

The Power of Positive Psychology

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Abstract

This paper contains the findings of a three week long experiment that served as a comparative analysis of the emotional well-being of pessimistic and optimistic college aged students (eighteen to thirty). The instrumentation used to measure this was Dr. Barbara Fredrickson's Positivity Ratio, an online resource that can measure and track an individual's emotional well-being. The paper also reviews related literature in the field of positive psychology such as articles by Dr. Barbara Fredrickson, Dr. Martin Seligman, and other researchers in the field of positive psychology. The paper also contains an analysis of the data collected throughout the course of the experiment.

Keywords: Positive Psychology, emotional well-being, positive thinking.

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Chapter One: an Introduction

Introduction

This experiment began with eleven subjects all in their twenties attending various universities in the mid-Atlantic region of the United States. Over time, some subjects did have to drop out of the testing due to unforeseen circumstances or an inability to meet all of the testing requirements. The way the experiment was set up was as a Reversal Time-Series Experimental Design. The treatment in this experiment was the positive mass messages were sent out every weekday morning. The observations were collected through Dr. Barbara Fredrickson's Positivity Ratio Self-Test as participants logged into their various accounts and input their data. Dr. Fredrickson set up the Positivity Self-Test on her website as a tool for individuals to use to track their emotional well-being over time by taking a quick, twenty-question survey about their being on a given day.

Background

Positive psychology is a subfield of psychology that only very recently in the latter half of the twentieth century gained traction as a respected field of study. This experiment was conducted to serve as a comparative analysis of the emotional well-being of pessimists and optimists ages 18-30. The main goal of the experiment was to see whether or not the introduction of positive thought to day to day living via mass-messages would have a noticeable effect on a person's life.

The experiment itself consisted on individuals receiving mass messages every weekday morning and taking a specialized online test three times a week to track changes in their emotional well-being. One of the main influences on this research was Dr. Barbara Fredrickson, the Distinguished Professor of Psychology at the University of North Carolina at Chapel Hill and a leader in the field of positive psychology. She was the inspiration for the delving into the field

of Positive Psychology and she was the source of the Data Collection Instrumentation for the study.

Problem Statement

The major problem identified by the introductory research into Positive Psychology was that not exposing one's self to positive thoughts causes people to miss out on improving their emotional well-being.

Purpose of the Experiment

This experiment was a comparative analysis of the emotional well-being of pessimists and optimists aged 18-30. The goal was to see if mass-messages could really improve emotional well-being and if so, see if the subjects could improve their emotional well-being over the course of the three-week experiment.

The Main Research Question and Sub-Questions

The major question driving the research was: Will mass-produced positive messages could improve a person's emotional well-being? Minor sub-questions include:

- Is Positive Psychology actually good for you?
- Can positive thinking influence a person's life for the better?
- Can it bring about positive emotions and eliminate negative emotions?
- Can positive emotions have long-term effects?
- Can Positive Psychology influence mental health and well-being?
- Can perceived emotional intelligence effect well-being?
- Are there localized trends in a larger population's overall mental health?

Hypothesis

If a person is exposed to regular, mass messages of positive thoughts then the individual will see a positive impact on their emotional state.

Theoretical Framework

The goal of this study is to follow a group individuals over a course of three weeks. Every week day the group will receive mass-produced positive messages and over time, a trend should arise in the group's average scores on Barbara Fredrickson's Positivity Ratio Self-Test. Hopefully a trend will be visible because the group that has been chosen are all from relatively similar socio-economic backgrounds. All are college-aged students between the ages of twenty and thirty years old.

The impersonal nature of the study did allow for collection of data from a wide range of places and should the experiment support my hypothesis, similar methods could be used in the future on a larger scale to improve the emotional well-being of more people.

Significance of the Experiment

The most significant aspect of this experiment will be seeing whether or not a short mass-message has the ability to change an individual's life for the better. Also, this experiment will show us if there are any trends in a group's overall positivity or if certain individuals respond better to positive messages than others.

Definition of Terms

Positive Psychology: the branch of Psychology that uses scientific understanding and effective intervention to aid in the achievement of a satisfactory life, rather than merely treating mental illness.

Emotional well-being: how the individual subjects in the experiment rated their positivity on a given day.

Pessimism: in this experiment this term used to indicate an inclination to emphasize adverse aspects, conditions and possibilities or to expect the worst possible outcome.

Optimism: in this experiment this term used to indicate an inclination to put the most favorable construction upon actions and events or to anticipate the best possible outcome.

Assumptions and Delimitations in the Experiment

The study should prove that the group's exposure to mass-produced positive messages can improve their overall emotional well-being. For the purposes of the study the group of individuals studied consists of volunteers who chose to participate in this experiment. It was agreed upon in the Informed Consent Agreement that all answers provided on the Positivity Self-Tests would be completely accurate so actual information gathered should be completely factual.

