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A comparison of life satisfaction, subjective well-being, and physical health in undergraduate college students

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A Comparison of Life Satisfaction, Subjective Well-Being, and Physical Health in
Undergraduate College Students

A Project Presented to
the Faculty of the Undergraduate
College of Health and Behavioral Studies
James Madison University

in Partial Fulfillment of the Requirements
for the Degree of Bachelor of Health Sciences

by Emily Shuenn-Wen Hsu

May 2014

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Introduction

Author and psychologist Samuel Franklin suggests the importance of the concept of happiness and subjective well-being as indicated in America's Declaration of Independence (Franklin, 2010). The Declaration of Independence states the pursuit of happiness as one of the "unalienable rights" of all Americans. The pursuit of happiness is not only a right, but can allow for many other benefits in wellness. Happiness and satisfaction with life ties into the study of positive psychology, which is still a fairly new area of study. Positive psychology can be defined as the "scientific study of the strength and virtues that enable individuals and communities to thrive" (University of Pennsylvania, 2007, para 1). The concept of positive psychology and subjective well-being dates back to ancient Greece when the term "eudemonia" was first coined. Today, eudemonia is referred to as "well-being." Well-being can be separated into five categories: positive emotion, engagement, relationships, meaning, and accomplishment (Tierney, 2011). Much of this can be related to self-motivation and support from a community, but beyond this, is a driving force known as flow, allowing individuals to thrive.

Statement of the Problem

Empirical evidence suggests an association between the state of positive psychology and health outcomes (Steptoe, Dockray, & Wardle, 2009). The study of happiness as a form of positive psychology has grown significantly over the past few decades and is now an increasingly intriguing area of study. A study conducted by Peltzer and Pengpid (2013), associated "better" health behaviors with increased happiness. School-related stress is correlated with poor physical and mental health (Pedersen, 2012). According to Ying and Lindsey (2013), college life presents a time when individuals adopt lasting health behavior patterns that may

include behaviors affecting overall life satisfaction and subjective well-being. An increase in stress as an undergraduate student can lead to the decreased happiness and life satisfaction and therefore decreased physical health. This study will specifically aim to identify the correlation between decreased association between life satisfaction and perceived health status in undergraduate students in order to assist with future program development and research on maintaining the health and happiness of students.

Purpose

To further understand the concept of positive psychology and its impact on undergraduate college students, the current study was conducted to determine if the self-reported state of physical health among James Madison University (JMU) students was negatively impacted due to lower self-perceived satisfaction with life. Additionally, the research conducted analyzed whether students who have found fulfillment in their undergraduate careers rate themselves as having generally better physical health. The research conducted can be related to Frederickson's theory that positive affect broadens the action repertoire (Frederickson, 1998). In other words, positive emotions allow for an increased interest in exploring, integrating, and savoring thoughts and actions, which in turn can help build an individual's personal, physical, intellectual, and social resources (Frederickson, 1998).

This study provided data to analyze the perceived happiness and self-reported physical health status of JMU students. The results from this may be beneficial to not only the university but also other institutions that may be interested in researching the life satisfaction and well-being of their students. In addition, it may help universities design orientations or campus wide programs to educate students on techniques, such as those on stress management, to benefit the subjective well-being and life satisfaction of students.

Research Questions

1. How do JMU undergraduate students rate their life satisfaction?
2. How do JMU undergraduate students rate their current physical health?
3. Does a higher rating of happiness and life-satisfaction correlate with higher self-ratings of physical health?
4. Does a lower rating of happiness and life-satisfaction correlate with decreased physical health among JMU students?

Hypotheses

Null Hypothesis:

There is not a statistically significant correlation between perceived happiness and life satisfaction on the self-rated health of JMU undergraduate students.

Alternative Hypothesis:

There is a statistically significant positive correlation between perceived happiness and life satisfaction on the self-rated health of JMU undergraduate students.

Limitations and Assumptions

Data for this study was collected using a sample population of undergraduate students from James Madison University therefore, results cannot be generalized to all undergraduate students in the U.S. This research also utilized a cross-sectional design and limited the researcher to collect data on one single occasion. The data collection process was anonymous and voluntary and only participants who felt comfortable answering the survey questions were asked to

respond. One assumption to this study is that students who participate will be truthful when providing answers to survey questions (i.e., how satisfied they are with their life, how often physical health has impacted regular activities). A lack of honesty in survey responses may create disparities in results and decrease the validity of the survey process.

