

An Expressive Writing Intervention for Professional Development in Psychology

A Thesis
Submitted to the Faculty
Of the Psychology Department

Of

Washburn University

In partial fulfillment of
The requirements for

MASTERS OF ARTS

Psychology Department

By

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May 8, 2018

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May, 2018

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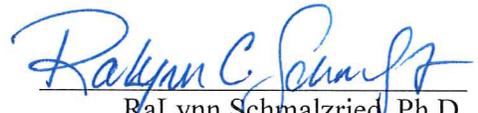
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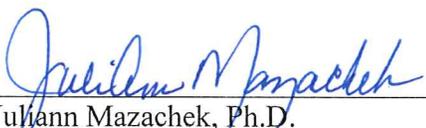
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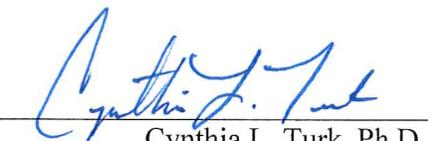
AN EXPRESSIVE WRITING INTERVENTION FOR PROFESSIONAL
DEVELOPMENT IN PSYCHOLOGY

be accepted in partial fulfillment for the

MASTER OF ARTS DEGREE


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Acknowledgements

I would like to say thank you to the faculty, staff, and students of Washburn University for their wisdom and guidance throughout this project, my cohort for their unwavering support, and my wife for her tireless energy and optimism.

An Expressive Writing Intervention for Professional Development in Psychology

For many young people the development of a professional identity is a future-oriented topic that is left unexamined and under-developed during their collegiate education (Lengelle & Meijers, 2014). Students often enter college feeling uncertain about their course of study or area of specialization (Komarraju, Swanson, & Nadler, 2014), and many college seniors lack the skills required to secure a job or to continue to graduate school (Roscoe & Strapp, 2009). Students may take the path of least resistance or succumb to peer and family pressure to follow an unwanted path. Others may follow family pressure and enter a career that is unsatisfying or earn a degree outside their area of interest. Finally, an individual may not know what he or she wants to do for a career but may prefer to work an unsatisfying job that keeps he or she close to friends and family.

There appears to be a gap between a student's expectations of employability and the realities of the labor market (Brown & Hesketh, 2004). The Secretary Commission on Achieving Necessary Skills (SCANS) report attempted to assist institutions of higher learning to bridge this gap by identifying fundamental skills and workplace competencies (SCANS, 2001). This report outlined skills and attributes that are required by any job: basic skills, thinking skills, and personal qualities. Additionally, the SCANS report listed five workplace competencies aimed at increasing efficacy in the workplace: resource, interpersonal, information, systems, and technology. Recognizing the fact that psychology undergraduates were underperforming relative to other degrees in the job market, the American Psychological Association (APA) affirmed the need for professional development (PD) as a component of undergraduate education in psychology by including PD as one of the five comprehensive learning goals in the updated Guidelines for the Undergraduate Psychology Major (APA, 2013). This is important since

psychology students report obtaining important job skills in the workplace and not in the classroom (Landrum, Hettich, & Wilner, 2010). Additionally, psychology students perceive themselves as underprepared for the workplace (Landrum, et al., 2010) yet little has been done to improve this perception (Gordienko, 2015).

The National Association of Colleges and Employers (NACE) defines professional development as the attainment and demonstration of requisite competencies that broadly prepare college graduates for a successful transition to the workplace (NACE, 2017). Professional development is often evaluated in absolutes, or by external attributes, such as credentials, degrees, technical and computer skills, and organizational and leadership skills (Imeokparia & Edigbonya, 2012; NACE, 2017). However, PD also involves subjective, or internal, contextual components such as standing relative to other job candidates, perceptions of the self, verbal communication, and emotional intelligence (Brown & Hesketh, 2004; NACE 2017). Therefore, PD can be understood as two parts: an external piece consisting of academic learning, skills training, titles and degrees, and objective competencies; and an internal piece consisting of a person's thoughts, beliefs, emotions, and subjective experiences. External PD has been the focus of a majority of interventions (e.g. Meijers, Lengelle, Winters, & Kuijpers, 2017), leaving internal PD relatively unexplored.

Professional Development in Psychology

Professional development may be of unique importance to psychology. Undergraduate psychology students are less knowledgeable about their career options upon graduation (Thomas & McDaniel, 2004), and have a lower mean salary and more varied type of employment when compared to other degrees (Rajecki, 2012). Additionally, Borden & Rajecki (2009) identified several areas in which recent psychology baccalaureates performed poorly, including finding

themselves in jobs with poor career potential, being more likely than other majors to have a job that does not require a baccalaureate degree, and more likely than other recent graduates to have a job unrelated to their degree, which Kressel (1990) identified as a moderator of lower employment satisfaction.

These trends occur despite the fact that psychology teaches a variety of highly valued skills in the classroom, including reliability, integrity, work ethic, communication, technology, critical thinking, and teamwork (Rogers, 2012). These professional skills are a core component of many courses in psychology and are essential to the successful completion of an undergraduate degree in psychology (Gordienko, 2015). Further, psychology applies the skills of observation, problem solving, and communication directly to human behavior, and complements them with knowledge in research methods, statistics, and interpersonal skills (Landrum et al., 2010). Psychology students are taught skills for the workplace, but not how to apply them there. Consequently, the gap may not be in the skills themselves, but rather in implementing or recognizing them.

