



Positive emotions, emotional intelligence, and successful experiential learning

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ABSTRACT

This study explored the role that positive emotions and emotional intelligence play in experiential learning. Students' field practicum journals were analyzed using the Linguistic Inquiry and Word Count Program (LIWC) and a measure of emotional intelligence was obtained using the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT). Positive emotion words were robustly associated with almost all dimensions of supervisors' ratings of students' performance, but showed weak associations with students' ratings of perceived benefits associated with their practicum experiences. Overall EI scores were correlated with several of the supervisor rating items and the Facilitating Thought and Managing Emotions subscales of the EI were robustly correlated with many of the student rating items. This study thus yielded a more differentiated view of the role of positive emotions and emotional intelligence in adaptive functioning and underscored the importance of using multiple informants to assess a complex construct such as successful experiential learning.

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1. Introduction

Over the past decade, an impressive body of research has shown that both positive emotions and emotional intelligence are associated with multiple successful outcomes in the domains of mental health, social relationships, and work (for reviews see Lyubomirsky, King, & Diener, 2005; Mayer, Roberts, & Barsade, 2008). In spite of the fact that both emotion variables have garnered a great deal of attention in the field and have many areas of theoretical and empirical overlap, surprisingly little research has explored how they are interrelated and jointly contribute to adaptive functioning. This study explores the role that both positive emotions and emotional intelligence play in successful experiential learning.

1.1. Positive emotions

For many decades, theories of emotions focused on how negative emotions help us cope with immediate threats by narrowing our thought-action patterns. However, with the formulation of the “broaden-and-build” theory of positive emotions (Fredrickson, 1998), increasing attention has been devoted to elucidating the role of positive emotions in adaptive functioning. According to this theory, positive emotions do not merely reflect momentary happiness or satisfaction, but more importantly serve the evolutionary adaptive function of widening a person's scope of attention and cognition as well as expanding the array of possible behaviors.

The broadened mindset associated with positive emotions facilitates creative and flexible thinking as well as effective problem-solving and coping skills. Overtime, the benefits associated with the broadened mindset compound and build durable psychological and social resources that the person can draw on to deal with various life challenges.

In support of the broaden and build theory of positive emotions, studies have found that individuals who are induced to feel positive emotions exhibit wider visual search patterns as well as more flexible mindsets and also report higher levels of feelings of self-other overlap (for recent review see Kok, Catalino, & Fredrickson, 2008). Several studies have also shown that positive emotions undo or buffer the deleterious effects of negative emotions and thereby contribute to psychological resilience and flourishing (e.g., Cohn, Fredrickson, Brown, Mikels, & Conway, 2009). A large scale review of longitudinal and experimental studies has also revealed that positive emotions often precedes and predicts positive outcomes in the domains of mental health, social relationships, and work and are not simply the result of positive outcomes (Lyubomirsky et al., 2005).

1.2. Emotional intelligence

According to the emotional intelligence (EI) theory, emotions provide us with vital information for making sense of our inner experiences and navigating our social environment. Thus, individuals who are receptive to internal and external cues of emotion, engage in sophisticated information processing about their own and others' emotion experiences, and use the information as a guide to their thought and behavior are more likely to exhibit

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adaptive functioning in both the intrapersonal and interpersonal realms (Mayer, Salovey, & Caruso, 2008).

In support of the foregoing view, an impressive body of research has found that EI is associated with various measures of intrapersonal and interpersonal functioning (for review see Mayer et al., 2008). For example, studies show that emotional intelligence is positively correlated with measures of well-being and negatively correlated with measures of deviant behaviors (e.g., Brackett, Mayer, & Warner, 2004). Various dimensions of EI have also been associated with self-reports of interpersonal sensitivity and positive relations with others as well as peer and observer ratings of social competence (e.g., Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Lopes, Salovey, Cote, & Beers, 2005). Perhaps most important, emotional intelligence has been associated with some important real world outcomes. Many studies have reported robust relations between EI and various measures of work performance, including supervisors' ratings of productivity, personal integrity, and leadership (Mayer et al., 2008). Other studies have shown that EI is associated with higher retention rates, academic success, and positive coping among college students (e.g., Austin, Saklofske, & Mastoras, 2010; Parker, Summerfeldt, Hogan, & Majeski, 2004).