Terminology

Subjective well-being: one's cognitive and affective evaluations of his or her life (Eid & Larsen, 2008, pg. 4).

Positive Psychology: the scientific study of strengths and virtues that enable individuals and communities to thrive (University of Pennsylvania, 2007, para. 1).

Flow: energized focus and full enjoyment in an activity (Csikszentmihalyi, 1997, pg. 29).

Literature Review

University of Michigan's Dr. Frederickson proposes that positive affect broadens the thought- action repertoire and allows for an increased interest in exploring, integrating, and savoring thoughts and actions. This can, in turn, help develop an individual's personal, physical, and social resources (Frederickson, 1998). Frederickson's research also shows that positive emotions can be connected to enhance psychological and physiological resilience (Frederickson, 2003).

Eid and Larsen (2008) looked at the work of Hill and Buss (2006) on subjective well-being which states that "the scientific study of subjective well-being has moved researchers beyond looking solely at economic and sociological indicators as ways to define individuals' life quality" (pg. 62). The consideration of happiness and subjective well-being and its significance on human health is a relatively new form of research that can be used to target health promotion and prevention in various domains of study including public health, health care, psychology, and social work.

Subjective Well-Being Prior to College Attendance

In examining subjective well-being, it is important to retrospectively identify trends in states of well-being prior to college. The existence of positive affect and positive subjective well-being prior to attending college may serve as a foundation in the effects of overall happiness while in college. It is necessary to consider that the subjective well-being of adolescents will carry into their early adulthood and impact their health levels as college students can be under a significant amount of stress.

A study conducted by Garcia and Moradi (2011) found that the subjective well-being of an adolescent can be studied through the assessment of life satisfaction, the frequency of positive affect, and the frequency of negative affect. More specifically, “a happy adolescent can be assumed to be satisfied with life and to experience more positive than negative affect” (Garcia & Moradi, 2001, pg. 933). Garcia and Moradi (2011) analyzed a sample population of 109 high school students in Sweden using the Temperament and Character Inventory, the Satisfaction with Life Scale, and the Positive Affect and Negative Affect Schedule. This was a multi-stage cluster sample of adolescents identified anonymously using the last four digits of their social security number and asked to repeat the surveys one year later (Garcia & Moradi, 2011). The data collected was analyzed using the Pearson’s Correlation test and found that autonomous adolescents had a higher likelihood of reporting higher levels of subjective well-being (Garcia & Moradi, 2011).

Peltzer and Pengpid (2013) studied associations between happiness and health behaviors in 800 randomly selected university students at Gitam University in Visakhapatnam, India. Subjects were asked to complete Lyubomirsky and Lepper’s Subjective Happiness Scale along with a Physical Activity Questionnaire, the South Oaks Gambling Screen, and researcher designed questions on nutrition, sleep, alcohol and drug use, and tobacco use. (Peltzer & Pengpid, 2013). Pearson’s chi square test and Spearman’s rho correlations were used to analyze data and found that:

“better socioeconomic status, greater social support, fewer personal constraints, greater personal mastery, normal sleep duration, no current tobacco use, no illicit drug use during the past year, eating breakfast every day or almost daily, and eating vegetables daily were associated with happiness” (Peltzer and Pengpid, 2013, pg. 1051).

According to Bijttebier, Raes, Vasey, & Feldman (2011), the rumination to negative affect has been connected with an increased risk for mood disorders in older adults as well as in young adolescents. The relationship between personality and happiness has also been studied to find that personality is a major determinant of adults' happiness (Tkach & Lyubomirsky, 2005). Similar results were found in an adolescent population which continues to reinforce the idea that positive subject well-being experienced and developed during the adolescent years can transfer into the early adult years (Tkach & Lyubomirsky, 2005).

This study may be a useful comparison to the present study on life satisfaction and self-reported health as it investigates the effect of variables of perceived general health on happiness. The present study, similar to that of Peltzer and Pengpid (2013), will examine overall levels of happiness and subjective well-being on self-reported health specific to American college students.