Limitations of the Experiment

The experiment followed a relatively small group so the results might not be applicable to the larger population. Also the physical and time constraints that the experiment operated within led to a very impersonal interaction with the subjects which could have lessened the impact of the positive messages. Also because the subjects were not able to be more thoroughly tested beyond a self-reporting online test and the answers to the questions in the Positivity Self-Test were impossible to validate, the answers given by the subjects might not have been completely accurate.

Chapter Two: A Review of the Related Literature

Introduction and Overview of the Literature

Positive Psychology is a new field and it is largely focused on the causes of positive emotions and positive thinking and their effects on mood and emotional well-being.

Research Questions

The main goal of research in the field of Positive Psychology is to study and quantify positive traits present in individuals to develop methods to improve the quality of life for individuals. The main focus on this research on Positive Psychology was to answer some common questions about the field, to bring to light the core differences in optimistic and pessimistic thinking, to look at the short and long term effects of positive psychology, and finally to look at some arguments against the field of positive psychology.

Positive Psychology F.A.Q.'s

Dr. Martin Seligman and Dr. James Pawelski (the former president of the American Psychological Association and founder of the field of positive psychology, and a professor at the university of Pennsylvania Positive Psychology Center) co-wrote an article about the frequently asked questions about the field of positive psychology. Seligman et al argue that Positive psychology is more than simply studying how happy the individual is, but more along the lines of the study of all of the positive traits of an individual, how meaningful, and how pleasant their lives are (Seligman et al, 2003, p. 161).

Optimistic and Pessimistic Thinking

Many different researchers around the globe have written about the differences between positive and negative thinking. Dr. Owen Lightsey (a member of the Department of Counseling, Educational Psychology and Research at the University of Memphis), and Dr. Paul Freeman (a

member of Dartmouth Community Mental Health in Nova Scotia) all co-wrote an interesting article on the merits of positive thinking; specifically, if positive thinking has the power to reduce negative affect. Dr. Joshua Clarkson (a professor of Psychology at the University of Cincinnati), Dr. Edward Hirt (a professor of Psychology at Indiana University), and one of Hirt's graduate students- Patrick Egan- co-wrote an article with a similar goal in mind; and found that "positive mood was conducive to self-control restoration when naturally or experimentally associated with mental restoration, whereas negative mood was not conducive to self-control restoration when naturally or experimentally associated with mental depletion" (Egan et al, 2014, p. 96). Jose Augusto-Landa, Manuel Pulido-Martos and Esther Lopez-Zarfa, three professors and researchers at the University of Jaen in Jaen, Spain all conducted a study examining "the associations between perceived emotional intelligence, dispositional optimism/pessimism, and psychological well-being" (Augusto-Landa et al, 2011, p. 463). They found that there were no strong relationships between having a pessimistic attitude, and emotional well-being (Augusto-Landa et al, 2011, p. 470). This is important relevant to my research and experiment because I am trying to positively alter the moods of multiple people with various attitudes and this means that I might be successful. All of these articles were similar in that they all studied the differences in positive and negative thinking and mood and what sort of effects that these styles of thinking and mood can have on an individual's emotional well-being.

Short Term Effects of Positive Thinking

The aforementioned Dr. Barbara Fredrickson and Dr. Thomas Joiner (a professor of psychology at Florida State University) co-wrote a paper on the effects of positive emotions. They found that positive emotions can lead to more stable emotional well-being (Fredrickson et al, 2002, p. 175). Dr. Fredrickson published another paper along with Kareem Johnson (an assistant professor of Psychology at Temple University), and Dr. Christian Waugh (a professor of Psychology at Stanford) on how facially expressed emotions can broaden cognition. Their

results indicated that even quick smiles and feelings that only last a moment can have positive, long-term effects (Johnson et al, 2010, p. 317). This was promising for my experiment because it shows more evidence that positive emotions can have various, positive, long-lasting effects regardless of how little the emotion is felt such as when a positive mass-message is quickly skimmed. As mentioned previously, Lightsey et al found promising evidence that positive thinking can reduce negative affect (Lightsey et al, 2012, p. 83) and Egan et al found that positive thinking can restore self-control in some cases (Egan et al, 2014, p. 96). Both of these studies show promise that not only is positive thinking beneficial in a short-term sense, but it can also be useful in the long run as it builds the foundation for positive improvements in one's well-being.

Long Term Effects of Positive Thinking

Frank Lindblad (a professor at Uppsala University), Frank Kimmo Sorjonen and Lene Lindberg (two professors at Karolinska Institute), and Regina Winzer (a graduate student at Karolinska Institute) used data from various Swedish National Public Health Survey spanning multiple years to find that having a positive and negative attitude can be strongly indicative of one's mental health in the long term (Winzer et al, 2014, n.p.). This was interesting for my experiment because it meant that continued studies of these particular subjects could very well result in seeing a much longer-term trend of positive emotional improvement.