1.3. Experiential learning

Over the past two decades, there has been a tremendous growth in service-based experiential learning courses at universities across the country. A substantial body of research shows that these courses are associated with a host of positive intrapersonal as well as interpersonal outcomes including moral development, leadership skills, and appreciation of diversity (Eyler & Giles, 1999).

Both positive emotions and emotional intelligence are likely to play a central role in successful experiential learning for several reasons. First, as the foregoing literature has shown, both emotion variables are associated with adaptive intrapersonal and interpersonal functioning, which are likely to facilitate the experiential learning process. Second, positive emotions and emotional intelligence are both likely to serve as valuable psychological and social resources for coping with the various challenges associated with each of the developmental stages of the internship experience (Sweitzer & King, 2008). Finally, positive emotions and emotional intelligence may also contribute to successful experiential learning by fostering reflection (Kok et al., 2008; Mayer et al., 2002), which has been identified as "one of the core process variables" (Eyler & Giles, 1999, p. xii) involved in successful experiential learning. Given that by definition, emotional intelligence involves information processing with respect to the affective system, it is particularly likely to be strongly associated with deeper processing of experiences and higher levels of integrative thinking.

1.4. Present study

The major goal of the study was to examine the associations between positive emotions and emotional intelligence with supervisors' ratings of students' performance and students' ratings of perceived personal and professional benefits associated with their practicum experiences. A subsidiary goal of this study was to examine whether emotional intelligence mediates the relations between positive emotions and successful experiential learning or vice versa. As Tugade and Fredrickson (2001) have observed, individuals who make intelligent use of their emotions may be more adept at harnessing positive emotions and conversely individuals who frequently experience positive emotions may learn to make more intelligent use of their emotions. Thus, positive emotions and emotional intelligence may reciprocally influence one another. Another possibility is that high levels of emotional intelligence may serve as a protective factor against low levels of positive

emotions or that conversely high levels of emotional intelligence would serve as a protective factor against low levels of positive emotions and, therefore, that these two emotion variables may interact with one another in predicting successful experiential learning.

Given that previous research has found that self-report measures of emotions and emotional intelligence tend to be highly correlated with one another undoubtedly due in part to shared method variance, special attention was given to selecting measures of emotions and EI that utilized different methodologies and had good discriminant validity. In this study, measures of emotions were obtained by analyzing students' field practicum journals using the Linguistic Inquiry and Word Count Program (LIWC, Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007), which is a well-validated content-analysis program. Emotional Intelligence was assessed using the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT 2.0, Mayer et al., 2002), which is the most widely used performance based measure of emotional intelligence.

A previous study on experiential learning (Abe, 2009) found that students' use of positive emotion words showed robust associations with almost all dimensions of supervisors' evaluation. However, both word count and negative emotion words were not associated with supervisors' ratings, indicating that merely how much students write and the extent to which they process their negative emotion experiences is not predictive of supervisors' perceptions of their performance.

This study extends the previous study on experiential learning (Abe, 2009) in several important ways. First, this study included a measure of emotional intelligence in addition to emotion words, which enabled one to examine the relative contribution of the two sets of variables in predicting successful experiential learning. Second, successful experiential learning was assessed not only using supervisors' ratings of students' performance, but also students' ratings of perceived benefits associated with their practicum experiences. Third, this study used an expanded version of the supervisors' rating scale, which included additional items that assessed higher levels of integrative thinking.