While external PD has been a focus of the APA (2013) and others (Baxter Magolda, 2007; Landrum et al., 2010; Rogers, 2012; Gordienko 2015), internal PD, or the self-perception of employability and workplace readiness has been largely ignored. Poor outcomes for psychology undergraduates have continued over the past 15 years in the presence of intentional targeting of external PD in the classroom, suggesting other variables may be contributing to these outcomes. Research aimed at closing the internal-external PD gap in psychology has primarily focused on either the creation of upper-level psychology courses devoted to exploration of skills and career opportunities (Roscoe & Strapp, 2009) or intensive post-graduate courses implemented in the workplace (Lengelle, et al., 2014). Little research exists on closing

the internal-external PD gap in psychology by improving psychology students' self-perceptions as skilled, valuable job candidates via time-limited, classroom-oriented interventions. One recent development is the Employable Skills Self-Efficacy Survey (ESSES; Ciarocco & Strohmetz, 2017). This web-based survey allows students to assess perceived mastery of skills valued by employers and offers guidance on how to improve areas of relative weakness. The ESSES is a promising intervention to help students identify the skills they possess and, through this acknowledgement, positively impact the students' thoughts, beliefs, and emotions as a worthy and qualified job candidate. Still, the ESSES is not directly designed as a classroom intervention and so other interventions would add to the literature in closing the gap between internal and external PD.

Expressive Writing

Expressive writing is a form of therapy that uses the act of writing and processing the written word to facilitate affective and cognitive change. Pioneered by Pennebaker and Beall (1986), expressive writing was originally applied to introductory psychology students who had experienced a traumatic event. Participants were instructed to write about facts and feelings surrounding their most traumatic or upsetting experiences for 20 minutes a day for 4 consecutive days. These were compared to a control group who wrote about superficial, neutral topics, such as how they manage their time. Outcomes were measured in visits to the university health center. Experimental group participants made significantly fewer visits to the university health center than control group participants.

Pennebaker's (1988) theory asserts that effort is required to actively inhibit thoughts and feelings associated with traumatic events and that this repression serves as a cumulative stressor on the body (Pennebaker, 1997). While Pennebaker's theory was initially developed as an

intervention for trauma, subsequent research utilizing expressive writing demonstrates improvements in physical and mental health in a variety of contexts. For example, expressive writing is associated with fewer illness-related visits to the doctor (Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Pennebaker & Francis, 1996), fewer number of days spent in a hospital (Norman, Lumley, Dooley, & Diamond, 2004), improved liver function (Francis & Pennebaker, 1992), improved immune system functioning (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994), and increased positive affect in breast cancer survivors (Gellaitry, Peters, Bloomfield, & Home, 2009). Expressive writing may also have a positive effect on long-term emotional health outcomes, such as improvement in mood and affect (Pennebaker et al., 1988) and reduction in post-traumatic intrusion and avoidance symptoms (Klein & Boals, 2001). In the workplace, expressive writing may benefit individuals who have experienced workplace injustice (Barclay & Sharlicki, 2009), improve affect, self-efficacy, and emotional intelligence (Kirk, Schutte, & Hine, 2011), and may reduce workplace bullying (Hodgins, MacCurtain, & Mannix-McNamara, 2008).

The benefits of expressive writing are not limited to physical and emotional health. In college students, expressive writing is associated with improvement in grade point average (Pennebaker & Francis, 1996; Ramirez & Bullock, 2011), working memory (Klein & Boals, 2001), and sporting performance (Scott, Robare, Raines, Konwinski, Chanin, & Tolley, 2003). Expressive writing is also associated with reductions in math anxiety (Park, Ramirez, & Bellock, 2014), stress (Rani & Princely, 2016), and future intentions to drink alcohol (Young, Rodriguez, & Neighbors, 2013). In collegiate classrooms, expressive writing interventions may improve problem solving skills (Albritton & Truscott, 2014), and may improve overall psychological well-being as measured in improvements in mood, anxiety, and health (Murray, Murray, &

Donnelly, 2016). In general, expressive writing appears to produce small but significant outcomes with larger effect sizes observed in individuals with high levels of emotional problems (Travagin, Margola, & Revenson, 2015) and does not appear to result in negative outcomes (Riddle, Smith, & Jones, 2016).

Some debate exists regarding the exact mechanisms that drive change in expressive writing (Baikie & Wilhelm, 2005; Nazarian & Smyth, 2013; Pennebaker, 2010). Pennebaker (1997) set the precedent of asking participants to write about the most stressful or traumatic event and allowing participants to switch topics if they like. Subsequent studies have often altered the original instructions, such as using negative cues (Young, Rodriguez, & Neighbors, 2013) or not allowing topic switching (Resick, Monson, & Chard, 2014), but few have systematically compared these alterations against a group with Pennebaker's standard cues and a control group with neutral cues (Nazarian & Smyth, 2013). Baikie & Wilhelm (2005) stated that, without systematic investigation, it is impossible to know whether it is the writing process or alterations in writing cues that lead to positive outcomes, and thus no agreement exists on the mechanism of change in expressive writing. This disagreement has led to the development of new theoretical orientations related to expressive writing.