Opposition to the Field of Positive Psychology

There still remains some resistance to the field of positive psychology. Dr. Scott Lilienfeld (a professor of clinical psychology at Emory University) and Dr. Hal Arkowitz (a professor of psychology at the University of Arizona) co-wrote an article posing the concept that positive psychology was not all it is cracked up to be. In their article they cite specific cases of positive psychology not being good for everyone all of the time, using the age-old adage that

“too much of a good thing can be bad” (Lilenfeld and Arkowitz, 2011, p. 1). However, their argument is based on the fact that overall, positive thinking aimed at improving emotional well-being only works for most people. Granted, my study could invariably contain some outliers but my findings could still potentially support my hypothesis for the most part. Also, none of the research represented in these articles used techniques that were even remotely similar to the techniques used in this experiment.

Summary:

Nearly all of the literature supports the idea that positive thinking and positive emotions can improve psychological well-being in the long term. Lightsey et al found that positive thinking has the power to reduce negative affect (Lightsey et al, 2012, p. 83). Egan et al found that “positive mood was conducive to self-control restoration when naturally or experimentally associate with mental restoration, whereas negative mood was not conducive to self-control restoration when naturally or experimentally associated with mental depletion” (Egan et al, 2014, p. 96). Augusto-Landa et al found that having a negative attitude had no strong correlation with having poor emotional well-being (Augustu-Landa et al, 2011, p. 470).

Winzer et al found that having a positive or sttitude can be strongly indicative of one’s mental health in the long term (Winzer et al, 2014), n.p.). Either way, these show promise for my study because it will either be able to easily improve pessimistic or optimistic people’s well-being. Doctors Fredrickson and Joiner found that positive emotions can trigger an upwards spiral leading to more stable emotional well-being (Fredrickson and Joiner, 2002, p. 175). Johnson et al found that even short-term positive emotions can have lifelong positive effects (Johnson et al, 2010, p. 317).

Finally, Lilenfeld and Arkowitz argued that positive thinking and emotion cannot be applied to society as a whole because it only works for most people (Lilenfeld and Arkowitz,

2011, p. 1). Even at its worst, positive thinking triggering positive emotion can work well for most people, and have long-lasting positive effects.

Chapter Three: Research Design and Methodology

Introduction

The goal of this experiment was to serve as a comparative analysis of the emotional well-being of pessimists and optimists ages 18-30 in order to see if not exposing one’s self to mass messages with the intention to induce positive thought deprived individuals of the ability to improve their emotional well-being.

Overview of the Research Design

I’m using a Reversal Time-Series Experimental Design. My treatment is a semi-daily positive mass positive message and observations will be collected through Dr. Fredrickson’s Positivity Ratio Self-Test. The sample is a convenience sample comprised of the 11 individuals who answered a mass-message asking for volunteers for the study.

Figure 3.1: The Reversal Time-Series design



A Reversal Time-Series design was chosen because it utilizes a within-subjects approach. Which is how the experiment was intended to take place. An added benefit of this design is that it minimized—though it could not eliminate—the probability that outside effects might have on observations collected. This allowed for the observations—via Dr. Fredrickson’s website—to immediately follow the treatment—of mass-messages of positivity— (Leedy et al, 2013, p. 239).

Sampling Design

The sample was comprised of volunteers who answered an ad posted to social media asking for volunteers for a three-week long experiment of the effects of mass-produced positive messages on emotional well-being.

Data Collection and Instrumentation

Barbara Fredrickson's Positivity Ratio. Dr. Fredrickson is a leading researcher in the field of positive psychology and has developed the Positivity Ratio Self-Test to measure an individual's emotional well-being over time to help them maintain and improve emotional well-being. This online resource allows the subjects to create an account and track changes in their emotional well-being over time. The treatment was administered every week day but subjects were only required to get their Positivity Ratio three times a week; Mondays, Wednesdays, and Fridays. The Ratios that the individuals scored on these days were what was analyzed.

The Positivity Self-Test was set up like a twenty question test with possible answers in the form of a Likert Scale where subjects could choose from five different levels to indicate to what degree they felt a certain way. Upon completing the test for the day, the individual receives three scores: a Positivity Score, a Negativity Score and a Positivity Ratio. The Positivity Score shows what percentage of answers were skewed in a more positive direction, and the Negativity Score indicates what percentage of answers had a negative skew to them. The Positivity Ratio, which can range from zero to ten depending on the results of the Positivity Self-Test, was what was used for the purposes of this experiment.

Data Analysis Procedures

Once the data collection portion of the experiment was finished, the data from the individual days was transferred into an excel spreadsheet and the daily Positivity Ratios of the

various individuals in the study and averages of the group as a whole were graphed to see if there was a trend.

Internal and External Validity

The sample started small and shrank so the results may be exclusively internally valid. A continuation of this experiment might yield similar results over a longer period of time. Due to the small size of the sample, the findings will probably only be applicable to a larger population of similar individuals if externally valid at all.

Limitations of the Research Design and Methodology

The experiment suffered from some major limitations. Subjects could not be tracked and quizzed in person therefore some subjects may have answered the Positivity Ratio questions dishonestly in an attempt to appear to be following the expected trend of the data. Also due to the fact that the subjects were all living in very different areas, external factors may have played a large role in altering the subject's emotional well-beings. Also, due to the relatively homogenous nature of the various subject's socio-economic backgrounds any results might be exclusive to groups similar to them.