Health in College Students

Often college students forget how important their health is until they find they are not healthy. A cross-sectional research design project conducted by Ying and Lindsey (2013) surveyed 319 college students using the Perceived Stress Scale (PSS) and the Health Promotion lifestyle Profile (HPLP II). The PSS consists of 14 items to determine whether or not respondents found their lives to be uncontrollable, unpredictable, or overloaded. The HPLP II consists of 52 items asking respondents about six different clusters of health practices. This research found that college students with lower stress were more likely to practice health promotion behaviors and health promoting ways of thinking than higher-stressed students (Ying & Lindsey, 2013). The conclusion presented by Ying and Lindsey (2013) indicates that students with lower stress are

likely to practice health promotion behaviors. This finding supports the present study in hopes that subjective well-being and positive affect is a factor for health promoting behaviors.

The relationship between physical and mental health outcomes in response to stress stemming from school was examined using a sample population of 268 undergraduate college students (Pedersen, 2012). Emphasis was placed on stress spilling over from one domain of life into another or across different stages of life for these students (Pedersen, 2012). An online questionnaire created by Pedersen (2012) was presented to students in randomly selected classes to determine school spillover, family spillover, and poor physical or mental health. Spillover is a term used by Pedersen to reference the carrying over of stress from one domain of life to another (Pedersen, 2012). It usually generates a competition of demands for the individual from one stress domain to another (Pedersen, 2012). The models presented in Pedersen's study show more reported days of poor mental health to be simultaneous with high school spillover (Pedersen, 2012). This may point to an association between school-related stress and increase in poor mental health. Pedersen's (2012) study also determined that both the male and female respondents, reported a higher school than family stress spillover. The emphasis on stress spillover in school supports the current study in further understanding subjective well-being in college students who often reside in dorms or apartments off-campus within or next to the schools setting.

Happiness and Health

As reported by Veenhoven (2008), happiness helps to protect physical health and more focus should be placed on public health programs and policies that target the "happiness" of a population. There have been many cross-sectional studies conducted in the past resulting in the

conclusion of positive correlations (between +.10 and +.40) between happiness and physical health. Veenhoven (2008) also indicates that these correlations are typically stronger between happiness and self-rated health than happiness and health status based on medical examinations. Thirty studies involving the follow-up over time, the assessment of longevity, and the impact of happiness earlier in life were assessed in Veenhoven's article and found that 53% of the studies found "happiest people lived longer" (Veenhoven, 2008, pg. 452). There are protective mechanisms against illness that were also explained in the literature. One example is that long-term unhappiness activates the sympathetic nervous system and the fight-or-flight response, which can eventually affect an increase in blood pressure and decreases in the immune response (Veenhoven, 2008). Additionally, happier individuals are more inclined to be attentive to their health behaviors with better coping skills when faced with symptoms of illness and threatening information (Veenhoven, 2008).

Cook and Chater (2010) also measured and analyzed happiness, generalized self-efficacy beliefs, health preventive behavior, age and gender among a sample of 100 adults. The Generalized Self-Efficacy Scale, Oxford Happiness Questionnaire, and General Preventive Health Behavior Checklist were all completed by the participants to find that happiness and generalized self-efficacy were "salient for health-preventive behaviors" (Cook and Chater, 2010, pg. 58). The proposed hypothesis for this study was accepted and data analyses found that high happiness predicted high self-efficacy.

Altruism and Happiness

Altruism is the belief in the concerns and well-being of others (Post, 2005). Altruistic emotions are associated with greater well-being, health, and longevity (Post, 2005). According to

Post (2005), “more recent studies confirm an association between altruistic activities and both well-being and life satisfaction in older adults” (pg. 68). This relationship helped to generate research questions for the current study examining the relationship between well-being and physical health. The relationship poses the question of whether or not happiness is a confounder for positive physical health.

Post (2005), also emphasizes that previous studies have been conducted to determine health behaviors that are associated with different emotional states but fewer studies have specifically identified the health behaviors associated with specifically positive emotional states. Research was conducted by Post (2005) to develop background and comparison of previous studies conducted on mental health, physical health, and the plausibility of altruistic causality. The results of the evaluation of prior studies suggest that positive emotions help to displace negative emotional states that can cause stress and stress-related illnesses. This information can be taken into account in the development of further research to consider a direct relationship between happiness and health more specific populations.

