employed a randomly assigned gratitude condition and control condition to show the effect of gratitude intervention on their mood. They found that participants randomly assigned to a gratitude intervention (participants in the gratitude condition were asked to write about five things for which they were thankful, every week for 10 weeks) showed increased positive affect relative to control participants. Lyubomirsky and colleagues [34] conducted a six-week "count your blessings" intervention in a sample of participants assigned to treatment and control conditions. Participants in treatment condition were asked to either count their blessings once per week or three times per week. At the end of the six-week study, the results showed that only those participants who counted their blessings once per week were happier. In a six-week "performing acts of kindness" study [34], participants in one treatment group were asked to perform five acts of kindness all in one day and in another treatment, group were asked to perform five acts of kindness spread out over one week. These two groups were compared with a control condition, and the results indicated that only the

participants who performed acts of kindness all in one day were happier than were the others.

In an Internet study with 471 participants, Seligman and colleagues [49] compared five positive psychology intervention groups with one control group. Participants completed happiness and depression surveys at pretest and then at one week, two weeks, one month, three months, and six months following completion of their randomly assigned exercises. The positive psychology intervention exercises included writing the “three good things in life,” the “gratitude visit,” the “you at your best,” the “identifying your signature strengths” and the “using your signature strengths in new way.” Finally, individuals who were randomly assigned to the control exercise were asked to write about their early memories every night for one week. Regardless of their assigned exercise, all participants, even those in the control group, were happier and less depressed at immediate post-test, suggesting that just the act of doing something assigned by a professional figure in the expectation of gain is sufficient to increase one’s mood in the short-term. One week later, participants in the control intervention had returned to their baseline levels of happiness and depression symptoms and remained there through the six-month follow-up. Participants in the “gratitude visit” group were significantly happier through the one-month follow-up period, but by three months, they were no happier or less depressed than they had been at baseline. Participants in both the “using your strengths” and the “three good things” interventions were no happier and no less depressed than were participants in the control group at post-test, yet they were significantly happier and less depressed than were participants in the control group at follow-up assessments one month, three months, and six months later.

Gander and colleagues [23] examined the impact of nine strengths-based positive interventions (gratitude visit; three good things; using character strengths; three good things in two weeks; gratitude visit and three good things; three funny things for a week; counting kindness; gift of time; when one door closes, another door opens) on well-being and depression in an Internet-based randomized placebo-controlled study. A total of 622 adults subjected themselves to one of the nine interventions or to a placebo control exercise (early memories). Participants’ levels of happiness and depression were estimated at five times (pre- and post-test, 1-, 3-, and 6-months follow-up). Except for “three good things in 2 weeks” intervention, eight of the nine interventions increased happiness and decreased depression in all groups, including the placebo control group. The authors concluded that happiness can be enhanced through some “strengths-based” positive interventions.

Proyer and colleagues [40] conducted a study in comparing an intervention aimed at using five signature strengths with five lesser strengths in a randomized placebo-controlled trial. The investigators randomly assigned a total of 375 adults to one of the two intervention conditions (i.e., using five signatures vs. five lesser strengths in a new way) or a placebo control condition (i.e., early memories). They measured

happiness and depressive symptoms at five time points (i.e., pre- and post-test, 1-, 3-, and 6-months follow-ups) and character strengths at pre-test. Proyer and colleagues’ findings [40] indicated an increase in happiness for up to 3 months and a decrease in depressive symptoms in the short term in both intervention conditions. Their participants also reported working with strengths equally rewarding in both conditions, and those who reported generally higher levels of strengths benefitted more from working on lesser strengths rather than signature strengths. In general, these findings once again suggest that working on character strengths is effective for increasing happiness.

In an online positive psychology intervention study, Gander and colleagues [24] randomly assigned 1624 adults to seven conditions (Conditions 1–5 were related to five components of Seligman’s Well-Being theory: the pursuit of pleasure, the pursuit of meaning, the pursuit of engagement, positive relationships, and accomplishment; Condition 6 was related to all of the five components, and Condition 7 was placebo control condition of early childhood memories). Participants were asked to write down three things they related to their respective randomly assigned conditions. The authors assessed happiness and depression before and after the intervention, and one, three, and six months afterwards. Their results suggested that all the interventions were effective strategies for increasing well-being and ameliorating depressive symptoms.

In assessing the effectiveness of positive psychology interventions in the enhancement of well-being as well as in reducing the depressive symptoms, [4] conducted a meta-analysis of 40 research articles, describing 39 studies, totaling 6,139 participants. The positive psychology interventions in these research articles included optimism and gratitude exercise, doing acts of kindness, hope therapy, practicing gratitude by counting one’s blessings, well-being therapy, positive bibliotherapy, three good things, focus on strengths, using strengths in a new way, savoring the moment, best possible selves exercise, rehearsal of positive statements, thinking about positive life experiences, positive future thinking, positive psychotherapy, self-compassion, compassionate action, and positive writing. The meta-analysis results showed that various positive psychology interventions significantly enhanced subjective and psychological well-being and reduced depressive symptoms. Effect sizes were in the small to moderate range, with the mean effect size of 0.34 for subjective well-being, 0.20 for psychological well-being, and 0.23 for depression.

C. Positive Education

Positive education is the application of positive psychology to educational settings. The purpose of positive education is to view the school as a positive institution that helps pupils cultivate positive traits, which in turn create positive emotions for learning and well-being. Thus, the educational implications of positive psychology consist in “learning well and living well” [30].