Expected Findings

The goal was to improve individual's emotional well-being over the course of the experiment. Hopefully as time passes a steady trend of individual Positivity Ratio scores climbing will emerge in the data.

Ethical Considerations

Subjects will be randomly assigned numbers for specific referencing within the paper. Subjects were randomly assigned numbers so their data could be referenced without any connection to their identity for the protection of privacy of the subjects. Subjects have signed off

on an agreement of their understanding of the purpose and methods of the study. Risk of physical harm to the subjects was nonexistent. Risk of emotional harm to the subjects was minimal; the Positivity Ratio Self-Test is designed to help track and improve emotional well-being over time and asks about emotional well-being which could trigger a negative response but the purpose is to measure positivity so the questions should not lead to emotional harm.

Conclusions

While the experiment does suffer from a small sample size that was not representative of the larger population, the data might still be applicable to similar groups of 18-30 year olds in the Washington D.C. metropolitan area. The experiment does on the other hand benefit from being a relatively harm-free undertaking which may hold very strong internal validity; if subjects respond to the treatments and follow the expected trend the experiment could be continued over a longer period of time to study the extent to which emotional well-being could be improved by positive messages.

Chapter Four: Data Analysis and Findings

Overview of the Data Analysis

Due to the fact that the goals of this experiment were the both improve the individual’s emotional well-being and to see if the group all followed the same patter, the figures below are graphs showing both individual and group progress. All individuals in the study asked that their identities not be connected to their data in any way. Individuals were randomly assigned numbers to they could be referenced while remaining anonymous.

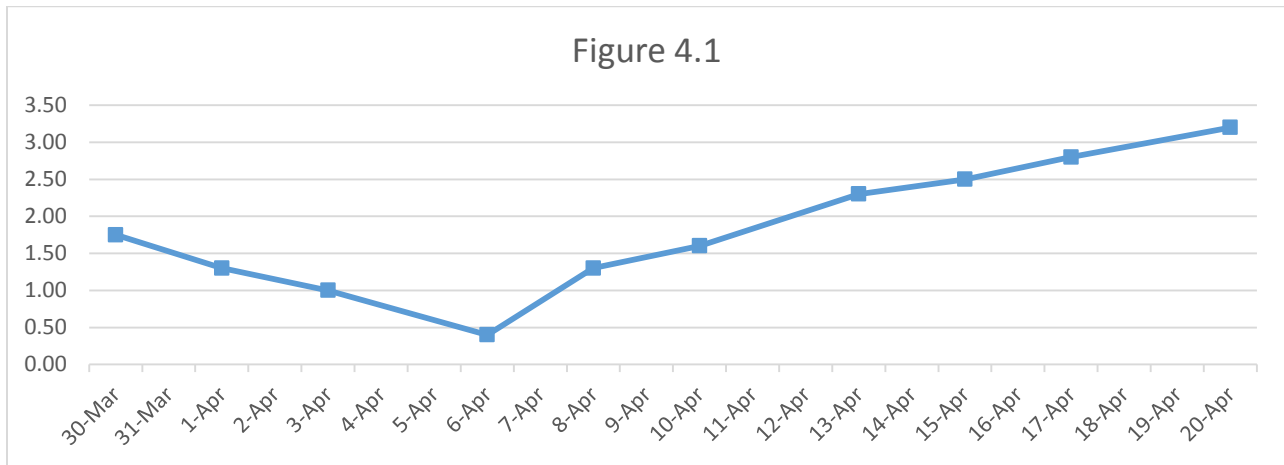


Figure 4.1 is a relative line graph of Subject 1’s Positivity Ratios on every day of testing over the three weeks.