Theoretical explanations for change in expressive writing instructions were summarized by Frattaroli (2006) and include cognitive-processing, exposure, and self-regulation. As an example, increases in understanding and insight could occur in cognitive processing after directing individuals to identify their emotions and reflect upon how a traumatic event has altered their thoughts and beliefs. Therefore, cognitive-processing instructions place an emphasis on identification and expression of emotions as well as cognitive reappraisal (Sloan, Marx, Epstein, & Lexington, 2007). Alternatively, exposure instructions ask the individual to

repeatedly write about a traumatic event, thereby facilitating emotional habituation (Sloan, Marx, & Epstein, 2005). Finally, self-regulation can take different forms but centers around how individuals react to and manage emotional states (King, 2002). Unlike cognitive processing and exposure, self-regulation does not require the individual to focus on a specific negative life event and may be most appropriate for future-oriented topics (Lengelle & Meijers, 2014).

Self-regulatory writing cues demonstrate efficacy in adolescent and young adult populations as well. In adolescent samples, benefit-focused writing cues, such as the reward of overcoming difficult obstacles through hard work, outperform standard cues, such as writing about a particularly difficult obstacle to a goal. (Facchin, Margola, Molgora, & Revenson, 2013). Additionally, setting, elaborating, and reflecting upon personal goals may drive improvements in academic performance in college students (Morisano, Hirsh, Peterson, Pihl, & Shore, 2010) and self-distancing may play a role in crafting meaningful narratives (Park, Ayduk, & Kross, 2016). Nazarian & Smyth (2013) found self-regulation cues produced higher levels of positive affect in college students when compared against cognitive-processing, exposure, and standard writing cues, as well as a control condition. In sum, self-regulatory writing cues that focus on the benefits of setting personal goals may have the most support for an intervention that asks college students to write about a future-oriented event, such as the prospect of entering the job market. Improving professional development through expressive writing warrants study given the documented efficacy of expressive writing interventions for adolescents and young adults (Travagin, Margola, & Revenson, 2015). Specifically, expressive writing may be uniquely suited for improving self-perceived professional development by targeting the “soft” skills neglected by educators and institutions but desired by businesses and employers (Hillage, Regan, Dickson, & McLoughlin, 2002; Schulz, 2008).

Professional Development Through Expressive Writing

The wide and varied application of expressive writing, a very low instance of negative outcomes, and the small investment of time required suggest that expressive writing is an ideal method for interventions aimed at increasing self-perceived professional development in a classroom setting. However, research in this area is limited. There is evidence that expressive writing promotes the development of career narratives (Lengelle, Meijers, Poell, & Post, 2013), helps individuals articulate personal insights (Lengelle, Meijers, Poell, & Post, 2014), and improves luck readiness, or the ability to respond to and make use of career opportunities (Lengelle, Meijers, Poell, Geijsel, & Post, 2016). However, the aforementioned interventions were implemented in professional environments such as the workplace or as work-related seminars and utilized intensive, two-day writing classes that are not practical in a classroom setting. Further, participants were writing about jobs or careers they currently held as opposed to a job or career toward which one is currently working. It is unclear if the positive benefits evidenced by these interventions will transfer to the classroom.

When considering expressive writing interventions, it is also important to examine if or in what ways altering the “dosage” or the number and length of writing sessions or the days in between writing sessions would alter the outcomes. A meta-analysis conducted by Travagin, Margola, & Revenson (2015) of expressive writing among adolescents and young adults found that increasing the “dosage” of writing sessions increased the strength of the effects, while manipulating the days between writing sessions had no significant effect on the outcome. Altering the time between writing sessions does not appear to affect the strength of outcomes in adults either (Chung & Pennebaker, 2008; Sheese, Brown, & Graziano, 2004). This suggests expressive writing interventions can be efficacious when applied to adolescents or adults on non-

consecutive days. To summarize, on an expressive writing intervention aimed at increasing self-perceived professional development in college students in the classroom should be structured to have participants write by hand for five sessions of 15-20 minutes each. Participants would be directed to write continuously for the duration of the session and be allowed to repeat themselves as often as needed. Writing cues would direct participants to write about the positive benefits of setting personal goals related to future employment and to specifically include the emotional benefits related to their goals. Writing cues should also reflect topics covered within the PD-oriented course in which the participant is currently enrolled.

The current study applies an expressive writing intervention to the professional development of college students in a university setting. The goal of this intervention is to increase self-perceived employability above and beyond what students receive during a course that includes PD. Psychology students currently enrolled in PD-related courses were recruited for participation in the intervention. Communications students were also recruited for the intervention in an effort to increase the sample size and were chosen due to availability of courses that focus on PD. The hypotheses are as follows:

1. Experimental groups will score significantly higher than control groups in internal employability at post-intervention compared to baseline or pre-intervention measures, regardless of major. Internal employability is not expected to increase solely as a result of taking a PD-related course; therefore, the increase in scores isn't expected between the start of the class and the beginning of the intervention, but small, positive gains are expected as a result of the expressive writing intervention between pre- and post-intervention measures.

2. Scores on the external employability measure will not differ significantly by major or group classification. Expected gains in external employability are explained by the participants' presence in an undergraduate PD-related course and should not be significantly impacted by the intervention but should increase from the baseline to post-intervention as a result of the class content.
3. Scores on the internal employability measure will not differ significantly between psychology and communications students. We have no reason to expect that internal PD would be different in the two populations of students.
4. The scales used to measure professional development, both external and internal, will demonstrate good reliability and internal consistency. An adapted version of the external PD scale was created for communications students. These changes should not be significant enough to affect the scales' psychometric properties previously reported.