Positive education has two core principles, which should be

embraced from a holistic perspective. The first principle is about *academic achievement*, that is, to create a learning climate in class where students are able to absorb information and creatively construct it according to their own capacities and views. The second principle is about *well-being*, that is, to promote a climate at schools that would foster intellectual, emotional and physical well-being in students, and thus prevent the potential academic and emotional problems before they occur or reoccur. Therefore, engaging in positive education would appear that schools have a duty to educate their students on well-being and implement interventions aimed at increasing the optimal functioning of their students, staff and community [6].

From an educational perspective, positive psychologists emphasize positive emotions, for they are said to have more benefits than simply helping a person feel good. Based on [20] broaden-and-build thesis, positive psychologists argue that positive emotions broaden a person's thought-action repertoire (attention, working memory, verbal fluency, openness to information) and that such a broadened repertoire builds enduring personal resources, ranging from fewer intellectual biases, more effective learning strategies and holistic thinking, more helpful behavior, increased self-confidence, and better attitude to less physical pain and improved health through boosting the immune system. Thus, the benefits of positive emotions gradually transform people by forming an upward spiral of increased activity and engagement that is conducive to learning and to well-being. Therefore, the main implication of positive psychology for positive education and classroom practice is that "more wellbeing is synergistic with better learning" [48], because positive emotions not only enhance present well-being but also dispel the effects of previous negative experiences, creating positive learning situations.

Positive psychologists make one very general claim, which is that educational strategies need to focus more on students' strengths than on students' weaknesses. They have maintained, for instance, that moral virtues and signature strengths hold a key to student educational achievement and well-being, that classroom teaching needs to foster more experiences of flow, and that positive affect broadens and builds students' learning and coping repertoires. In general, educational institutions must place greater emphasis on learning by doing, as more learning and less proneness to mind-wandering tends to be obtained through doing than mere thinking [30].

D. Pastoral Care Service

In historical times, pastoral care had a theological connotation. For example, in the 1960s, Clebsch and Jaekle [9] described pastoral care as "consisting of helping acts done by the representative Christian persons, directed toward the healing, sustaining, guiding and reconciling of troubled persons" (p. 4). In 1980s, Clinebell [10] said that "pastoral care is the broad, inclusive ministry of mutual healing and growth within a congregation and its community, through the life cycle" (p. 26). Campbell [8] offered a comprehensive statement of pastoral care as "that aspect of the ministry of the

Church which is concerned with the well-being of individuals and of communities" (p. 188). In these definitions, we can see a movement from a theological connotation to psychological and social discourse to a secular usage of pastoral care.

Moreover, due to being described as helping acts or inclusive ministry or showing concern for the well-being of individuals and communities, pastoral care can be said to be an aspect of *prosocial behavior*, which is an umbrella term that describes acts undertaken to enhance the welfare of others [43]. Research has also lent empirical support to the claims that prosocial behaviors affect the indicators of well-being of both the helper and the help recipient [17], [44], [55], [57].

Weinstein and Ryan's [55] review of literature suggested that several theoretical approaches highlight the role of motivation, volition, and autonomy in prosocial behaviors. For instance, *functional approach* states that individuals engage in prosocial acts to an extent that certain motives are fulfilled. *Social role theory* claims that motivation to engage in prosocial behaviors arises from family and societal influences. *Self-determination theory* states that prosocial behaviors vary in relation to how autonomous and volitional they are. Although all these approaches differ in their claims, the underlying presumption is that prosocial behaviors can be variously motivated, and that more volitionally undertaken behaviors may influence both the quality of behavior and well-being of the helper.

III. RESEARCH PURPOSE AND HYPOTHESES

As the aforementioned literature has indicated, positive psychology is described as the scientific study of strengths and virtues, well-being, and optimal functioning [16]. Positive psychology emphasizes the role of enduring positive traits, human strengths and virtues that help people endure their life's challenges and promote positive emotions, subjective experiences, and positive institutions. Scholars have been designing various positive interventions to achieve the goals of positive emotions, subjective experiences, and positive institutions. More recently, positive psychology concepts and positive interventions are also being integrated into educational curricula and institutions. Thus, considering these various ongoing developments in the field of positive psychology, positive interventions and positive education, this research project attempted to investigate the impact of an 18-week (one semester) academic course in positive psychology and positive interventions on the selected well-being measures among a group of theology students who were engaged in pastoral care. In other words, this study explored how the mandated (course requirement) yet volitional and autonomous motivation for a helping act through positive interventions impacts the well-being of the person who is engaged in the helping process.

In line with the description of the purpose of positive psychology, which is to study positive traits and virtues in order to promote well-being and optimal functioning, research has indicated that the designing of positive psychology interventions has two worthwhile and effective reasons. The first reason is that the positive interventions may actually

counter mental distress itself by employing traits and building positive emotions. The second reason is that by definition the positive interventions are fully justifiable in their own right in increasing positive growth, well-being, and optimal functioning [16]. This particular project has taken the path along the second reason in order to investigate the growth in well-being measures through the implementation of appropriate positive interventions in the service ministry by a group of students in theology degree program. In addition, since the research is carried out in an educational setting, this project could be considered as a research in the implementation of positive psychology concepts and positive interventions in positive education. The purpose of positive education is to view the educational setting as a positive institution that helps students assess their virtues, develop positive traits, which in turn create positive emotions for learning and promote well-being [30].