According to the literature on experiential learning, learning occurs through a cycle of experience, reflection, and action, whereby reflecting on experiences leads to enhanced understanding and enhanced understanding leads to more effective action. Even though positive emotions and emotional intelligence are likely to play an important role during all phases of the learning cycle, positive emotions is likely to facilitate experiential learning mainly by expanding a person's thought-action repertoire, whereas emotional intelligence is likely to facilitate experiential learning mainly by fostering reflective abilities. This study, therefore, predicted that positive emotions may be more robustly associated with supervisors' ratings of students' performance, whereas the EI dimensions may be more robustly associated with students' ratings of perceived personal and professional benefits associated with their practicum experiences. Even though students' use of negative emotion words was not associated with supervisors' ratings of performance in the previous study (Abe, 2009), it was included in this study because it is possible that the narrowed focus associated with negative emotions may help students more carefully process (Forgas, 2006) their practicum experiences and thereby contribute to their perceptions of benefits associated with their internship.

2. Method

2.1. Participants and procedure

The participants in this study were 65 students who were enrolled in an undergraduate mental health specialization program

and completed a 150 h field practicum during their senior year. Students were required to keep a weekly journal in which they were encouraged to not only describe their practicum experiences, but also to elaborate on their thoughts and feelings associated with their practicum experiences. Students were offered a \$10 gift certificate for participating in the study and completing the online emotional intelligence test. Due to the limited enrollment in the field practicum course, the data for this study were collected over the course of several semesters.

2.2. Measures

LIWC (Pennebaker et al., 2007): Measures of positive and negative emotions were obtained by analyzing students' journals using the LIWC. The program searches for target words or word stems from an extensive dictionary, categorizes them into linguistic dimensions, and then converts the raw counts to percentages of total words. Previous research has shown that the LIWC emotion dimensions accurately assesses affective states and are associated with expected outcomes (Tausczik & Pennebaker, 2010).

MSCEIT 2.0 (Mayer et al., 2002): Emotional intelligence was assessed using the online version of the MSCEIT 2.0 (Mayer et al., 2002). The test consists of 141 items and yields scores for overall EI as well as how well people solve emotionally-laden problems across four domains. As recommended in the MSCEIT manual, the consensus scoring option was used in this study. Internal reliabilities (split-half) were .70 for Perceiving, .53 for Facilitating, .60 for Understanding, .60 for Managing and .77 for Total EI.

Measures of successful experiential learning: At the end of the semester, both site supervisors and students were asked to complete rating scales, which consisted of 10 items and were rated on a 5-point scale. The supervisors' rating scale assessed students' performance in several major domains. The students' rating scale assessed their perceived personal and professional benefits associated with their practicum experiences. The students submitted their weekly journals and completed rating scales to their faculty supervisor, but not to their site supervisors, so the site supervisors' ratings of the students' performance were made without any knowledge of the content of the students' journals or their ratings.

3. Results

The descriptive statistics and the correlations between the LIWC and MSCEIT dimensions are shown in Table 1. The LIWC emotion dimensions were not correlated with the MSCEIT dimensions, which demonstrate the discriminant validity of the two sets of measures.

Table 1
Descriptive statistics and correlations of LIWC and MSCEIT dimensions.

Variable	1	2	3	4	5	6	7	8
1. Word count	–							
2. Positive emotion	–.15	–						
3. Negative emotion	–.02	–.06	–					
4. Perceive	–.28*	.14	–.08	–				
5. Facilitate	–.08	.06	.10	.39**	–			
6. Understand	–.09	.01	.17	.19	.23*	–		
7. Manage	.10	–.06	.19	.21*	.56**	.25*	–	
8. Total MSCEIT	–.15	.09	.09	.73**	.75**	.56**	.78**	–
Mean	8521	2.8	1.5	98.79	95.27	93.62	97.10	95.51
SD	3953	.51	.50	14.85	14.53	10.38	9.99	12.21

* $p < .05$.