Methods

Participants

Participants ($N = 110$) were students currently enrolled in one of three psychology classes or one of two communications courses at a mid-sized Midwestern University. Two of the psychology classes were a forum-based course for sophomore and junior psychology majors ($N=39$) who had recently declared their major. The remaining psychology course ($N=11$) was a "Classroom to Career" capstone course for senior psychology majors. All three psychology classes were primarily focused on PD. A majority of communications participants ($N=50$) were freshman and sophomore students taking an introductory course in communications that included a few units relating to PD. The remaining communications participants ($N=10$) were seniors

taking a “Digital Portfolio” capstone course aimed at securing students a job post-graduation and was again primarily focused on PD. Demographic information regarding the participants can be found in Table 1. Due to errors in administration and students being absent for one or more days, only 45 participants ($N_{Psych}=36$; $N_{Comms}=9$) had full data available to analyze for within-subjects analyses. All of the communications students included were from the senior-level class that primarily focused on PD.

Table 1. *Demographic Information*

	Classification				
	Freshman	Sophomore	Junior	Senior	5 th year+
Psychology	3.33%	30.00%	30.00%	16.67%	23.33%
Communications	33.33%	27.45%	9.80%	17.65%	13.73%
	Race/Ethnicity				
	White	Black	Hispanic	Asian	Bi-racial
Psychology	63.33%	3.33%	20.00%	3.33%	10.00%
Communications	76%	8%	10%	8%	2%
	Age (in years)				
	<i>M</i>	<i>SD</i>	Median	Minimum	Maximum
Psychology	23.5	1.45	21.5	19	61
Communications	21.6	.86	20	18	50

Measures

Professional development was measured using the Self-Perceived Employability Scale (SPES; Rothwell, Herbert, & Rothwell, 2008; Appendix A) and an adaptation of Dillinger & Landrum's (2002) Survey of Professional Development in Psychology (SPDP; Appendix B).

Self-Perceived Employability Scale. The Self-Perceived Employability Scale is an 8-item self-report measure of beliefs related to the likelihood of successfully obtaining a job in a desired field and the factors influencing these perceptions. The SPES is considered a measure of internal employability that reflects beliefs and perceptions about oneself as a job candidate (Rothwell, Herbert, & Rothwell, 2008). It is measured on a 5-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree) with no reverse-scored items. Higher scores indicate the participant believes they possess highly-developed individual characteristics that will contribute positively to being hired. Sample items include, "The skills and abilities that I possess are what employers are looking for," and "I feel I could get any job so long as my skills and experience are reasonably relevant." Previous research has demonstrated good internal consistency ($\alpha = .747$) and discriminant validity ($\alpha = .192$) of this scale when compared against the External Employability Scale (EES; Rothwell, Herbert, & Rothwell, 2008).

Survey of Professional Development in Psychology. The Survey of Professional Development in Psychology is a 28-item measure reflecting education and knowledge about psychology and its' related fields. The SPDP is considered a measure of external professional development that reflects education, academic work, and other skill improvements gained from outside the individual. It is measured on a 5-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree) with no reverse scored items. Higher scores indicate higher levels of education and academic achievement in psychology. Sample items include, "I am certain I will be able to

work in a psychology-related job,” and “I understand some of the disciplines related to psychology.” Previous research using the SPDP has demonstrated good internal reliability ($\alpha = .75$; Roscoe & McMahan, 2014) but did not report discriminant and convergent validity. Since the SPDP assesses only knowledge and preparation of psychology opportunities and careers, an adaptation of the SPDP modified specifically for communications students will be used to appropriately assess participants enrolled in the communications classes (Appendix C). Modifications involved replacing “Psychology” with “Communications” when referring to academic- and degree-related work and replacing psychology-specific institutions, such as the APA ethics code, with communications-specific institutions, such as the SPJ ethics code.

Procedure

Students enrolled in PD-related courses in communications and psychology were randomly assigned to either an experimental or control group. Assessment packets consisting of the SPES and the appropriate SPDP version were numbered according to the random assignment and distributed to participants using a class roster with name-number pairs on the 2nd, 11th, and 15th class days. The two forum-based psychology courses only had 15 class periods, so the expressive writing intervention began on day 11 and ended on day 15 for all classes in order to maintain consistency across participants, classes, and majors. A baseline measure was collected on day 2, not day 1, to avoid anticipated extraneous variables such as students dropping the class, students adding the class after the first day, not attending the first day of classes, or errors in scheduling. A pre-intervention measure was collected on day 11 to track expected changes in external PD as a result of taking a PD-related course and check for unexpected internal PD gains as a result of taking the course. A post-intervention measure was collected on day 15 directly

after the final writing assignment was completed to track additional changes in internal and external PD since baseline and pre-intervention.

Baseline: Baseline assessment occurred in the last 10 minutes of the 2nd class meeting. Participants provided informed consent (Appendix D). Every student currently enrolled in the 5 classes chose to participate and no students joined the classes after this date. Once they provided informed consent, participants completed an assessment packet consisting of the SPES and the version of the SPDP appropriate to the class in which they were enrolled.

Pre-intervention. Pre-intervention assessment occurred in the last 25 minutes of the 11th class meeting, including 10 minutes to complete the pre-intervention packet and 15 minutes for the first writing cue. Participants completed an assessment packet consisting of the SPES and appropriate version of the SPDP. Assessment on day 11 provided a pre-intervention baseline and measure change in internal and external professional development that occurred over the first ten class days.