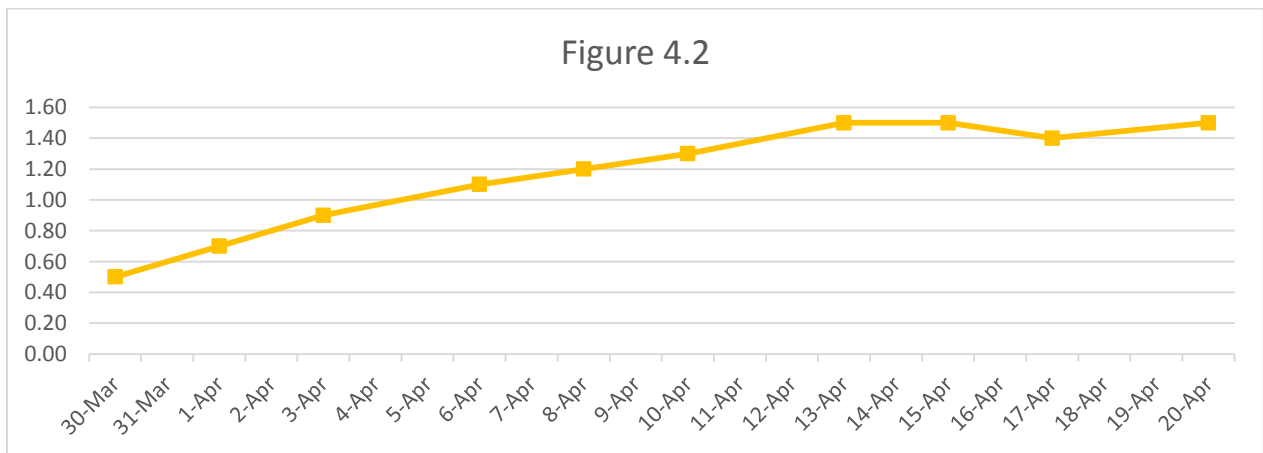


Figure 4.2 is a relative line graph of Subject 7's Positivity Ratios on every day of testing over the three weeks.

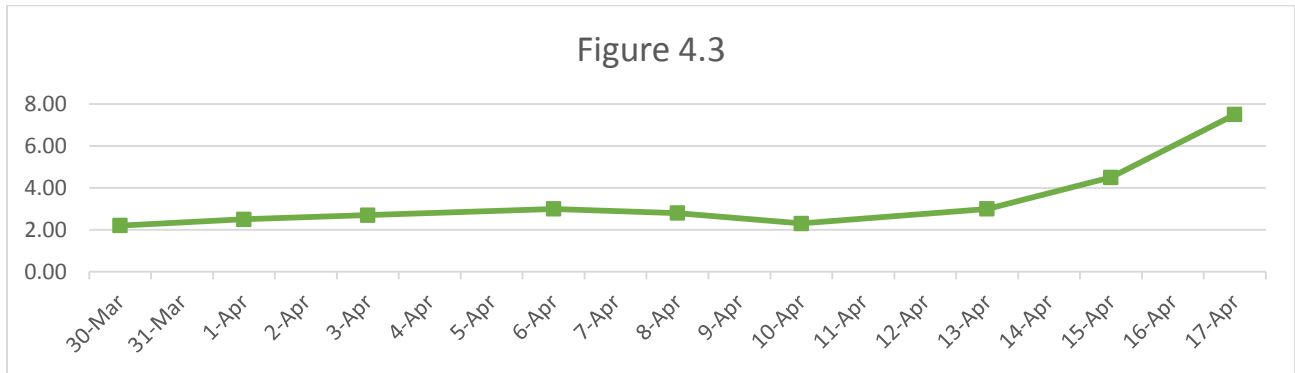


Figure 4.3 is a relative line graph of Subject 5's Positivity Ratios on every day of testing over the three weeks.

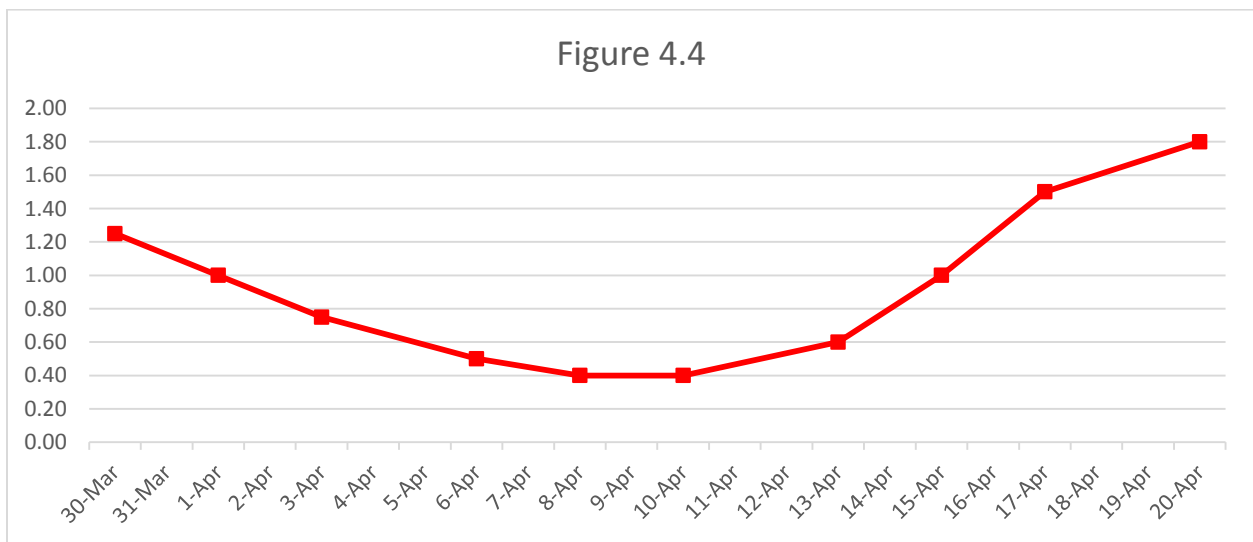


Figure 4.4 is a relative line graph of Subject 4's Positivity Ratios on every day of testing over the three weeks.

