

Positive Psychology and Student Success: How Flow, Mindfulness, and Hope are Related to Happiness, Relationships, and GPA

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Abstract

The relatively new field of positive psychology has captured the interest of researchers and the public because of the potential benefits from its interventions. Continuously generating evidence that supports the advantages of positive psychology concepts is vital to the longstanding establishment of the field. Flow, hope, and mindfulness have been studied individually and have been found to be advantageous; however, these three concepts have yet to be comparatively researched in academic settings. Flow, hope, and mindfulness were measured to determine relationships to student success, which was defined for this study's purpose as happiness, GPA, and social relationships. The sample consisted of California State University, Stanislaus' students and data was obtained via self-reported responses to pre-established surveys developed to measure the variables. Correlation, multiple regression, and mediation were tested between all variables. It was found that flow, mindfulness, and hope were positively correlated to happiness; however, hope mediated the relationships between both flow and mindfulness to happiness and accounted for over one-third of the variance in happiness. Additionally, it was found that flow and hope were positively correlated with social relationships; however, hope mediated the relationship between flow and social relationships. Lastly, it was found that GPA was not related to any variable. These results suggest that experiencing more hope may greatly benefit people. Future research could further investigate the role hope (and other similar concepts such as optimism and expectations) plays in people's lives. As compared to mindfulness and flow, researching and employing positive psychological interventions to increase hope would likely be the most advantageous. Potentially, these findings could be used for personal benefit as well as positively influencing others.

Introduction

Psychology is an evolving field of study with different branches and approaches attracting interest and support throughout time. A single field of study proclaims that its research and applications can benefit the majority of individuals. Recently, Seligman and Csikszentmihalyi (2000) introduced a new field called "positive psychology" that encompasses scientific study at three levels: subjective, individual, and group. The goal of this newly founded field is "to begin to catalyze a change in the focus of psychology from preoccupation only with repairing the worst things in life to also building positive qualities" (p. 5). This goal of positive psychology provides an understanding of how the field has developed; positive psychology is a rejection of other current perspectives in psychology. Sheldon and King

(2001) explain how "the predominant negative bias of traditional psychology" (p. 216) has prevented the study of the positive aspects of human life, thus providing an incomplete view of individuals that the study of positive psychology may fulfill (Sheldon & King, 2001). The concepts that positive psychology incorporates in its field of theory and research are beneficial for nearly everyone, not just for people who suffer from mental illnesses. Researchers' study of positive psychological theories has led to the application of these theories in various settings, including the workplace, at home, therapy, physical and mental health care, correctional facilities, and schools.

The purpose of this research is to conduct an original study to measure relationships between positive psychological experiences and students' lives. Specifically, it is expected that greater

experiences of flow, mindfulness, and hope would be positively related to student success. Flow, mindfulness, and hope will be measured based on students' self-report of how they currently experience the concepts without employing any sort of intervention. For this research, student success is comprised of three important aspects of students' lives: happiness, social relationships, and academic achievement.

This research is valuable in further supporting the potential of this new field. While researching the various concepts and applications within the field of positive psychology, a published study that had comparatively looked at the relationships between flow, mindfulness, and hope in the academic setting has not yet been conducted. Furthermore, these three concepts were chosen to study because of the prevailing interest and widespread advantages uncovered by previous research (see "Literature Review" below). Establishing relationships between these three concepts and student success would allow for comparison among these concepts, thus providing more support for flow, mindfulness and hope. Additionally, connections between flow, mindfulness, and hope to various domains of students' lives will also be examined. Studying these relationships leads to developing useful interventions; if these interventions are proven effective, positive thoughts, beliefs, and behaviors could increase within individuals, and these individuals would advantageously affect the people around them.

Literature Review

General Positive Psychology Interventions in Education

Positive psychology has been applied in academic settings for students of various grades, including at the university level. Although this is not meant as a comprehensive review of all relevant research, multiple studies will be discussed to help readers understand the general applications of positive psychology in education. Several ways that positive psychology can be

incorporated into schools include offering a complete positive psychology course, learning and integrating the concepts in other classes, and encouraging school counselors to incorporate the various techniques when working with students.

Several positive psychology courses have been offered at various universities. Seligman (2003) introduced the format of a positive psychology course, which was taught by three leading researchers in the field, and stated that students had found this course beneficial. Even reaching the interest of the public, Goldberg (2006) reported on the positive psychology course offered at Harvard, explained how it differs from Harvard's typical courses, and described it as "[t]he most popular course at Harvard this semester" (para. 1). The popularity of this course at an academic institution such as Harvard suggests the appropriateness and potential of offering such courses at other universities.