Intervention. In a meta-analysis of expressive writing interventions with adolescent samples, Travagin et al. (2015) reported the mean number of writing sessions ($M = 4.48$; $SD = 2.94$) and mean time spent writing per session ($M = 23.33$; $SD = 9.13$). They also reported no significant differences in outcomes or effect sizes when writing instructions were manipulated, or when writing occurred in non-consecutive days, like a collegiate course that meets only on Tuesday and Thursday. The present intervention was designed to be sensitive to the limited time in the classroom while also staying within one standard deviation of mean number of writing sessions and time writing per session that were reported by Travagin et al. (2015). Accordingly, during the intervention, participants were asked to write for fifteen minutes per day on five consecutive class days.

The expressive writing intervention began on day 11 after the completion of the pre-intervention packet. Participants were given oral writing instructions (Appendix E) and provided a blank sheet of paper and an appropriate writing cue (positive for the experimental groups, neutral for the control groups; Appendix F). Participants were asked to write for 15 consecutive minutes about the provided topic. This procedure was repeated during the last 15 minutes of class on days 12, 13, 14, and 15. The writing cue varied on each day.

Post-intervention. Post-intervention assessment occurred in the last 25 minutes of the 15th class meeting, including 15 minutes to complete the final writing cue and 10 minutes to complete the post-intervention packet. Following completion of the 5th and final writing cue, participants completed an assessment packet consisting of the SPES, an appropriate version of the SPDP, and demographic information (Appendix G). Participants were provided a debriefing statement (Appendix H) upon completion, provided the opportunity to ask questions, and were thanked for their participation.

Results

Internal Professional Development

A 2x2x3 factorial ANOVA with two majors (psychology and communications), two conditions (experimental and control), and three points in time (baseline, pre-intervention, and post-intervention) was used to analyze SPES scores. Results are summarized in Table 2. The interaction of time, major, and condition was not significant, $F(2,123)=.052, p=.95, \eta^2=.001$. The interaction of time and major was not significant, $F(2,123)=.562, p=.572, \eta^2=.009$. The interaction of time and condition was not significant, $F(2,123)=.017, p=.984, \eta^2=.001$. The interaction of major and condition was marginally significant, $F(1,123)=3.293, p=.072, \eta^2=.026$ (see Figure 1). Contrasts indicated that the communications control condition ($M=3.5, SD=.185$)

was significantly different from the communications experimental condition ($M=3.875$, $SD=.148$), $t(23)=2.28$, $p=.016$, $d=.883$, the psychology experimental condition ($M=3.75$, $SD=.21$), $t(16)=1.85$, $p=.041$, $d=.571$, and the psychology control condition ($M=3.76$, $SD=.31$), $t(22)=1.77$, $p=.046$, $d=.53$. The communications experimental group and the psychology groups did not differ significantly from one another. The main effect of time was not significant, $F(2,123)=.604$, $p=.548$, $\eta^2=.01$. The main effect of major was not significant, $F(1,123)=.444$, $p=.547$, $\eta^2=.004$. The main effect of condition was not significant, $F(1,123)=2.927$, $p=.09$, $\eta^2=.023$.

Table 2. Results of 2x2x3 factorial ANOVA for average SPES scores

	<i>F</i>	<i>df</i>	<i>p</i>	Partial η^2
Time	.604	2	.548	.010
Major	.444	1	.507	.004
Condition	2.927	1	.090	.023
Time * Major	.562	2	.572	.009
Time * Condition	.017	2	.984	.000
Major * Condition	3.293	1	.072	.026
Time * Major * Condition	.052	2	.950	.001

Paired-samples *t*-tests were conducted to compare pre- and post-intervention SPES scores for the experimental groups. The combined experimental group was not significantly different at pre- and post-intervention, $t(25)=.80$, $p=.22$, $d=.221$. The psychology experimental group was not significantly different at pre- and post-intervention, $t(20)=.66$, $p=.26$, $d=.202$. The communications experimental group was not significantly different at pre- and post-intervention, $t(4)=.739$, $p=.25$, $d=.53$.

External Professional Development

A 2x2x3 factorial ANOVA with two majors (psychology and communications), two conditions (experimental and control), and three points in time (baseline, pre-intervention, and post-intervention) was used to analyze SPDP scores. Results are summarized in Table 3.