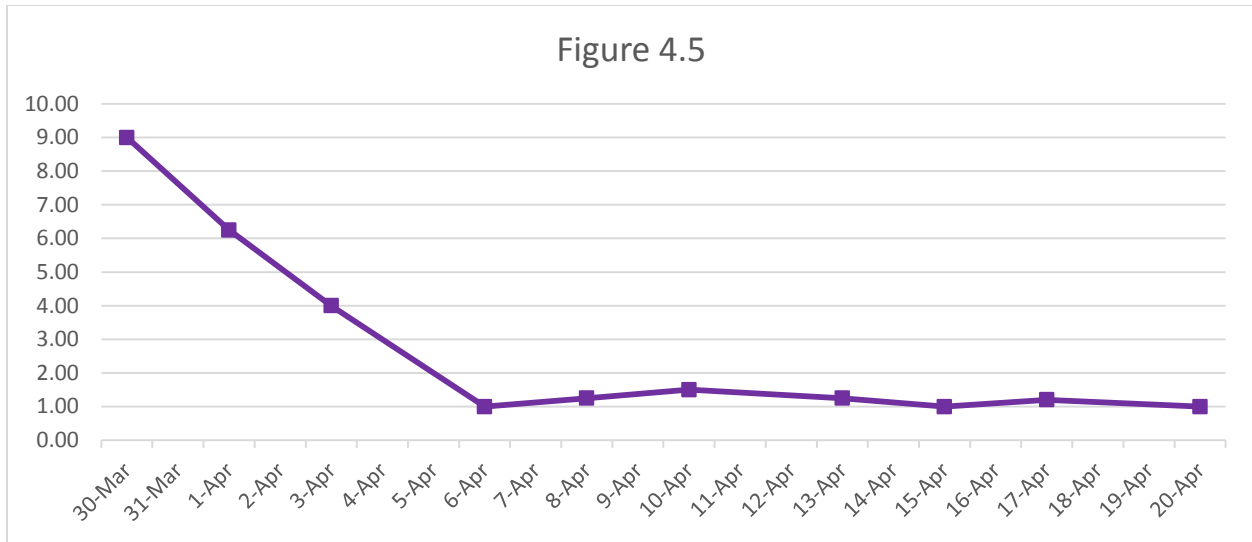


Figure 4.5 is a relative line graph of Subject 8’s Positivity Ratios on every day of testing over the three weeks.

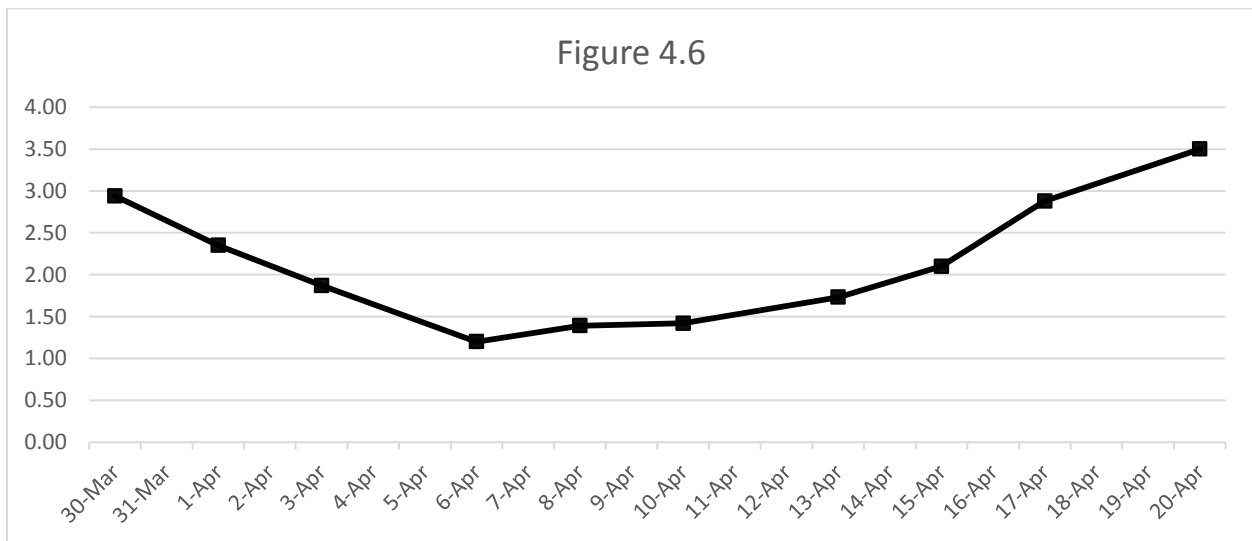


Figure 4.6 is a relative line graph of the daily averages of all subject’s Positivity Ratios on every day of testing over the three weeks.