Finally, as noted earlier, Seligman [45] described positive psychology in terms of three pillars: positive subjective experiences, positive individual characteristics such as strengths and virtues, and positive institutions and communities. This study tried to specifically investigate the first two pillars in an educational setting, which invariably may create the positive institution. That is, the effect of positive traits and virtues on positive emotions was investigated. Research has suggested positive traits or virtues, positive emotions or experiences, social factors and physical habits as the appropriate and comprehensive indicators of positive psychology and positive education [6]. This research used automatic positive thoughts and spiritual transcendence as positive traits or virtues in investigating their effect on positive emotions of optimism, hope, and life satisfaction. Seligman and Csikszentmihalyi [47] said that the field of positive psychology could be understood from three levels: subjective level, individual level, and group level. At the subjective level, positive psychology is all about valued subjective experience, including well-being, contentment, and satisfaction that pertain to the past, hope and optimism that point toward future, and flow and happiness that belong to the present. At the individual level it is about positive individual traits, such as the capacity for love, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, spirituality, high talent, and wisdom. At the group level it is about the civic virtues and the positive institutions that move individuals toward responsible citizenship, altruism, civility, work ethic, moderation, and tolerance.

Specifically, this research project tested the following hypotheses:

1. There would be acceptable reliability coefficients of the scales and significant correlations among the study variables in both pre-course and post-course analyses.
2. Due to the implementation of appropriate positive interventions in the pastoral care service throughout the 18-week academic course in positive psychology and education, there would be significant increases from the pre-course to post-course scores on the positive traits of spiritual transcendence, automatic positive thoughts, and

on the positive emotions of optimism, hope, and satisfaction with life of the helpers.

3. There would be significant gender differences, and significant Age by Gender effects on the total pre-course and post-course well-being scores.
4. After controlling for demographics in linear regression analyses, there would be significant effects of the positive traits of spiritual transcendence and automatic positive thoughts on the helper's positive subjective experiences of optimism, hope, and satisfaction with life.
5. There would be significant differences between pre-course and post-course regression coefficients, suggesting the usefulness of positive interventions in pastoral care service and their role in making an impact of the positive traits on the helper's positive emotions.

IV. METHODS

A. Procedure and Participants

The research participants were students of theology and pastoral studies, who voluntarily enrolled in a 2-credit one-semester (18-week) course on positive psychology, education, and interventions. The total number of students included 45, with 9 males and 36 females, and with ages ranging from 23 to 68.

The students met with the instructors each week for two hours of sessions and discussed various topics related to positive psychology and interventions. The topics included introduction to positive psychology and interventions, relation between positive psychology and spirituality, positive psychology and pastoral care, power of emotions, influence of the environment on the beliefs, power of happiness, positive relationships, power of praise, gratitude, forgiveness, virtues and character strengths, hope and faith, appreciative inquiry, and the practicum on the implementation of the positive psychology interventions in pastoral care. The course methods included instructions, selected readings, movie or documentary clips, group discussions, individual and group oral and written reports, and the practicum.

Students completed a battery of positive psychology questionnaire at the beginning and end of the course. The battery of questionnaire included two scales on positive virtues or traits, which were measured by Spiritual Transcendence and Positive Automatic Thought. It also included three scales on positive emotions, which were measured by Optimism, Hope, and Satisfaction with Life.

B. Measures

- **Spiritual Transcendence Scale (STS).** This scale was developed by Piedmont [39], comprising of 23 items that measure the transcendental aspects of connectedness, universality, and prayer fulfillment. The items are scored on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The sample items include, "All life is interconnected" and "I want to grow closer to the God of my understanding." Piedmont reported the reliability for total scale to be .93.

- **Positive Automatic Thought (PAT).** Developed by Kendall and colleagues [29], the PAT scale consists of 10 positive self-statements that assess the positive dimension of cognition on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Some of the sample items include “No matter what happens, I know I’ll make it” and “I’m luckier than most people.” The authors reported that the alpha coefficient for PAT was found to be .90.
- **Optimism.** Optimism was measured by the Life Orientation Test (LOT), [41]. The LOT is a 6-item self-report scale, with 3 positively worded and 3 negatively worded items, measured on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items include, “In uncertain times, I usually expect the best” or “I rarely count on good things happening to me.” After reverse-coding the negatively worded items, the six items are summed to produce an overall score, with higher scores representing more optimism. The alpha coefficient for LOT was reported to be .82.
- **Hope.** Hope was assessed by the Adult Trait Hope (AHS) scale [52]. The AHS was designed to measure the reciprocal interaction between goal-directed thoughts (agency) and goal-directed actions (pathways). The scale comprises 12 items, using Likert-type response, ranging from 1 (definitely false) to 5 (definitely true). The two subscales (agency and pathways) use four items each; moreover, four additional items are used as distracters. Sample items include, “I energetically pursue my goals” and “There are lots of ways around my problem.” The two subscales are summed to create an overall Hope score. High scores on the overall Hope scale indicate individuals are more hopeful, more motivated to achieve their goals, and more capable of designing means to achieve their goals. Across several studies internal reliability alphas for

the overall Hope Scale have ranged from .74 to .84.

- **Satisfaction with Life (SWL).** SWL is a 5-item instrument designed to measure overall life satisfaction based on individual perceptions of subjective well-being [13]. The SWL uses 7-point Likert-type responses, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample items include, “In most ways my life is close to my ideal” and “If I could my life over, I would change almost nothing.” The five items are summed for an overall score, with high scores indicating that an individual is generally more satisfied with his or her life. Reliability coefficients ranged from .79 to .89 in various studies.
- **Demographics:** The demographic form included participant’s gender, age, ethnicity, and religious affiliation.