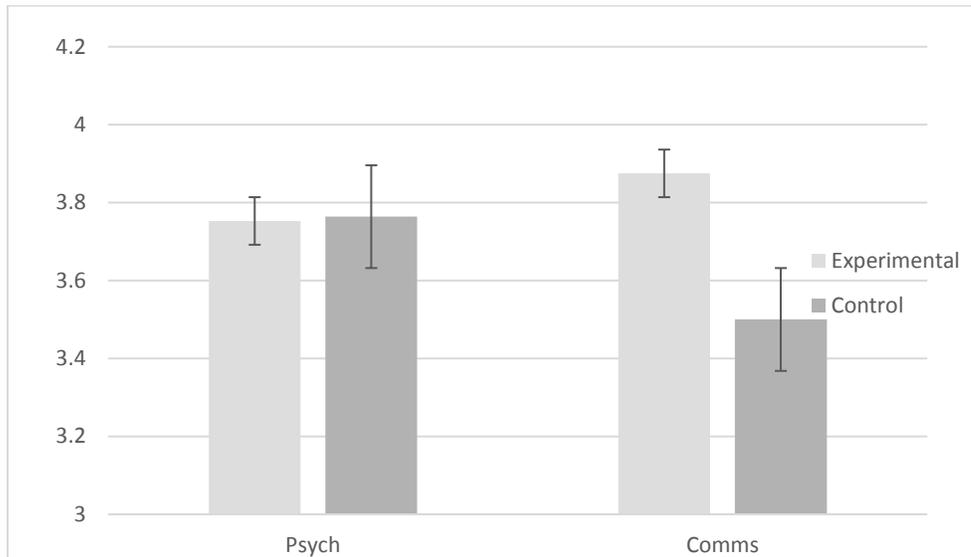
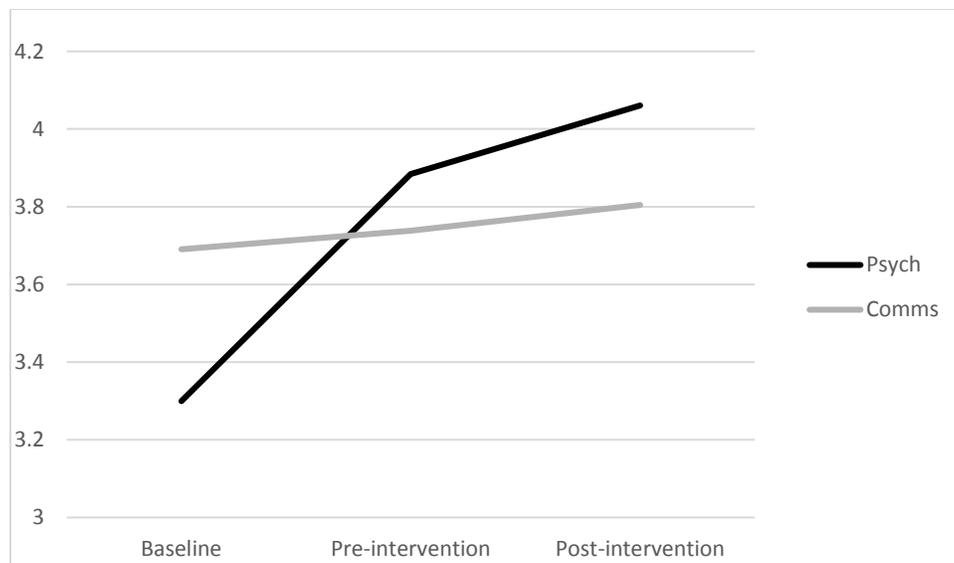


Figure 1. Mean internal PD scores for the interaction of major and condition.

The interaction of time, major, and condition was not significant, $F(2,123)=.07$, $p=.932$, $d=.001$. The interaction of time and major was significant, $F(2,123)=4.299$, $p=.016$, $d=.065$ (see Figure 2). The interaction of time and condition was not significant, $F(2,123)=.025$, $p=.975$, $\eta^2<.001$. The interaction of major and condition was not significant, $F(1,123)=.046$, $p=.83$, $\eta^2<.001$. The main effect of time was significant, $F(2,123)=7.284$, $p=.001$, $\eta^2=.106$. The main effect of major was not significant, $F(1,123)=.002$, $p=.967$, $\eta^2<.001$. The main effect of condition was not significant, $F(1,123)=1.335$, $p=.25$, $\eta^2=.011$.

Table 3. Results of 2x2x3 factorial ANOVA on average SPDP scores

	<i>F</i>	<i>df</i>	<i>p</i>	Partial η^2
Time	7.284	2	.001	.106
Major	.002	1	.967	.000
Condition	1.335	1	.250	.011
Time * Major	4.299	2	.016	.065
Time * Condition	.025	2	.975	.000
Major * Condition	.046	1	.830	.000
Time * Major * Condition	.070	2	.932	.001

*Figure 2.* Average external PD scores by major across time.

Assessments

Participants were recruited from introductory courses in psychology to increase sample size and enable meaningful analysis of the assessments. The SPES ($N=143$, $\alpha=.814$) consisted of 8 items and demonstrated excellent reliability. The SPDP-P ($N=143$, $\alpha=.927$) consisted of 28 items and demonstrated superior reliability. Baseline data from the full communications sample ($N=60$) was used to analyze the SPDP-C. A Cronbach's alpha $\alpha=.829$ suggests the adapted scale

demonstrated excellent reliability. This result, consistent with the hypothesis, suggests the assessments were high quality and performed well for the sample.

Discussion

The current study applied an expressive writing intervention to the professional development of collegiate psychology and communications students in the expectation that it would improve the participants' internal sense of PD, as measured by the SPES, and would not significantly affect the external sense of PD, as measured by the SPDP.

Hypothesis 1

Outcomes in internal PD varied based on major and not on condition, contrary to the first hypothesis (Figure 3). Communications students, regardless of condition, initially experienced a decrease in internal PD from baseline to pre-intervention but experienced an increase from pre-intervention to post-intervention. These gains were not significant but suggest the intervention positively impacted communications students. Psychology students' sense of internal PD increased across time regardless of condition and were not significant. This suggests some other variable, such as an instructor or curriculum variable, may be contributing to gains in internal PD for psychology students, especially in light of the differences from baseline to pre-intervention.