** $p < .01$.

3.1. Correlations and partial correlations between emotion variables and rating scales

The descriptive statistics for the supervisors' ratings and the bivariate correlations between the LIWC and MSCEIT dimensions with supervisors' ratings are shown in Table 2. Consistent with findings from the previous study, the total number of words that students used in their journals and negative emotion words were not associated with any of the supervisor rating items, but positive emotion words were robustly correlated with almost all dimensions of performance. The two exceptions were "Academic preparation in the field" and "Understanding of ethical issues in the field," which interestingly, were positively correlated with overall EI. Overall EI was also positively correlated with "Use of supervision and feedback" and "Motivation to seek out learning experience" and marginally correlated with supervisors' ratings of professional behavior and demeanor and overall performance.

The descriptive statistics for the students' rating scales and the bivariate correlations between LIWC and MSCEIT dimensions with students' ratings are shown in Table 3. As the table shows, a completely different pattern of relations emerged from the student ratings. In sharp contrast to the supervisors' ratings, negative emotion words and word count were positively correlated with many of the student rating items, whereas positive emotions words were positively correlated with only one of the student rating items, namely, "Contributed to my personal growth." By contrast, several of the EI dimensions showed robust associations with the student rating items. The global measure of EI was positively correlated with "Helped me to develop valuable skills" and "Contributed to my personal growth" and the Facilitating Thought and Managing Emotions subscales of the EI were correlated with many of the other student rating items.

To examine whether the correlations between the LIWC emotion dimensions and measures of experiential learning would remain significant after controlling for overall EI and vice versa, a series of partial correlations were conducted. The analyses revealed that the differences between the bivariate and partial correlations were negligible and that all of the correlations remained significant ($r_s = .34-.21$, $p_s < .01-.05$).

3.2. Mediation effects

A subsidiary goal of this study was to explore whether the relations between positive emotions and successful experiential learning were mediated by EI or vice versa. According to Baron and Kenny (1986), the first condition for establishing mediation is for the predictor variable to be significantly correlated with the proposed mediator variable. In this study, the LIWC emotion dimensions were not correlated with the EI dimensions. Thus, the mediational analyses were not conducted.

Table 2

Correlations between Supervisors' ratings and LIWC and MSCEIT dimensions.

Supervisors' ratings	LIWC dimensions				MSCEIT dimensions				
	Mean (SD)	Word Count	Positive Emotion	Negative Emotion	Perceive	Facilitate	Understand	Manage	Total
1. Rapport with clients/students	4.29 (.90)	.00	.23*	.00	.13	-.04	-.02	.12	.09
2. Relationship with staff members	4.42 (.79)	.03	.30**	-.05	.02	.09	.03	.00	.06
3. Overall professional behavior and demeanor	4.43 (.79)	-.03	.39**	.00	.08	.16+	.14	.09	.18+
4. Use of supervision and feedback	4.28 (.84)	.01	.36**	-.03	.22*	.27**	.15	.19+	.33**
5. Organizational ability	4.38 (.86)	-.02	.36**	.02	.20	.19	.01	.05	.20+
6. Motivation to seek out learning experiences	4.40 (.95)	-.02	.35**	.04	.12	.22*	.22*	.10	.23*
7. Academic preparation in the field	4.16 (.81)	-.16	.09	.03	.11	.20+	.16	.31**	.28*
8. Understanding of ethical issues in the field	4.20 (.84)	-.08	.07	.06	.20+	.22*	.18+	.21+	.30**
9. Followed rules and regulations of agency	4.48 (.73)	-.11	.30**	-.04	.07	.09	.10	.06	.12
10. Overall impression of student	4.44 (.81)	-.03	.36**	-.07	.05	.17+	.18+	.09	.18+

Note: Supervisors' ratings: 5 = outstanding; 4 = above average; 3 = expected level; 2 = below average; 1 = unacceptable.

Due to missing data $N = 62$ –64.+ $p < .10$.* $p < .05$.** $p < .01$.**Table 3**

Correlations between Students' ratings and LIWC and MSCEIT dimensions.