V. RESULTS

A. Reliability Coefficients and Intercorrelations

As presented in Table I, the alpha reliability coefficients for all the measures were in an acceptable range, with positive automatic thought having the highest coefficient (.93) in the pre-course and spiritual transcendence (.87) in the post-course analyses. The measure of hope had the lowest coefficient in both pre-course (.70) and post-course (.71) analyses.

Intercorrelations for the major study variables in both pre-course and post-course analyses are also given in Table I. Most of the intercorrelations were significant, with the values ranging from .15 to .48 in the pre-course analysis, and from .13 to .56 in the post-course analysis, suggesting the range of small to high correlation coefficients [11].

TABLE I
RELIABILITY COEFFICIENTS, MEANS, STANDARD DEVIATIONS, AND CORRELATIONS

	Pre-Course (Time 1)								
	α	M	SD	1	2	3	4	5	6
1. Spiritual Transcendence	.87	92.67	9.76	---	.05	.15*	.22*	.06	.59**
2. Positive Automatic Thought	.93	35.38	5.80		---	.09	.31*	.48**	.64**
3. Optimism	.80	21.87	4.71			---	.44**	.03	.46**
4. Hope	.70	41.49	5.74				---	.33*	.72**
5. Satisfaction With Life	.84	24.42	5.35					---	.64**
6. Well-Being	---	215.82	18.54						---
	Post-Course (Time 2)								
	α	M	SD	1	2	3	4	5	6
1. Spiritual Transcendence	.87	98.04	9.23	---	.42**	.22*	.42**	.30*	.82**
2. Positive Automatic Thought	.83	40.33	5.23		---	.13*	.47**	.56*	.63**
3. Optimism	.70	23.98	4.19			---	.49**	.18*	.41**
4. Hope	.79	45.98	5.26				---	.48**	.77**
5. Satisfaction With Life	.82	27.98	4.85					---	.61**
6. Well-Being	---	236.31	21.74						---

$N = 45$; * $p < .01$; ** $p < .05$; two-tailed

B. Differences in Pre-Course and Post-Course Mean Scores

A group of paired-samples t-tests were conducted to

evaluate the impact of positive interventions on the participants’ scores on the study variables. As indicated in

Table II, there was a statistically significant increase for all the variables from pre-course to post-course. For example, there was a statistically significant increase in the overall well-being from pre-course ($M = 215.82$, $SD = 18.54$) to post-course ($M = 236.31$, $SD = 21.74$), $t(44) = 6.58$, $p < .001$, $\eta^2 = .50$. The mean increase in the well-being scores was 20.49 with a 95% confidence interval ranging from 14.21 to 26.77. The eta squared statistic, calculated using the formula [38, p. 247], $\eta^2 = t^2/t^2 + (N-1)$, indicated a large effect size (.50). Among the individual variables, hope had the highest statistically significant increase from pre-course ($M = 41.49$, $SD = 5.74$) to post-course ($M = 45.98$, $SD = 5.26$), $t(44) = 5.76$, $p < .001$, $\eta^2 = .43$. The mean increase in the hope scores was 4.49 with a 95% confidence interval ranging from 2.92 to 6.06.

As seen in Fig. 1, on the overall well-being scores, participants 9, 39, and 43 had a decrease from pre-course to post-course scores, suggesting that for these three participants, the course content and the interventions employed in their pastoral care service didn't have any effect.

C. Age, Gender, and Age by Gender Differences

A two-way between groups analysis of variance was

TABLE II
RESULTS OF PAIRED-SAMPLES (REPEATED MEASURES) T-TEST

	Mean Difference	Confidence Intervals		$t(df = 44)$	η^2
		Lower	Upper		
Spiritual Transcendence	5.38	2.54	8.22	3.82*	.25
Positive Automatic Thought	4.96	2.89	7.03	4.82*	.35
Optimism	2.11	1.12	3.10	4.29*	.29
Hope	4.49	2.92	6.06	5.76*	.43
Satisfaction With Life	3.56	1.82	5.29	4.14*	.28
Well-Being	20.49	14.21	26.77	6.58*	.50

$N = 45$; * $p < .001$; two-tailed

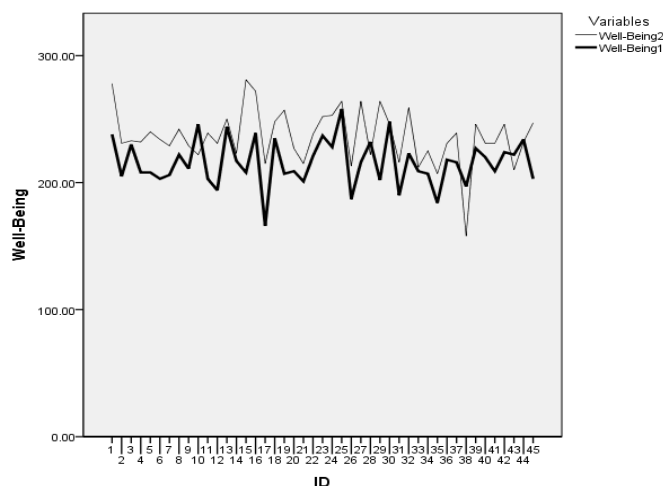


Fig. 1 Comparison of Well-Being Scores between Time 1 and Time 2

Finally, a two-way between groups analysis of variance indicated a significant interaction effect of age by gender on the post-course well-being scores, $F(4, 32) = 1.80$, $p < .05$, partial $\eta^2 = .10$. As indicated in Fig. 2, females in the age group of 56-65 had the highest scores of well-being in comparison to the males in the same age group.