A possible explanation for the difference in outcomes by major is a combination of instructor and curriculum variables. Psychology participants were recruited from courses that specifically seek to improve overall PD. The psychology instructor, who taught all three courses from which psychology participants were recruited, is familiar with research on PD and endeavors to follow the guidelines outlined by the SCANS report (2001) and affirmed by the APA (2013). It is possible the intervention did not add

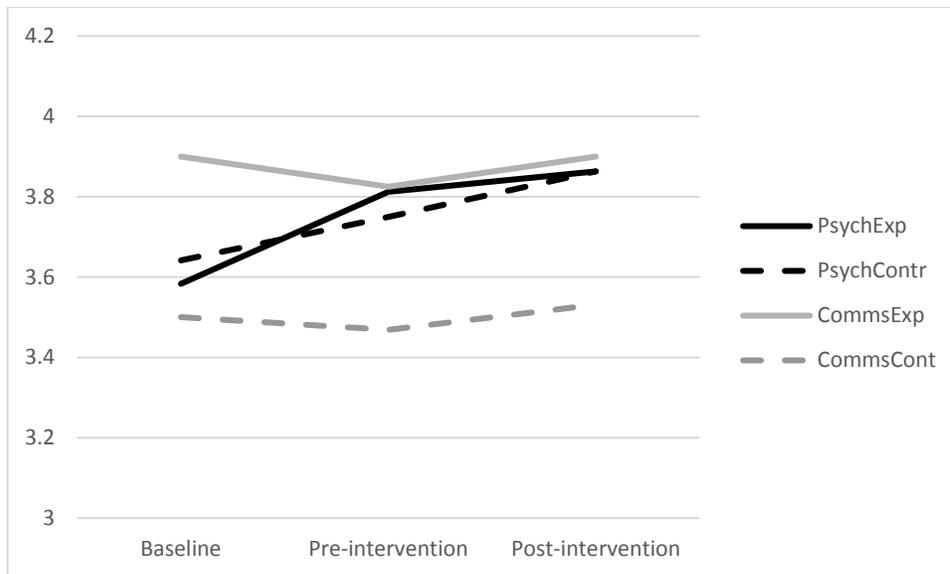


Figure 3. Mean internal PD scores for all conditions across time.

anything above and beyond the curriculum and thus duplicated existing parts of the curriculum. The idea that the intervention replicated portions of the PD-oriented courses is supported by the increase in PD across time, particularly from baseline to pre-intervention. In contrast, communications students were not enrolled in a class specifically focusing on professional development; PD was included in exercises, such as writing a personal statement or preparing a resume, but the focus of the digital portfolio course was to assist students through the job application process. Communications students may have experienced small positive gains as a result of the intervention having students write about topics not covered in the curriculum. However, a very small sample of communications participants with complete data ($N=9$) substantially limits interpretation and discussion. Outcomes for communications students are consistent with the first hypothesis, but further research is needed.

Hypothesis 2

External PD outcomes varied by major and condition (Figure 4), contrary to the second hypothesis. Psychology participants scored lower than communications participants on the SPDP

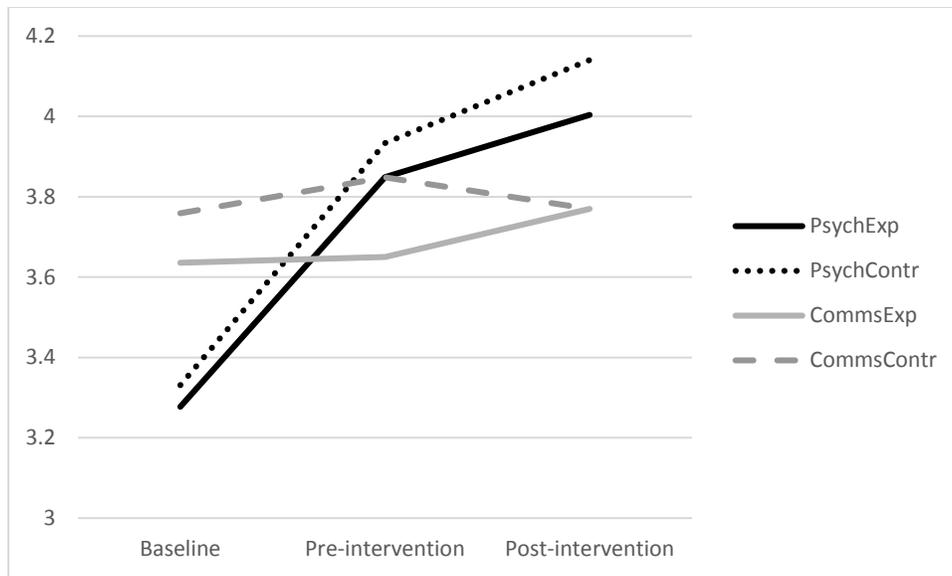


Figure 4. Average external PD scores for the four conditions across time.

at baseline but higher at pre- and post-intervention. Psychology students also experienced gains in external PD across time irrespective of condition, while communications students did not. Specific to psychology students, the control group scored higher on external PD at all three points in time, but not significantly so. Psychology students also experienced a larger gain from baseline to pre-intervention, a period of 10 days, than during the intervention, a period of 5 days. Consistent with the second hypothesis, these trends likely reflect gains made as a function of taking a PD-oriented course in psychology. Further, these trends become nearly linear when external PD scores are taken as a function of time.

Communications students differed in external PD scores by condition. The control group scored higher at all three points in time than the experimental group in external PD. The experimental group showed almost no change in SPDP scores from baseline to pre-intervention but saw an increase from pre- to post-intervention while the control group demonstrated essentially no change across time. A small communications sample and potential measurement

errors, discussed in more detail below, limit interpretation and discussion. Even so, these trends are inconsistent with the second hypothesis and suggest that the experimental group experienced a small positive increase in external PD as a result of the intervention. This in turn suggests that the intervention did not exclusively target internal PD.