Benefits of Studying Subjective Well-Being and Positive Affect

There are many public health benefits that can come from studying happiness and overall positive emotional states. Positive emotions can serve as a protective factor in health prevention and promotion and can support the emphasis on ideas such as increase helping behaviors and community engagement to generate positive affect (Steptoe, O’Donnell, Marmot, & Wardle, 2008). Studying subjective well-being can also help with the understanding of how it is regulated and how cognition can affect the regulation of subjective well-being (Robinson & Compton, 2008).

Oishi and Koo (2008) researched the consequences of experienced happiness and positive affect and found that as assessed by physicians, “happy people had slightly better health” (pg. 292). Positive affect has also been associated with benefits such as longevity to job performance, income, relationships, and overall life outcomes (Oishi & Koo 2008, pg. 300). The research to conducted for this current study examined the health effects of positive affect in college students and identify suggestions to further the research movement in positive psychology.

Methodology

The purpose of this study was to analyze the correlation between the happiness and subjective well-being of undergraduate college students and its relationship with self-reported health. This study helped identify how undergraduate students at JMU rate their own happiness and life satisfaction as well as their current physical health through survey research conducted at JMU.

Prior to the start of the study, approval to conduct the study was obtained through JMU's Institutional Review Board with an IRB protocol number of 14-0217.

Sampling of Subjects

Undergraduate students, ages 18 and above, were surveyed through convenience sampling. The study population was specific to undergraduate students enrolled during the fall 2013 semester at JMU. A 58-item survey was sent to 20,529 students through JMU's bulk e-mail system. The students who participated in the study completed the survey on a voluntary basis and were not obligated to complete the survey once started.

Instrumentation

A combination of four surveys was utilized to collect data for this study: the Short Form-36 Health Survey (SF-36), the Satisfaction with Life Scale (SWLS), the Flourishing Scale, and the Scale of Positive and Negative Experience (SPANE) (Diener et al, 2009).

The Flourishing Scale, SWLS, and SPANE were all designed by Diener et al. (2009). The Flourishing Scale is an eight-item scale on self-perceived success in relationships, optimism, purpose, and self-esteem (Appendix B). This scale is scored with a single well-being score

(Diener, et al., 2009). The Satisfaction with Life Scale (SWLS) is a five-item scale used to analyze “global cognitive judgments of one’s life” (Diener et al., 2009, para 1) (Appendix C). The Scale of Positive and Negative Experience (SPANE) is a 12-item questionnaire that assesses positive and negative feelings through three different subscales (Diener, et al., 2009) (Appendix D). Permission to use the Flourishing Scale, SWLS, and SPANE was granted by Dr. Edward Diener of the University of Illinois Urbana-Champaign via the university’s Department of Internal Psychology website with proper citations prior to the administration of the instruments.

Four demographic questions were also included in this survey to collect data on age, gender, university class status, and major of the student participants. Students were not individually identified in any way through their responses.

Procedures

The 58-item survey was developed through Qualtrics, an online survey development and analysis program. A request to send a bulk email to all undergraduate students for research was subsequently submitted and approved. The survey questionnaire was sent to 20,529 undergraduate students within an e-mail including the Qualtrics link to the survey. Convenience sampling method was used as students voluntarily completed the surveys prior to the deadline provided. Participants remained anonymous throughout the data collection process and the data was destroyed upon completion of the statistical analysis. The completion of the survey took approximately 10 minutes of a participant’s time. The collected data was processed and analyzed using the Statistical Package for Social Sciences (SPSS v. 21).

SPSS (v. 21) was used to conduct Spearman’s Rank Order Correlation test on the ordinal data. Paired *t*-tests were used to examine bivariate correlations between subjective well-being

and self-rated health. The data analysis should indicate where statistically significant correlations exist between higher ratings of happiness and life-satisfaction and higher ratings of physical health. The data analysis should also indicate where lower ratings of happiness and life-satisfaction correlate with decreased physical health. The null hypotheses should be rejected.