conducted to explore the impact of gender and age on the levels of both pre-course and post-course well-being. Participants were divided into six age groups (1 = 18-25; 2 = 26-35; 3 = 36-45; 4 = 46-55; 5 = 56-65; 6 = above 66). There was no significant main effect for age. There was a significant main effect for gender for both pre-course, $F(1, 32) = 4.57$, $p < .05$, partial $\eta^2 = .13$, and post-course well-being scores, $F(1, 32) = 5.86$, $p < .05$, partial $\eta^2 = .16$.

Based on the significant main effects for gender, an independent sample t -test was conducted to compare the both pre-course and post-course well-being scores for males and females. Effect size was calculated by the formula [38, p. 243], $\eta^2 = t^2/t^2 + (N_1 + N_2 - 1)$. There was no significant difference in pre-course well-being scores for males ($M = 208.33$, $SD = 18.25$) and females ($M = 217.69$, $SD = 18.38$; mean difference = 9.36), $t(43) = 1.37$, $p = .17$, $\eta^2 = .04$. There was a significant difference in post-course well-being scores for males ($M = 219.44$, $SD = 26.13$) and females ($M = 240.53$, $SD = 18.62$; mean difference = 21.08), $t(43) = 2.80$, $p < .001$, $\eta^2 = .16$, which is a large effect as per Cohen's [11] guidelines.

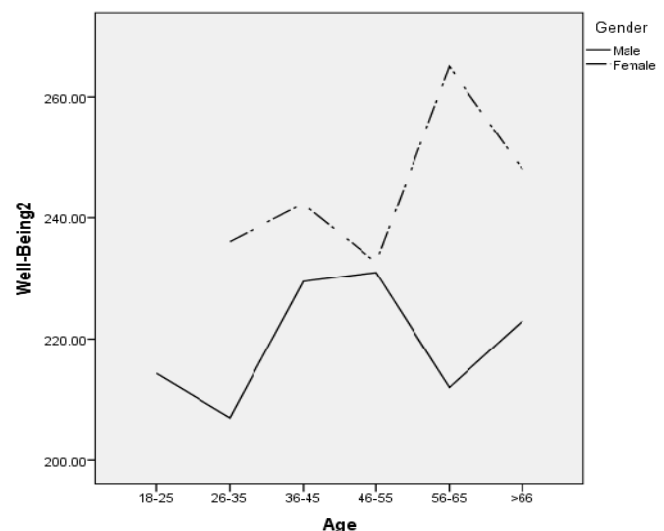


Fig. 2 Age by Gender Well-Being Scores at Time 2

D. Regression Analyses

Based on the previous research, which has suggested to use positive traits or virtues, positive emotions or experiences,

social factors and physical habits as the appropriate and comprehensive indicators of positive psychology and positive education [6], this research project conducted regression analyses to test the effect of positive traits, measured by automatic positive thoughts and spiritual transcendence, on the positive emotions of optimism, hope, and satisfaction with life. The results are presented in Table III.

As indicated in Table III, in the pre-course analyses, the regression model for optimism was not significant [$F(2, 42) = .72, p = .49, R^2 = .03$], where as it was significant for both hope [$F(2, 42) = 4.18, p < .05, R^2 = .17$] and satisfaction with life [$F(2, 42) = 17.16, p < .001, R^2 = .45$]. On investigation of the contribution of the individual predictor variables in both

the significant models, only positive automatic thought made a significant contribution to both hope [$t(44) = 2.62, p < .05, \beta = .37$] and satisfaction with life [$t(44) = 5.86, p < .001, \beta = .67$]. In the post-course analyses, all the models were significant, optimism [$F(2, 42) = 2.57, p < .05, R^2 = .11$], hope [$F(2, 42) = 12.01, p < .001, R^2 = .37$], and satisfaction with life [$F(2, 42) = 6.66, p < .01, R^2 = .24$]. Only spiritual transcendence made a significant contribution to optimism [$t(44) = 2.22, p > .05, \beta = .37$]. Like in the pre-course analyses, only positive automatic thought made a significant contribution to both hope [$t(44) = 3.27, p < .05, \beta = .46$] and satisfaction with life [$t(44) = 2.33, p < .05, \beta = .36$].

TABLE III
RESULTS OF REGRESSION ANALYSES

RESULTS OF REGRESSION ANALYSES												
Pre-Course (Time 1)												
Variables	Optimism				Hope				Satisfaction With Life			
	<i>F</i>	<i>R</i> ²	<i>t</i>	<i>β</i>	<i>F</i>	<i>R</i> ²	<i>t</i>	<i>β</i>	<i>F</i>	<i>R</i> ²	<i>t</i>	<i>β</i>
ST	.72	.03	1.13	.17	4.18*	.17	1.20	.17	17.16***	.45	.02	.01
PAT			.39	.06			2.62*	.37			5.86***	.67
Post-Course (Time 2)												
Variables	Optimism				Hope				Satisfaction With Life			
	<i>F</i>	<i>R</i> ²	<i>t</i>	<i>β</i>	<i>F</i>	<i>R</i> ²	<i>t</i>	<i>β</i>	<i>F</i>	<i>R</i> ²	<i>t</i>	<i>β</i>
ST	2.57*	.11	2.22*	.37	12.01***	.37	1.59	.22	6.66**	.24	1.30	.20
PAT			.67	.11			3.27*	.46			2.33*	.36