Supervisors' ratings	LIWC dimensions				MSCEIT dimensions				
	Mean (SD)	Word count	Positive emotion	Negative emotion	Perceive	Facilitate	Understand	Manage	Total
1. Helped me to develop valuable skills	4.72 (.68)	.14	-.02	.25*	.03	.37**	.04	.44**	.30**
2. Applied what I learned in psychology classes	4.60 (.52)	.23*	-.15	.22*	-.01	.25*	-.07	.24*	.15
3. Helped me to clarify my future goals	4.64 (.65)	-.04	-.13	.23*	-.08	.18*	-.11	.08	-.02
4. Enhanced my understanding of MH issues	4.48 (.64)	-.07	.12	.16	-.04	.24*	-.16	.23*	.08
5. Was intellectually stimulating	4.53 (.66)	.23*	.03	.43**	-.03	.23*	-.10	.24*	.11
6. Increased motivation to pursue career in field	4.42 (.92)	.26*	.10	.08	.15	.12	-.01	.15	.15
7. Increased self-confidence about working in field	4.56 (.66)	.02	.13	.10	.11	.17*	-.04	.18*	.15
8. Stimulated interest in learning about MH issues	4.69 (.69)	.08	-.05	.15	-.14	.29*	.07	.43**	.21*
9. Contributed to my personal growth	4.78 (.42)	.12	.25*	.24*	.09	.33**	.07	.25*	.25*
10. Fulfilled my expectations	4.48 (.76)	.33**	-.09	.20*	.02	.16	-.15	.18*	.06

Note: Students' Ratings: 1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree.

Due to missing data $N = 62$ –63; MH = Mental Health.+ $p < .10$.* $p < .05$.** $p < .01$.

3.3. Moderation effects

Another possibility was that LIWC emotion dimensions and EI would interact with one another in predicting successful experiential learning. To examine potential moderation effects for two of the supervisor rating items and one of the student rating items that were correlated with both positive emotion words and overall EI, a series of regression analyses were conducted. Following the procedure outlined by Aiken and West (1993), positive emotion words and overall EI were first converted to mean deviation scores and the product of these scores were used as the interaction terms; these three sets of variables were then entered into the regression equations. In these analyses, the key tests were the interaction terms between the positive emotions and overall EI. The standardized betas for the interaction terms were not significant ($Betas = .02$ – $.03$ *n.s.*), thus the analyses failed to yield evidence for moderation effects. The procedure was repeated for two of the student rating items that were correlated with both negative emotions and overall EI and also failed to yield evidence of moderation ($Betas = .09$ – $.03$ *n.s.*).

4. Discussion

This study replicated some of the major findings from the previous study on experiential learning (Abe, 2009), but also yielded

additional findings, which cast an entirely new light on the role of emotions in successful experiential learning. In general, the findings from this study indicate that positive emotions and emotional intelligence are relatively independent of one another and complement one another in predicting successful experiential learning. The overall patterns of findings from this study were, furthermore, broadly consistent with the prediction that positive emotions may contribute to successful experiential learning mainly by expanding a person's thought-action repertoire and that emotional intelligence may contribute to successful experiential learning mainly by fostering reflective capabilities.

4.1. Supervisors' ratings of students' performance

Consistent with findings from the previous study (Abe, 2009), positive emotion words were robustly correlated with almost all dimensions of supervisors' ratings of students' performance. Students who used high levels of positive emotion words were rated as having a high level of motivation to pursue new learning experiences, making good use of supervision and feedback, as well as establishing positive relationships with clients/students and staff. These findings lend further support for the broaden- and- build theory that positive emotions do not merely reflect momentary happiness and satisfaction, but also foster openness to new relationships, experiences, and information. Furthermore, students

who used high levels of positive emotions were also rated as being more organized and professional and were more likely to be rated as “outstanding” by their supervisors. These findings are consistent with the view that positive emotions may foster creative and flexible thinking as well as effective problem-solving and coping skills.