The graphs do follow a general upwards trend following April sixth. One possible explanation for this was that April fifth was Easter Sunday and subjects might have celebrated that holiday. Since spending time with family can be a very stressful activity for some and there

were no positive messages sent out over the weekends, the negative effects of both could have coupled to create a negative trend in the data.

Results of the Experiment

Overall, the data did seem to support the hypothesis, following the sixth of April, individual Positivity Ratio scores did begin an upward trend which means that there was an increase in individuals' emotional well-being.

Limitations of the Validity

Again, the experiment's validity is weakened by the small size of the sample. Due to the small size of the sample, the findings will probably only be applicable to a larger population of similar individuals if externally valid at all. There was no way to validate that all information reported was reported truthfully so there could be a bias as subjects might have wanted to appear to be more positive or negative than they actually are.

Chapter Five: Discussion and Conclusions

Summary of the Findings

The findings of the experiment supported the hypothesis. Overall, the subjects in the experiment all followed the same basic pattern starting with a decline ending around April fifth or sixth and starting up around the April ninth the Ratio scores began to collectively inch back up. Some participants did seem to exhibit a more obvious upwards trend later in the experiment but all subjects did show some signs of improvement. Perhaps if the experiment could be re-conducted with a larger, more diverse sample and more time the results might show even greater promise but for a group of this size and socio-economic homogeneity, the results simply cannot be applied to the larger population.

Implications of the Findings

The findings were conclusive and they showed that positive mass-messages can indeed improve a subject's emotional well-being over time. This information is positive news because it means that something similar to this experiment could be repeated on a much larger scale and it could yield good results. Continuing this on an even larger scale would not be a difficult undertaking, the process could be easily automated and blown up to a world-wide scale. More research and further testing would need to be done first to make sure that the effects in the long-term match the data that has been gathered over the last three weeks.

The hypothesis for this experiment was entirely supported by the related literature in the field and the experiment's results were conclusive. Again, these results are not representative of the larger population; that is not to say that with more time to study a larger sample a trend might emerge but with the time constraints the experiment operated within and the limited sample size, but this experiment ended inconclusively.

Recommendations for Continued Study

The best course of action for continuing this study would be to find a sample that is both larger and more diverse. This would ensure that the findings were applicable to the larger population. As mentioned earlier, this experiment needs to be conducted over a longer period of time to ensure that there are no long-term negative effects. Another aspect of the experiment that could be improved is the means through which the positive messages were delivered, perhaps a mass-text would be easier for future subjects to check on every day. Also, the messages themselves could be tested to see if some positive messages lead to better results than others. Furthermore, messages could be tested to see if repeated sending of the same message yields different or similar results every time.

These findings were promising but nearly all aspects of this experiment have room for improvement, and it is highly recommended that the process and data collection be streamlined before further testing is done.

References

- Augusto-Landa J. E., (2011). Does Perceived Emotional Intelligence and Optimism / Pessimism Predict Psychological Well-being?. *Journal of Happiness*, 12(3), 463-474. Can be retrieved online from EBSCOHOST.
- Egan P., Clarkson J., Hirt E., (2014). Revisiting the restorative effects of positive mood: An expectancy-based approach to self-control restoration. *Journal of Experimental Social Psychology* 57(unknown). 87-99. Can be retrieved online from EBSCOHOST.
- Fredrickson B., & Joiner T. (2002). Positive Emotions Trigger Upward Spirals toward Emotional Well-Being, *Psychological Science*, 13(2), 172-175. Can be retrieved online from JSTOR.
- Johnson K., Waugh C., Fredrickson B. (2010). Smile to see the forest: Facially expressed positive emotions broaden cognition. *Psychology Press* 24(2). 299-321. Can be retrieved online from EBSCOHOST.
- Lee Y., Lin Y., Huang C., Fredrickson B., (2013). The Construct and Measurement of Peace of Mind. *Springer Science + Business Media*, 14(unknown). 571-590. Can be retrieved online from EBSCOHOST.
- Leedy, P., & Ormrod, J. (2013). Chapter 9 Experimental, Quasi-Experimental, Ex Post Facto Designs. In *Practical research: Planning and design*. (10th ed., p. 239). Upper Saddle River, New Jersey: Prentice Hall.
- Lightsey O., Johnson E., Freeman P. (2012). Can Positive Thinking Reduce Negative Affect? A Test of Potential Mediating Mechanisms. *Journal of Cognitive Psychotherapy*, 26(1). 71-88. Can be retrieved online from EBSCOHOST.
- Lilienfeld S. O., Arkowitz, Hal. (2011). Can Positive Thinking Be Negative?. *Scientific American Mind*, 22(2). 64-65. Can be retrieved online from EBSCOHOST.
- Lin Y., Chien Y., Yi C., (2014). The effects of positive affect, person-job fit, and well-being on job performance. *National Taiwan Normal University*, 42(9). 1537-1548. Can be retrieved online from EBSCOHOST.
- Maiolino N., Kuiper N. (2014). Integrating Humor and Positive Psychology Approaches to Psychological Well-Being. *Europe's Journal of Psychology*, 10(3). 557-570. Can be retrieved online on PsychOpen.eu
- Seligman, M., & Pawelski, J. (2003). Positive Psychology: FAQs. *Psychological Inquiry*, 14(2), 159-163. Can be retrieved online on JSTOR
- Winzer R., Lindbald F., Srojonen K., Lindberg L., (2014). Positive versus negative mental health in emerging adulthood: a national cross-sectional survey. *BMC Public Health*, 14(unknown). n.p. Can be retrieved online at BioMedCentral.com

APPENDICES

Appendix A: The Positivity Ratio

Instructions: How have you felt in the past day? Look back over the past day (i.e., from this time yesterday up to right now). Using the 0–4 scale below, indicate the greatest degree that you've experienced of each of the following feelings.