N = 45; * $p < .05$; ** $p < .01$; *** $p < .001$; ST = Spiritual Transcendence; PAT = Positive Automatic Thought

TABLE IV
SIGNIFICANCE TESTS FOR PRE-COURSE AND POST-COURSE REGRESSION COEFFICIENTS

Variables	Optimism				Hope				Satisfaction With Life			
	<i>F</i>	<i>R</i> ²	<i>t</i>	β	<i>F</i>	<i>R</i> ²	<i>t</i>	β	<i>F</i>	<i>R</i> ²	<i>t</i>	β
$T_1 * T_1ST$	327.34***	.91	1.62	.36	923.01***	.97	1.72	.23	578.74***	.95	.03	.01
$T_1 * T_1PAT$.55	.08			3.75***	.31			8.38***	.88

N = 45; *** $p < .001$; T_1ST = Pre-course Spiritual Transcendence, T_1PAT = Pre-course Positive Automatic Thought

E. Differences in Regression Coefficients

In order to compare and test the significance of regression coefficients of the predictors on the outcomes of the pre-course with the post-course, i.e. to test the null hypothesis $H_0: B_{T1} = B_{T2}$, where B_{T1} is the regression coefficients for pre-course scores and B_{T2} is the regression coefficients for post-course scores, a dummy variable T_1 was created for pre-course scores and coded as 1 and the post-course was coded as 0, and two product terms of T_1 with the pre-course two predictor variables (pre-course Spiritual Transcendence and Positive Automatic Thought) were created. Regression analysis was conducted on pre-course scores to test the significance of the product terms on the outcome variables of Optimism, Hope, and Satisfaction with Life. Then, the results were analyzed to evaluate the significance of regression coefficients of Spiritual Transcendence and Positive Automatic Thought across pre-course and post-course on the three outcomes. The significance of the product term indicated that the regression coefficients at pre-course were significantly different from post-course [12]. The results are presented in Table IV.

As the results in Table IV indicates, all the models were significant, optimism [$F(3, 86) = 327.34, p < .001, R^2 = .91$], hope [$F(3, 86) = 923.01, p < .001, R^2 = .97$], and satisfaction

with life [$F(3, 86) = 578.74, p < .001, R^2 = .95$], indicating that the regression coefficients did indeed differ between pre-course and post-course analyses. But, on investigation of the significant predictor variables, only the product term of $T_1 * T_1PAT$ was significant for both hope, $t(89) = 3.75, p < .001, \beta = .31$, and satisfaction with life, $t(89) = 8.38, p < .001, \beta = .88$, suggesting that only the regression coefficient for Positive Automatic Thought made a difference in Hope and Satisfaction with Life between pre-course and post-course scores.

VI. DISCUSSION

With the evolution of positive psychology that emphasizes the role of psychology as not only to study the weaknesses of people but also to investigate human strengths and virtues that help people endure their life's challenges, many scholars have been taking a positive approach to understanding human functioning. Along with developing positive models of human functioning, scholars engaged in positive psychology also have been designing and implementing positive interventions to help people achieve well-being. In addition, more recently, scholars have been trying to integrate positive psychology concepts and interventions into the educational curricula.

Considering these various developments in the area of positive psychology, this research project investigated the relation of positive psychology course and positive interventions with the well-being variables among a group of theology students who engaged in pastoral care service.

The significant results in this study indicated that the students' implementation of various positive interventions in their pastoral care service carried out for about 18 weeks did make a difference in their overall well-being levels. First of all, majority of the significant positive correlations among the study variables suggest that they validly form the overall well-being levels. In the pre-course analysis, 11 out of 15 correlations (73%), and in the post-course analysis, all the correlations (100%) were significant. In addition, the comparison of the correlational matrix also indicated the significant difference between pre-course and post-course values. These results, first of all, suggest that both the trait and emotional positive psychology aspects mutually influence one another in establishing higher levels of well-being. Moreover, increase in the percentage of the significant intercorrelations from pre-course to post-course and the significant difference between the two correlational matrices indicate the useful contribution of the educational course content and the implementation of positive interventions to the students' overall well-being as measured by the positive traits of spiritual transcendence and positive automatic thought and by the positive emotions of optimism, hope, and satisfaction with life.

For example, the significant correlation between positive trait of automatic thought and the positive emotion of satisfaction with life reveals that positive thinking as a type of cognitive activity and coping strategy would offer an important direction for the growth of satisfaction in life. Because the satisfaction with life refers to the cognitive and judgmental process of well-being [13], the role of positive cognition [29] in the maintenance and promotion of satisfaction with life needs to be recognized. Further, the high significant correlation between the affective states of hope and optimism also indicates that both hope and optimism as future-oriented affective states act as powerful psychological assets in life.