As expected, the EI dimensions were also positively correlated with several of the supervisor rating items. Interestingly, global EI was positively correlated with two of the items that were not correlated with positive emotions, namely, academic preparation and understanding of ethical issues; these are also the items that arguably require a higher level of integrative thinking. For example, “Understanding of ethical issues in the field” requires the ability to see things from multiple perspectives. “Academic preparation in the field” requires translating and applying knowledge to real life situations. The other two supervisor rating items that were associated with overall EI were also associated with positive emotion words and involved both openness to new experiences as well as integrative thinking. For example, “Use of supervision and feedback” requires receptivity to feedback from others as well as the ability to process and incorporate the feedback. “Motivation to seek out new learning experiences” involves both approach behavior and intellectual curiosity.

4.2. Students' ratings of practicum experiences

In sharp contrast to the supervisor rating data, positive emotion words were positively correlated with only one of the student rating items, namely, ‘Contributed to my personal growth’. At first glance, these findings might seem somewhat counterintuitive in that one would expect students who used high levels of positive emotion words and presumably wrote more about positive events in their journals to report high levels of personal and professional benefits from their practicum experiences. However, these patterns of findings may lend further support to the central tenet of the ‘broaden and build’ theory that positive emotions do not merely reflect feelings of happiness or satisfaction, but more importantly index cognitive broadening and behavioral flexibility.

Another striking difference to emerge between the supervisor and student rating data was that word count and negative emotion words were, quite unexpectedly, positively correlated with many of the student rating items. These findings indicate that even though how much students write about their practicum experiences and also the extent to which they process their negative emotions in their journals may not impact their performance per se, both of these factors have a bearing on students' perceptions of benefits associated with their practicum experiences. One possible explanation for these findings is that the narrowed focus associated with negative emotions may have helped students more carefully process their practicum experiences and thereby enabled them to extract more out of their experiences.

Compared to positive emotion words, the EI dimensions showed stronger associations with students' ratings of their practicum experiences. In particular, the Facilitating Thought and Managing Emotions subscales of the EI were robustly associated with several of the student rating items. Students who scored high on these subscales were more likely to state that their practicum gave them an opportunity to develop valuable skills and to apply what they learned in their psychology classes as well as to report that their experiences were intellectually and personally rewarding. Given that previous research has found that the Facilitating Thought and Managing Emotion dimensions are negatively correlated with emotional manipulation (Austin, Farrelly, Black, & Moore, 2007), these results are unlikely to be due to impression management. One possible explanation that may be offered to account for the findings is that individuals who are adept at harnessing their emotions to facilitate problem-solving and to attain specific goals have

the ability to be fully engaged in what they are doing “as opposed to worrying, or wishing to be somewhere else, or feeling oppressed by circumstances” (Oatley, 2004, p. 221) and thereby are more likely to extract the most out of their experiences.

4.3. Limitations and future directions

Prior to discussing future avenues for research, some potential limitations associated with the measures used in this study must be discussed. The supervisor and student rating scales used in this study consisted of single items to assess each of the domains and had a restricted range of scores. In addition, the two rating scales focused on different aspects of successful experiential learning thus differences in the raters were confounded with differences in the content of the rating scales. Finally, some of the EI dimensions used in this study had lower reliabilities. The fact that this study yielded robust findings in spite of these factors, underscores the predictive power of the emotion variables used in this study. Nevertheless, a future study might utilize rating scales that includes multiple items to assess each of the domains as well as some items which overlap between the supervisors' and students' rating scales. In addition, given that an increasing number of studies have reported various psychometric issues associated with performance-based measures of EI (e.g., Austin, 2010), a future study might utilize a self-report measure of EI as well.

Another avenue for extending the present study would be to examine the long-term outcomes associated with the measures used in this study by tracking the students longitudinally. Given that the vast majority of the students in this study were rated very positively by their supervisors and also rated their practicum experiences very positively, one could argue that all of the students had a successful experiential learning experience. Therefore, the important questions might be: Is it the students who used a high level of positive emotion words and who were rated highly by their supervisors who will show long-term positive outcomes? Or is it the students who scored high on the EI subscales and who reported high levels of personal and professional benefits associated with their practicum experiences who will show more salutary outcomes? Given that one of the central goals of an experiential learning program is to foster personality growth and development, this is an issue that warrants further investigation.

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