Further expanding on the idea of complete positive psychology courses, researchers have collected data of students who have taken a comprehensive positive psychology course. As a single example, Maybury (2013) provides a recent study of a positive psychology course conducted in a university class in the United States in which various aspects of students' lives were measured prior to the course and after the course was completed. The small sample of students were taught positive psychology concepts and techniques, were given related assignments to complete, and were instructed to apply the positive psychological techniques to their lives. At the end of the course, "students' happiness, mindfulness, hope, and positive future orientation" (p. 64) had all increased as compared to the beginning of the course (Maybury, 2013).

Another way positive psychology can be applied in schools is by learning and integrating the concepts throughout regular classes or even across the entire school. Seligman, Ernst, Gillham, Reivich, and Linkins (2009) provide a discussion of schools that have applied various positive psychology programs; this includes a

single school that integrated positive psychology, in theory and application, in the majority of students' education. Anecdotes suggest that this full intervention resulted in a positive impact in students' education and home life. However, no methodological data was reported (Seligman et al., 2009).

Interventions by school counselors are a final way that positive psychology can be applied in academic settings; school counselors could use techniques influenced by positive psychology when working with students. Park and Peterson (2008) discuss the practicality of how school psychologists can measure and emphasize an individual student's strengths. Furthermore, a discussion of past empirical research provides a clear understanding of the benefits of focusing and enhancing one's strengths in which various aspects of individuals' lives are improved (Park & Peterson, 2008).

Three Positive Psychology Concepts Applied in Education: Definitions and Examples

Although positive psychology is a subfield that encompasses numerous techniques and concepts, three ideas have been explored more thoroughly than the rest: flow, mindfulness, and hope. These are all concepts that can be measured and potentially manipulated, and they appear to differ depending on individual people. These concepts have generated much research and have been applied in various settings, including education. Experiencing high levels of flow, mindfulness, and hope has positive impacts on individuals, including students. Definitions of flow, mindfulness, and hope, as well as brief examples of studies regarding these specific concepts in education, are discussed below.

Flow

Flow is a concept that many people can easily understand, relate to, and recognize having experienced. Csikszentmihalyi (1990) introduced the state of flow as a feeling of "optimal experience." When a person is engaged in flow, they have a goal to reach and are

completely focused on it. They are not particularly self-conscious, and they are performing an activity that is intrinsically satisfying to them (Csikszentmihalyi, 1990). This experience can exist for nearly any individual and thus can be studied in academic settings.

Flow has been manipulated and measured in students' lives. For example, Rogatko (2009) studied how high or low flow activities can influence positive affect (positive emotions). Students were placed in one of two conditions in which they were instructed to engage in activities that would personally promote either high or low levels of flow. The study found that positive affect had increased significantly in the group of students who were instructed to engage in activities that would promote high levels of flow. It was also found that students who experienced higher flow levels, regardless of their assigned groups, experienced increased positive affect and decreased negative affect (negative emotions). While exercise was reported as a typical high flow activity, attending class was a low flow activity. However, many students who reported high levels of flow had been engaged in academic related activities, which suggests that engaging in flow differs between individuals (Rogatko, 2009).

Mindfulness

Mindfulness can be a difficult experience to define, and it is even more difficult to achieve. Kabat-Zinn (2003) has defined mindfulness as "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment" (p. 145). Achieving complete mindfulness does not appear to be common or easy to do, but individuals can attempt to experience mindfulness and achieve success to some extent.

Mindfulness can be increased by natural manipulations. For example, Caldwell, Harrison, Adams, Quin, and Greeson (2010) studied college students who had enrolled in three different classes that were focused on moving

one's body. Students' mindfulness, stress, mood, self-efficacy, and sleep quality were all measured. It was found that by the end of the course, students in these classes had become more mindful than when they began the courses. Students also experienced healthier levels of stress, mood, self-efficacy, and sleep quality (Caldwell et al., 2010).

Hope

Hope is a common concept that the majority of people easily understand. For clarity, however, one understanding of hope will be discussed. Snyder et al. (1991) provided and tested a measure of hope. The researchers asserted that hope consisted of two elements: agency, which can be explained as one's determination to reach goals, and pathways, which can be explained as how one plans to attain goals (Snyder et al., 1991).