In addition to increasing the intercorrelations, the results of this pre-course and post-course analysis also showed that positive education course and interventions could be effective in the enhancement of psychological well-being. The interventions implemented in a service-oriented ministry to the needy people were shown to be effective in enhancing the indicators of well-being. These results can be seen as a confirmation of the meta-analysis by Bolier and colleagues [4]. As described by Duckworth et al. [16] and as the significant results in this study suggest, using positive interventions in helping professions effectively build the helpers' well-being. Specifically, in this study, participants' implementation of the appropriate positive interventions in their pastoral care service increase their levels of spiritual transcendence, positive automatic thought, optimism, hope, and satisfaction with life. On analysis of the summary notes of

the students, it was found that the students mostly implemented the positive interventions of character strengths, changing the environment, focusing on self-efficacy, building happiness, thinking positively, positive attitude, reframing, helping others, imagining positive scenarios, gratitude reflection and action, practicing forgiveness, and spiritual activities. These significant results based on self-designed interventions in self-motivated prosocial behaviors confirm the statement of Baylis [1], who said that allowing students to play to their signature strengths when designing their own assignments might increase the likelihood of intrinsic motivation, which in turn, promote academic success and well-being.

An important question is why the positive interventions implemented in a service-oriented ministry based on the course curricula boost the indicators of well-being? Fredrickson's [20] broaden-and-build theory of positive emotions offers a general framework for interpreting the findings from this research study. Applying this theory, all positive interventions aim at eliciting positive emotions that could facilitate building enduring personal resources, which in turn, boost the indicators of well-being. One might argue that interventions such as thinking positively, positive attitude, reframing, and imagining positive scenarios increase the mind's capability of achieving what people desire. By employing these cognitive positive interventions in helping others, individuals learn to direct their thinking in a desired way and gain a positive mindset, with an expectation of more positive outcomes, not only for the help recipients but also for the helper.

One might also argue that using specific character strengths might have impact on health and wellness [40], because, as the main tenet of positive psychology suggests that the path to well-being lies in nurturing one's highest strengths. For instance, with regard to gratitude interventions and their relation to well-being, it could be said that if well-being arises from how people interpret or experience the events of their lives and if gratitude is described as noticing and appreciating the positive in one's life, then it is logical to say that gratitude interventions increase well-being [58]. Regarding forgiveness interventions, particularly in the context of interpersonal relations, research suggests that well-being can serve as an indicator of the availability of positive social relations, and that helping to restore valuable social relations is how forgiveness obtains its positive association with well-being [5]. Finally, in the case of religious and spiritual interventions, research has shown that the mechanisms that include increased social support, coping skills [15], and subtle spiritual energies [32] may boost the indicators of well-being.

After establishing that positive education course and interventions can be effective in the enhancement of psychological well-being of the student helpers, a two-way between groups analysis of variance was conducted to explore the impact of gender and age on the levels of both pre-course and post-course well-being. There was a significant main effect for gender for both pre-course and post-course well-being scores. Further analysis indicated a significant

difference in post-course well-being scores for males and females. There was also a significant interaction effect of age by gender on the post-course well-being scores, where females in the age group of 56-65 had the highest scores of well-being in comparison to males in the same age group, and males in the age group of 26-35 had the lowest scores in comparison to females in the same age group.

Women in all age groups reported higher levels of well-being than men. Studies have indicated that economic development is conducive to relatively high levels of subjective well-being among women, particularly at this point in history, due to the changes produced by the economic development, gender equality, women empowerment and the rise of the knowledge sources [26], [36]. In contrast to some research [26] that suggested a negative gender gap among older women as mainly a phenomenon of rich Western societies, i.e. ageing women have relatively lower levels of well-being than ageing men, older women in this study showed higher scores than men on the well-being index.

Inglehart [26] believes that the relatively low levels of happiness among older women in many of the Western societies reflect a culturally defined tendency to devalue the social worth of older women. In Taiwan (as well as China and Japan), older women have higher levels of well-being than men. In addition to the modern changes [36], these age and gender related difference in the levels of well-being in Taiwanese older women may have a cultural connotation. Traditional Taiwanese society emphasizes filial piety, consisting of respect for the elders, commanding obedience, and representing power and wisdom. It appears that the rapid development and modernization in Taiwan has not weakened this traditional societal structure and value system, thus, giving the older people a psychosocial advantage that enhances their well-being. In other words, in contrast to the negative gender gap among older women in many of the rich Western societies and as the significant results in this study have indicated, the older women in particular in Taiwan have a double source of well-being in modern changes such as gender equality and traditional societal structure such as the value of filial piety.

This research also conducted regression analyses on both pre-course and post-course scores, using automatic positive thoughts and spiritual transcendence as positive traits or virtues in investigating their effect on positive emotions of optimism, hope, and life satisfaction. In both the pre-course and post-course analyses, positive automatic thought made a significant contribution to both hope and satisfaction with life. In cognitive theories, the positive or negative automatic thoughts arise when deep beliefs or cognitive schemata are activated by external events and affect the relevant coping and adaptation. As declarative self-statements, automatic thoughts occur without effort or intention, and are more accessible to introspection. Many theorists have argued that positive automatic thoughts result in emotional, physical, behavioral, and interpersonal response and adaptation patterns to major life events. Positive thoughts and beliefs about self, world, and the future, as well as one's relationships with others, have

been hypothesized to foster well-being and healthy adjustment [2], [3], [27].

Such positive and cognitive self-declarations impact the positive emotion of hope. While trying to investigate how people distance themselves from mistakes and failures and understand how they move closer to goals they want, Snyder [50] conceptualized hope as the perceived mental ability to create pathways to achieve desired goals. Snyder [51] called this as hopeful thinking, which consists of the belief that one can find pathways to achieve desired goals and actually achieve them. These descriptions support the significant results in this study that the higher levels of positive automatic thoughts correspond with being more hopeful toward both finding pathways and achieving desired goals.