The research questions analyzed within the current study are as follows:

1. How do JMU undergraduate students rate their life satisfaction?
2. How do JMU undergraduate students rate their current physical health?
3. Does a higher rating of happiness and life-satisfaction correlate with higher self-ratings of physical health?
4. Does a lower rating of happiness and life-satisfaction correlate with decreased physical health among JMU students?

Results

The measurement instrument used in this study, entitled “A Comparison of Life Satisfaction, Subjective Well-Being, and Self-Reported Health” was developed using Qualtrics. The survey was sent to 20,529 JMU students. A total of 238 participants completed the survey between Monday, December 2, 2013 and Monday, January 6, 2014. Seventeen cases were eliminated from the study due to being identified as graduate students and four incomplete cases were dropped from the initial data collection. After adjustments were made, the final sample population size consisted of 217 undergraduate student participants.

Presentation of Findings

The initial results indicated 51 (23.5%) of participants were freshmen, 36 (16.6%) were sophomores, 39 (18%) were juniors and 78 (35.9%) were seniors. Of the 217 participants, 46 (20.7%) identified as male, 165 (76.0%) identified as female, and 3 (1.4%) preferred not to respond. The majority of participants were between the ages of 18 and 21 (n=160, 73.7%) (See Appendix E for demographic summary).

Happiness

Descriptive statistics were analyzed to identify participant responses on survey questions related to happiness and overall positive affect. When asked “Have you been a happy person during the past four weeks?”, 65% of participants responded with either “all of the time”, “most of the time”, or “a good bit of the time”. When asked about the frequency of experience of various listed positive feelings, the majority of participants responded with either “often” or

“very often” and “always.” (See Table 1). The descriptor feelings associated with positive affect presented in the questionnaire were positive, good, pleasant, happy, joyful, and contented.

Table 1

Happiness and Positive Affect

Variable	Frequency	Percent (%)
Have you been a happy person?		
All of the time	18	8.3
Most of the time	79	36.4
A good bit of the time	44	20.3
Some of the time	38	17.5
A little of the time	10	4.6
None of the time	2	0.9
Positive experiences over the past four weeks		
Very rarely or never	0	0
Rarely	5	2.3
Sometimes	51	23.5
Often	84	38.7
Very often or always	36	16.6
Happy experiences over the past four weeks		
Very rarely or never	4	1.8
Rarely	5	2.3
Sometimes	49	22.6

Often	80	36.9
Very often or always	37	17.7
Joyful experiences over the past four weeks		
Very rarely or never	3	1.4
Rarely	23	10.6
Sometimes	60	27.6
Often	66	30.4
Very often or always	24	11.1
Pleasant experiences over the past four weeks		
Very rarely or never	2	0.9
Rarely	8	3.7
Sometimes	51	23.5
Often	86	39.6
Very often or always	29	13.4
Experiences of content over the past four weeks		
Very rarely or never	8	3.7
Rarely	18	8.3
Sometimes	34	15.7
Often	75	34.6
Very often or always	41	18.9
Good experiences over the past four weeks		
Very rarely or never	1	0.5

Rarely	4	1.8
Sometimes	47	21.7
Often	85	39.2
Very often or always	39	18.0

Self-Reported Health

Self-reported health was identified using the Short-Form-36 Health Survey (RAND Health, 2010). The results from the 217 total respondents showed that the majority felt they were in “good”, “very good”, or “excellent” health at the time of the study (82.9%). In a similar question, 56.2% of respondents responded with “definitely true” or “mostly true” to the statement “my health is excellent.” Over half (55.7%) of the respondents felt their health was as good if not better than anybody they knew. Among the responses, 35% of felt their current health was “much better” or “somewhat better” compared to one year ago and 70.3% of respondents responded with “mostly false” or “definitely false” to the statement “I seem to get sick a little easier than other people.” (See Table 2)

Table 2

Self-Reported Health

Variable	Frequency	Percent (%)
General health		
Excellent	20	10.2
Very good	97	49.5
Good	63	32.1
Fair	14	7.1