It has been questioned whether hope is a stable trait or if it can be manipulated. Feldman and Dreher (2012) studied whether hope, defined using Snyder et al.'s "Hope Theory" (see above), can be increased within 90 minutes and whether this increase would remain effective up to one month later. College students were assigned to three different groups: one that manipulated hope, a relaxation group, and a no treatment group. It was found that students who were part of the hope manipulation had experienced increased hope concerning their chosen goal, but effects did not last one month later. The hope group was also the most successful in advancing toward their goal one month after the short activity had taken place. However, differences in hope did not entirely explain the differences in the advancement toward students' goals that were observed between the groups (Feldman & Dreher, 2012).

Method

Participants

The sample consisted of 129 undergraduate students at California State University, Stanislaus in which 26.8% were males and

73.2% were females. The age of participants ranged from 18 to 52 years old, with an average age of 22.27 and a standard deviation of 5.50. Of the participants, 53.9% were Latino(a)/Hispanic, followed by 26.6% who were Caucasian, 7.8% were East Asian/Pacific Islander, 4.7% were multi-racial, 3.1% were African American, 1.6% were Middle Eastern, and 2.3% classified themselves as "other."

Materials

Pre-established surveys that were found in journal articles and used in previous studies were used for this research. Flow was measured with the Flow Short Scale (Engeser & Rheinberg, 2008), but the directions were adapted to focus on school-related activities. Mindfulness was measured with the Mindful Attention Awareness Scale (Brown & Ryan, 2003). Hope was measured with The Hope Scale (Snyder et al., 1991). Social Networks was measured using the Lubben Social Network Scale - 6-Item Version (Lubben et al., 2006). Happiness was measured using the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999).

Procedure

Participants were recruited through SONA (<http://csustan.sona-systems.com/>), the online participant pool available through the Psychology Department at CSU, Stanislaus. Once students create accounts through SONA, they are given access to participate in all listed active studies occurring through the Psychology Department. Students choose to participate in whichever and however many studies they prefer. Students received extra credit for participating in this study at the discretion of their professors.

After students signed up for this study through SONA, they were redirected to Qualtrics. Qualtrics is the website used to construct the survey and thus hosted the survey for participants to complete. Participants were first provided with an informed consent form, which provided students with enough information about the study and what would be

expected of them; this information enabled participants to make a knowledgeable decision to continue with the study as well as understand their rights as participants. These rights include skipping questions and not having to complete the entire survey. Students who agreed to the consent form then continued to the study.

Participants were all given the same surveys (see above), but the surveys were presented to participants in random order to control for order effects. After participants completed these surveys, they were then asked to complete a short demographics questionnaire, which asked their gender, age, race/ethnicity and GPA. GPA was measured simply by asking participants to report their GPA by typing a number into a text box.

After completing the survey, participants were given a debriefing sheet which explained the purpose of the study, provided contact information should they be interested in getting more information about the study, and thanked them for participating.

Data Analysis

Several statistical tests were used to analyze the data. First, correlational analyses were performed to measure how related one variable is to another variable. Multiple regression analyses were performed in which two or more variables are used to predict another variable. A Sobel test was used to assess mediation; mediation occurs when the relationship between two variables is explained, or mediated, by a third variable.

Results

It was expected that flow, mindfulness, and hope would be positively correlated to happiness, social relationships, and GPA. In other words, students who reported greater experience of flow, mindfulness, and hope would be happier, have a better quality of social relationships, and have a higher GPA.

Through correlational analyses, it was found that flow, mindfulness, and hope were significantly and positively correlated with happiness (Table 1). When flow, mindfulness,

and hope were input into a multiple regression equation, they accounted for 39% of the total variance in happiness, $F(3, 118) = 25.23, p < .01$; however, only hope remained a significant predictor. It was found that controlling for hope reduced the relationship between mindfulness and happiness from $R(126) = .30, p < .01$, to $R(118) = .11, p = .16$. A Sobel test revealed that the relationship between mindfulness and happiness was fully mediated by hope, $z = 3.23, p < .01$. Similarly, it was found that controlling for hope reduced the relationship between flow and happiness from $R(124) = .35, p < .01$, to $R(120) = .07, p = .37$. Again, a Sobel test revealed that the relationship between flow and happiness was fully mediated by hope, $z = 4.74, p < .01$.