Positive automatic thoughts also significantly predicted satisfaction with life. Satisfaction with life is an emotional result of a person's cognitive evaluations of his or her life [13]. In other words, based on the significant results in this study, the positive dimension of cognition in automatic thoughts leads one to have a favorable evaluation of one's life, resulting in the positive emotional reaction in the form of life satisfaction.

Additionally, the test for difference in regression coefficients indicated that the regression coefficients did indeed differ between pre-course and post-course analyses, but the only predictor variable that made a significant difference in both hope and satisfaction with life was positive automatic thought. As indicated earlier, positive automatic thoughts as declarative cognitive self-statements significantly predict hope as the perceived mental ability to create pathways to achieve desired goals and life satisfaction as a result of cognitive evaluations of one's life. Moreover, from all the analyses, including significant correlations and regression analyses for both pre-course and post-courses scores, positive automatic thought had higher correlation with and thus stronger effect on satisfaction with life than hope. From Seligman and Csikszentmihalyi's [47] description of the field of positive psychology at the subjective level, satisfaction pertains to the past and hope points to the future. The results from this study, thus, suggest that positive automatic thoughts help an individual to interpret and reframe the past events in more positive and satisfying ways.

Only spiritual transcendence made a significant contribution to optimism in the post-course analyses. Spirituality is typically referred to the non-institutional and subjective experiences of the transcendent that imbue everyday life with a sense of deeper meaning and purpose. Specifically, spirituality as assessed in this study represents a motivational construct that reflects a person's efforts to create a sense of personal meaning for his or her life [39]. Optimism is described as the expectancy-based-outlook that good things will happen in life [41]. Thus, for the participants in this study, spiritual transcendence as a motivation-based trait creating a sense of personal meaning for one's life significantly impacts their expectancy that good things will happen in their life.

VII. IMPLICATIONS AND LIMITATIONS

Based on the assumptions of positive psychology, this research project investigated the relationship between positive psychology education, positive interventions, and well-being. The assessment of the impact of course content and service-oriented positive interventions indicated that they were helpful in increasing the levels of student helpers' subjective well-being. Some of the positive interventions that made a difference in the pre-course and post-course overall well-being scores were reliving the happy moments, finding inner potential, self-forgiveness, letting go, self-efficacy, focusing on character strengths, positive relationships, positive beliefs, positive environment, positive attitudes, engaging in spiritual activities, gratitude, recalling beautiful experiences, positive scenario, forgiveness, hopeful expectation, and self-affirmation. All these randomly implemented interventions did make an impact on the overall well-being of the research participants when they actively and volitionally engaged in pastoral care service.

As Diener and Suh [14] suggested that three bases – choice, judgment, and reference – decide what is positive, the participants in this study were able to use these three bases in building three pillars of positive psychology [45], which are subjective positive experiences, positive individual traits, and positive institution. Students' implementation of the positive interventions in their pastoral care ministry based on individual judgment in reference to the course content and their own value systems increased their overall experiences of well-being as specifically measured by the positive traits of positive automatic thoughts and spiritual transcendence, and the positive emotions of satisfaction with life, hope, and optimism. These significant results also confirm the statement of Baylis [1], who said that allowing students to play to their signature strengths when designing their own assignments might increase the likelihood of intrinsic motivation, which in turn, promote academic success and well-being.

The significant results of this study imply a need for creating space for positive education and positive interventions to promote subjective well-being. In other words, the significant results from this study once again validate that the purpose of positive education is to view the school as a positive institution that helps pupils not only reach their academic goals but also cultivate positive traits, which in turn create positive emotions [6]. And, the benefits of positive emotions gradually transform students by forming an upward spiral of increased positive engagement that is conducive to both effective learning and overall well-being [20].

In spite of the significant results, this study is not without limitations. The first limitation is that it is not easy to suggest what specific interventions and to what extent they contributed to the participants' increase in the levels of well-being. Systematic measurement and analysis of the self-designed interventions would have helped to interpret the results more clearly. Second, participants were of convenient sample registered in a positive psychology course in the faculty of theology, which may limit the generalizability of the results. In addition, although it would not be easy to get larger

samples for a longitudinal cohort study, a larger and more heterogeneous sample would have substantiated the results. Finally, the indicators of subjective well-being measured in this study were limited. More measures with appropriate psychometric properties in a more diverse sample would give a better credibility to these significant results.

Finally, Kristjansson [31] says that according to contemporary research on virtues that draws on Aristotle's philosophy, an action is morally right only if it exemplifies the virtues that are constitutive of the good or happy life. Yet, Aristotle's logic appeared to have missed out in recognizing that any life can't be happy unless the cultivation of virtues is accompanied by critical reflection. In other words, to be fully virtuous and thus to be happy, it is not enough to act correctly; rather, one must have also learned to decide upon the right actions that give rise to appropriate emotions, after having submitted them to the arbitration of one's own deliberation. Kristjansson [31] observes that many theorists, especially of Aristotelian orientation, are concerned about the absence of this "reflective element" in positive psychology. We agree with this statement that some sort of "reflective element" should be integrated into a research project that simultaneously implements positive psychology education, interventions, and positive outcomes, particularly when it is implemented in a structured educational setting and evaluated from the perspective of students as helpers engaged in prosocial behaviors and pastoral care service.

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