Poor	2	1.0
General health compared to one year ago		
Much better now	18	8.3
Somewhat better now	58	26.7
About the same	90	41.5
Somewhat worse	29	13.4
Much worse now	1	0.5
I am as healthy as anybody I know		
Definitely true	36	16.6
Mostly true	85	39.2
Don't know	37	17.1
Mostly false	24	11.1
Definitely false	9	4.1
My health is excellent		
Definitely true	25	11.5
Mostly true	97	44.7
Don't know	30	13.8
Mostly false	30	13.8
Definitely false	9	4.1
I seem to get sick a little easier than other people		
Definitely true	13	6.0
Mostly true	18	8.3

Don't know	13	6.0
Mostly false	77	35.5
Definitely false	69	34.8

General Health and Positive Affect

Paired *t*-tests were used to compare and analyze mean responses between variables related to general health and variables related to the indication of positive affect. Statistical significance was found among eight of the nine analyses. A statistically significant difference was determined when analyzing the means of the variables happiness over the past four weeks and general ratings of health indicating that increased general health has a positive association with happiness ($t=-4.342$; $p=0.000$). When analyzing the means of the variables happiness over the past four weeks and ratings of excellent health, a statistical significance was found indicating an association between increased happiness over the past four weeks with increased ratings of excellent health ($t=2.851$; $p=0.005$). The means of the variables happiness over the past four weeks and equal or better health compared to others were also analyzed resulting in statistical significance indicating a possible correlation between increased happiness over the past four weeks to ratings of better health in comparison to others ($t=3.390$; $p=0.001$). Statistically significant results were also found when analyzing the difference between the means of the variables experience of happiness and general health indicating a relationship between increased experiences of happiness with increased general health ($t=-12.531$; $p=0.000$). The results indicated a correlation between the variables experiences of positive feelings and general health as well considering statistically significant results were found ($t=-3.643$; $p=0.000$). This correlation indicates that as there is an increased experience of positive feelings, higher ratings of

general health occur as well. Statistically significant results were also found after analyzing the means of the variables experiences of pleasant feelings and general health indicating an association between increased experiences of pleasant feelings with increased ratings of general health ($t=11.499$; $p=0.000$). The final analysis resulting in statistical significance found a relationship between the variables experiences of good feelings and general health indicating an association between increased experiences of good feelings with increased ratings of general health ($t=10.505$; $p=0.000$). The statistical significance identified through p-values of less than or equal to 0.005 suggest an apparent significant relationship between multiple variables of positive affect and variables on overall self-rated health (see Table 3).

Table 3

Cross-Analysis of General Health and Positive Affect in Undergraduate Students

Variables	P-Value
1. Happiness over the past four weeks and general rating of health	0.000
2. Happiness over the past four weeks and excellent health	0.005
3. Happiness over the past four weeks and equal or better health compared to others	0.001
4. Experience of happiness and general health	0.009
5. Experience of positive feelings and general health	0.000
6. Experience of pleasant feelings and general health	0.000
7. Experience of joyful feelings and general	0.000

health

8. Experience of joyful feelings and general health 0.080

9. Experience of contented feelings and general health 0.284

Discussion and Conclusions

Presenting the Findings

Overall, this study found a statistically significant relationship between positive affect and generally positive self-reported health. Students who responded with higher ratings in questions regarding overall happiness, life satisfaction, and positive emotions were also more likely to respond with higher ratings of their recent physical health.

Presenting the Analysis

There are many factors that can impact the overall life satisfaction for the college-aged population. Social, psychological, and emotional health may dramatically influence the perceived “happiness” of the average college student. Hawkey et al. (2008) found that a variety of social circumstances such as age, social networks, and household income all influence overall happiness and life satisfaction. The student participants who rated themselves higher in positive affect questions and questions on life satisfaction tended to be more likely to be involved on campus, comfortable with their school environment, and therefore have more time to pursue healthy behaviors in their lifestyle. Cartensen and Frederickson (1998) studied the impact of time on positive affect and found that a perception of having an abundance of time can help to expand an individual’s motivating and goals and allow individuals to pursue desired achievements. Stress and a lack of control over time while an undergraduate student may have influenced the lower ratings for positive affect and health in certain responses.

Conclusions

The findings in this study support the rejection of the null hypothesis because a statistically significant positive correlation between perceived happiness and life satisfaction on the self-rated health of JMU undergraduate students was found. These findings also found that the majority of participants rated their happiness and life satisfaction as something they experience 'often' or at least a 'good bit of the time'. The majority of students felt that they were in good physical health. Higher ratings of happiness and life-satisfaction did correlate with increased ratings of physical health among students.