Through further correlational analyses, it was found that flow and hope were significantly and positively correlated with social relationships, although mindfulness was not (Table 2). When flow and hope were entered into a multiple regression equation, they accounted for 22% of the total variance in social relationships, $F(2, 120) = 17.03, p < .01$; however, only hope remained a significant predictor. It was found that controlling for hope reduced the relationship between flow and social relationships from $R(124) = .30, p < .01$, to $R(120) = .13, p = .15$. As before, a Sobel test revealed that the relationship between flow and social relationships was fully mediated by hope, $z = 4.06, p < .01$.

Lastly, correlational analyses revealed that neither flow, mindfulness, nor hope were significantly correlated with GPA (Table 3).

Discussion

Flow, mindfulness, and hope all appear to be related to different aspects of student success. Students who experienced greater flow, mindfulness, or hope were happier than students who experienced lower levels of these concepts. Students who experienced greater flow or hope had better quality of social relationships with friends and family. Finally, levels of flow, mindfulness, or hope were not related in any way to GPA.

Interestingly, when flow, mindfulness, and hope were analyzed in how much they explained happiness, it was found that 39% of the differences in happiness can be explained by these three factors. However, it was found that hope accounted for, or mediated, the relationships of both flow and mindfulness; hope can individually explain a proportion of the differences in people's happiness. In other words, flow and mindfulness were only related to happiness because hope is related to happiness, flow, and mindfulness.

Furthermore, 22% of the differences in social relationships were explained by both flow and hope. Similarly, it was found that hope also mediated the relationship between flow and social relationships, so flow was only related to social relationships because of hope.

GPA was not related to any of the positive psychology concepts studied, which suggests that students would not necessarily gain academic benefits through positive psychological interventions. Although GPA may not be related to positive psychological concepts, future interventions may still improve happiness and social relationships; improvement in these areas of people's lives may be more beneficial as compared to improving the single aspect of GPA. Therefore, understanding and increasing people's experiences of concepts such as hope could be greatly beneficial and may be generalizable to multiple aspects of individuals' lives.

The outcomes of this study should be carefully interpreted because of several limitations and weaknesses of this study. First, there were many survey items, which may have resulted in some participants not honestly completing the entire survey. Regardless of remaining anonymous, participants may have answered questions dishonestly as a result of self-report. Additionally, academic achievement was only measured using a single item, and GPA may not accurately represent a student's academic achievement or potential. Thus, academic achievement could have been measured through multiple items, including

GPA, standardized testing scores, teacher evaluations, and research experience, while also considering the student's major.

The results of this study suggest that while greater experiences of flow, mindfulness, and hope are related to student success, simply being more hopeful may have the greatest advantages as compared to experiencing more flow or mindfulness. Although the sample consisted of college students, this may be the case for the general population as well. Future research could further investigate the role hope plays in people's lives. It is important to consider that hope may be a relatively stable trait within individuals; therefore, researching other related and more flexible factors may prove to be more beneficial for people. Optimism, expectations, and emotion regulation are concepts that future research could investigate in various settings. However, hope accounts for over one-third of a person's happiness, which suggests that hope is a powerful factor and is worthy of being a substantial part of potential positive psychology interventions. If people can be happier by increasing a single factor such as hope, their attitudes and behaviors may be positively influenced from this change. When people are happier, they may act more positively toward other people which may then influence those other people to also be happier. Thus, a change within a single person can affect many other people.

This research reviewed how positive psychology has been applied in academic settings, discussed previous research of flow, mindfulness, and hope, and described how an original study was conducted. The results of the study suggest that hope is incredibly important and influential in people's lives, and it is a concept worth further study. It is likely that greater benefits would be revealed through further researching and employing interventions to increase hope. These potential findings could be used for personal benefit as well as influencing other people around one's self: positivity and happiness spread from one person to another.

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Table 1
Correlations between happiness, flow, mindfulness, and hope.

Measures	1	2	3	4
1. Happiness	---			
2. Flow	.35**	---		
3. Mindfulness	.30**	.26**	---	
4. Hope	.61**	.46**	.30**	---

* $p < .05$

** $p < .01$

Table 2
Correlations between social relationships, flow, mindfulness, and hope.

Measures	1	2	3	4
1. Social Relationships	---			
2. Flow	.30**	---		
3. Mindfulness	.17	.26**	---	
4. Hope	.47**	.46**	.30**	---

* $p < .05$

** $p < .01$

Table 3: *Correlations between GPA, flow, mindfulness, and hope.*

Measures	1	2	3	4
1. GPA	---			
2. Flow	-.01	---		
3. Mindfulness	.07	.26**	---	
4. Hope	-.02	.46**	.30**	---

* $p < .05$

** $p < .01$