- 0** = Not at all
- 1** = A little bit
- 2** = Moderately
- 3** = Quite a bit
- 4** = Extremely

- What is the most amused, fun-loving, or silly you felt?
- What is the most angry, irritated, or annoyed you felt?
- What is the most ashamed, humiliated, or disgraced you felt?
- What is the most awe, wonder, or amazement you felt?
- What is the most contemptuous, scornful, or disdainful you felt?
- What is the most disgust, distaste, or revulsion you felt?
- What is the most embarrassed, self-conscious, or blushing you felt?
- What is the most grateful, appreciative, or thankful you felt?
- What is the most guilty, repentant, or blameworthy you felt?
- What is the most hate, distrust, or suspicion you felt?
- What is the most hopeful, optimistic, or encouraged you felt?
- What is the most inspired, uplifted, or elevated you felt?
- What is the most interested, alert, or curious you felt?
- What is the most joyful, glad, or happy you felt?
- What is the most love, closeness, or trust you felt?
- What is the most proud, confident, or self-assured you felt?
- What is the most sad, downhearted, or unhappy you felt?
- What is the most scared, fearful, or afraid you felt?
- What is the most serene, content, or peaceful you felt?
- What is the most stressed, nervous, or overwhelmed you felt?

Appendix B: The Positive Mass Messages

Day 1	"You can't change the whole world, and you certainly can't change other people, but you do have the ability to change yourself. You can have a positive impact in your job, the people with whom you work, and the entire organization...the choice is up to you." -Cherie Carter-Scott
Day 2	"Don't cry because it is over. Smile because it happened." -Dr. Suess
Day 3	"Pessimists calculate the odds. Optimists believe they can overcome them." -Ted Koppel
Day 4	"I keep my mind focused on peace, harmony, health, love and abundance. Then, I can't be distracted by doubt, anxiety, or fear." -Edith Armstrong
Day 5	"The real act of discovery consists not in finding new lands but seeing with new eyes." -Marcel Proust
Day 6	"Just keep swimming." -Dory
Day 7	"Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has." -Margaret Mead
Day 8	"We must be the change we wish to see in the world". -Gandhi
Day 9	"Opportunities are usually disguised as hard work, so most people don't recognize them." -Ann Landers
Day 10	"While we cannot direct the wind, we can adjust the sails" -Unknown
Day 11	"Know that the biggest risk in life is not to risk at all." -Unknown
Day 12	"Only I can change my life. No one can do it for me." -Carol Burnett
Day 13	"Never give up on life's possibilities." -Unknown
Day 14	"In the middle of difficulty lies opportunity." -Albert Einstein

Appendix C: The Informed Consent Agreement

Thank you for expressing interest in participating in my experiment on the power of Positive Psychology. If after reading this form you still wish to participate in the experiment, please fill it out in the appropriate manner and send it back to cmh2765@email.vccs.edu before Monday, March 30th, 2015.

How the experiment will work:

If you choose to participate, every weekday I will email you one positive message which you will be required to read. Every Monday, Wednesday, and Friday participants will be required to log in to this website (<http://www.positivityresonance.com/signup.php>) and truthfully answer 20 questions that will ask you about how you are that day (on a Likert Scale of 0-4). Please only take the test once per required day.

If you agree to participate I will assign you a username and a password for a new account, which I will send to you privately.

If for any reason at any point at the experiment you wish to drop out, you are permitted to do so and your data will be discarded and not used for the experiment or related paper.

How your privacy will be protected:

Subjects will be randomly assigned numbers for referencing later in the experiment. This will allow your data to be attached to be referenced while still protecting your identity. Confidentiality is also key so subjects are not permitted to discuss their participation in or any other aspect of the experiment with anyone besides me. It is also asked that subjects do not discuss any aspects of the experiment with me in any public setting to protect their privacy and the privacy of others.

By electronically or physically signing this document, you (the subject) agree to:

- Agree to the confidentiality statement above.
- Read the positive message that is sent to you every weekday.
- Truthfully answer all questions on the Positivity Ratio website every day that it is required of you.

If you choose to participate in the study, please give me a valid email address and sign and date below and return either a hard copy or an electronic copy to me via the email listed above no later than the 30th of March, 2015.

Email: _____

Signature: _____

Date: _____