Limitations to this study may include timing of survey release to students. The survey was released a week prior to the start of final examinations for the semester, which may have affected students' inclination and time to follow through with the email and complete the survey. The survey was sent through bulk e-mail to all JMU students but unintentionally included graduate students, which limited usable data to the researcher. An additional limitation may be that health ratings were subjective during the data collection process. Subjective ratings can serve as a limitation to the study as there may be a lack of honesty in responses. The responses for each individual participant may vary due to personal opinions, thoughts, or feelings on any given day. The completion of the survey was voluntary and therefore those who completed it may have been more likely to be in a better mood and in better health.

Suggestions for replication of the study might include administering the survey in paper format to ensure completion of the survey and correct class status of students. To ensure a more even distribution between different departments and majors across campus, the survey could be administered to randomly selected courses in different departments or randomly selected general

education courses. If this study were to be further developed in the future, it may be beneficial to consider examining factors that could potentially affect a student's well-being, such as learning environment, levels of stress, extracurricular involvement, spirituality, etc. This may be valuable information to be used in designing and implementing campus programs aimed to improve the overall well-being of undergraduate students.

Summary

This study was completed to identify the overall happiness and life satisfaction of JMU students as it affects the physical health of the undergraduate population. Prior research indicates an association between increased levels of stress with decreased happiness and subsequently decreased physical health (Pedersen, 2012). The purpose of the study is to assist with future research and development of on-campus programs aimed to benefit the health and happiness of students.

The findings of this study suggest that there is a statistically significant relationship between happiness and life satisfaction with higher ratings of general health and well-being in college students. Further research should be initiated to expand on this population in relation to positive psychology and how its impact on long-term health and academic success.

The research and findings presented in this study may be used to develop on-campus programs that may benefit the overall health and wellness of undergraduate university students. For example, a program could be developed to assist students with understanding the benefits of happiness and identifying sources of positive affect. This may help management of emotional, spiritual, intellectual, and social health and assist students in creating a positive college environment.

Appendix A

Short Form-36 Health Survey

Please answer the following questions to the best of your ability. Thank you advance for your time!

1. In general, you would say your health is:

1) Excellent 2) Very good 3) Fair 4) Fair 5) Poor

2. Compared to one year ago, how would you rate your health in general now?

1) Much better now than one year ago

2) Somewhat better now than one year ago

3) About the same

4) Somewhat worse now than one year ago

5) Much worse now than one year ago

The following items are about activities you might do during a typical day. Does **your health now limit you** in these activities? If so, how much?

(Circle One Number on Each Line)

	Yes, Limited a Lot	Yes, Limited a Little	No, Not limited at All
3. Vigorous activities , such as running, lifting heavy objects, participating in strenuous sports	[1]	[2]	[3]
4. Moderate activities , such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	[1]	[2]	[3]
5. Lifting or carrying groceries	[1]	[2]	[3]
6. Climbing several flights of stairs	[1]	[2]	[3]
7. Climbing one flight of stairs	[1]	[2]	[3]

- | | | | |
|------------------------------------|-----|-----|-----|
| 8. Bending, kneeling, or stooping | [1] | [2] | [3] |
| 9. Walking more than a mile | [1] | [2] | [3] |
| 10. Walking several blocks | [1] | [2] | [3] |
| 11. Walking one block | [1] | [2] | [3] |
| 12. Bathing or dressing yourself | [1] | [2] | [3] |

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of your physical health**?

(Circle One Number on Each Line)

- | | Yes | No |
|---|-----|----|
| 13. Cut down the amount of time you spent on work or other activities | 1 | 2 |
| 14. Accomplished less than you would like | 1 | 2 |
| 15. Were limited in the kind of work or other activities | 1 | 2 |
| 16. Had difficulty performing the work or other activities (for example, it took extra effort) | 1 | 2 |

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems** (such as feeling depressed or anxious)?

(Circle One Number on Each Line)

- | | Yes | No |
|--|-----|----|
| 17. Cut down the amount of time you spent on work or other activities | 1 | 2 |
| 18. Accomplished less than you would like | 1 | 2 |
| 19. Didn't do work or other activities as carefully as usual | 1 | 2 |
| 20. During the past 4 weeks , to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups? | | |

(Circle One Number)

Not at all 1

Slightly 2

Moderately 3

Quite a bit 4

Extremely 5

21. How much **bodily** pain have you had during the **past 4 weeks**?**(Circle One Number)**

None 1

Very mild 2

Mild 3

Moderate 4

Severe 5

Very severe 6

22. During the **past 4 weeks**, how much did **pain** interfere with your normal work (including both work outside the home and housework)?**(Circle One Number)**

Not at all 1

A little bit 2

Moderately 3

Quite a bit 4

Extremely 5

These questions are about how you feel and how things have been with you **during the past 4 weeks**. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the **past 4 weeks** . . .

(Circle One Number on Each Line)

	All of the Time	Most of the Time	A Good Bit of the Time	Some of the Time	A Little of the Time	None of the Time
23. Did you feel full of pep?	1	2	3	4	5	6
24. Have you been a very nervous person?	1	2	3	4	5	6
25. Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
26. Have you felt calm and peaceful?	1	2	3	4	5	6
27. Did you have a lot of energy?	1	2	3	4	5	6
28. Have you felt downhearted and blue?	1	2	3	4	5	6
29. Did you feel worn out?	1	2	3	4	5	6
30. Have you been a happy person?	1	2	3	4	5	6
31. Did you feel tired?	1	2	3	4	5	6

32. During the **past 4 weeks**, how much of the time has your **physical health or emotional problems** interfered with your social activities (like visiting with friends, relatives, etc.)?

(Circle One Number)

All of the time 1

Most of the time 2

Some of the time 3

A little of the time 4

None of the time 5

How TRUE or FALSE is each of the following statements for you.

(Circle One Number on Each Line)

	Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
33. I seem to get sick a little easier than other people	1	2	3	4	5
34. I am as healthy as anybody I know	1	2	3	4	5
35. I expect my health to get worse	1	2	3	4	5
36. My health is excellent	1	2	3	4	5

Appendix B

Scale of Positive and Negative Experience (SPANE)

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Please think about what you have been doing and experiencing during the past four weeks. Then report how much you experienced each of the following feelings, using the scale below. For each item, select a number from 1 to 5, and indicate that number on your response sheet.

1. Very Rarely or Never
2. Rarely
3. Sometimes
4. Often
5. Very Often or Always

__Positive

__Negative

__Good

__Bad

__Pleasant

__Unpleasant

__Happy

__Sad

__Afraid

__Joyful

__Angry

__Contented

Appendix C

Flourishing Scale

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Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement.

7-Strongly Agree

6-Agree

5-Slightly Agree

4-Neither Agree Nor Disagree

3- Slightly Disagree

2-Disagree

1-Strongly Disagree

__I lead a purposeful and meaningful life.

__My social relationships are supportive and rewarding.

__I am engaged and interested in my daily activities.

__I actively contribute to the happiness and well-being of others.

__I am competent and capable in the activities that are important to me.

__I am a good person and live a good life.

__I am optimistic about my future.

__People respect me.

Appendix D

Satisfaction with Life Scale (SWLS)

©Ed Diener, Robert A. Emmons, Randy J. Larsen and Sharon Griffin as noted in the 1985 article in the *Journal of Personality Assessment*.

Below are five statements that you may agree or disagree with. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

7-Strongly agree

6-Agree

5-Slightly Agree

4-Neither Agree Nor Disagree

3-Slightly Disagree

2-Disagree

1-Strongly Disagree

__In most ways my life is close to my ideal.

__The conditions of my life are excellent.

__I am satisfied with my life.

__So far I have gotten the important things I want in life.

__If I could live my life over, I would change almost nothing.

Appendix E

Participant Demographics

Variable	Frequency	Percent (%)
Academic Year		
Freshman	51	23.5
Sophomore	36	16.6
Junior	39	18.0
Senior	78	35.9
Gender		
Male	45	20.7
Female	165	76.0
Prefer not to respond	3	1.4
Age		
18	42	19.4
19	33	15.2
20	34	15.7
21 and over	104	48.0

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