Hypothesis 3

When compared to one another, communications and psychology students did not differ significantly in internal PD, consistent with the third hypothesis. Figure 5 summarizes the changes in internal PD scores across time. Psychology students represent a well-studied population, but much less is known about communications students (e.g. Lawless & Pellegrino, 2007). This hypothesis was included to make sure the samples did not differ significantly, which represented a potential confound for the intervention.

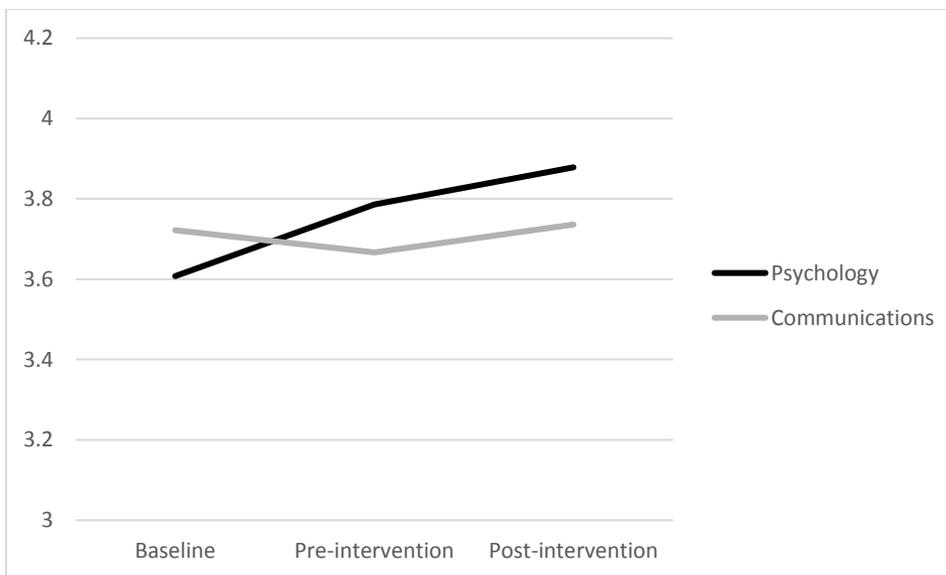


Figure 5. Internal PD scores by major across time.

Hypothesis 4

Results indicate the measures of internal and external PD performed well. Specifically, the communications adaptation of the SPDP demonstrated excellent psychometric properties. This hypothesis was included to ensure the potential confound of measurement error, specifically in the communications sample, did not hide or mask effects of the intervention. Still, some limitations in measurement, discussed further below, existed.

Summary

Overall, psychology students experienced small positive gains in external and internal PD irrespective of condition. However, these gains were linear in nature and started before administration of the intervention. This suggests that instructor and curriculum variables may better explain observed gains. Communications students appeared to experience small positive gains as a result of the intervention in both internal and external PD. This is consistent with previous findings that expressive writing interventions produce small, positive-to-moderate effects (Frattaroli, 2006; Travagin, et al., 2015). Several limitations, including a high rate of attrition due to administration errors and potential errors in measurement, may have prevented the full effects of the intervention from surfacing for communications students. These limitations may also apply to psychology students.

Limitations

The SPES (internal PD) and adapted versions of the SPDP (external PD) demonstrated very good reliability and internal consistency, consistent with previous findings (Rothwell, Herbert, & Rothwell, 2008; Roscoe & McMahan, 2014). Even so, the adapted SPDP may not have accurately measured internal PD in communications, masking and minimizing effects of the intervention. As an example, the psychology item, “I am familiar with the APA ethics code and

what it entails” was adapted to the communications item, “I am familiar with the SPJ code of ethics and what it entails.” The extent to which this is an appropriate adaptation is unclear. Further, SPES items appear to fall into two separate, unique categories (university-related items and job acquisition-related items) and some SPDP items appear to tap into the university-related construct. As an example, the SPES item, “My university has an outstanding reputation in my field(s) of study” and the SPDP item, “I am committed to the psychology major” both are highly face valid university items. This suggests a further psychometric analysis is warranted and, to the best of our knowledge, the SPES and SPDP have not been compared against one another to establish divergent validity. The possibility that measurement tools were tapping the same construct represents a limitation to the current study.

Errors in distribution and administration of writing packets on day 11 and day 15 severely limited the sample size, particularly of communications participants. To protect participant confidentiality, each participant was assigned a number and then randomly assigned to the experimental or control condition. Assessment packets were labeled with participant numbers and distributed using a class list. Distribution errors in one communications class during the intervention (days 11 through 15) led to participants receiving an incorrect packet and resulted in participants completing a combination of positive and neutral cues. This sample ($N=50$) was considered spoiled and the pre-intervention and post-intervention data was removed prior to data analysis. The result of these errors was a communications sample of 9 at pre-intervention and 10 at post-intervention. This remaining sample consisted of senior-level students in a digital portfolio course aimed at assisting students in the job application process. Additionally, the day 11 pre-intervention assessment packet and writing cue was not completed for one psychology class. This resulted in a psychology sample of 36 at pre-intervention and 43 at post-intervention.

Taken together and combined with participant absences from class, a sample of only 45 participants completed every step of the study, resulting in issues of power in each comparison.

The crafting of writing cues for this study followed previous empirical guidelines (Lengelle et al., 2013; Lengelle et al., 2016; Rani & Princely, 2016; Sloan et al., 2007). Consistent with the Travagin et al. (2015) finding that manipulation of writing cues does not produce significant improvements in effect size, experimental groups received the same writing cues irrespective of major. Santagata, et al. (2011) suggested that professional development interventions may be more successful when linked to classroom tasks and curriculum, and Morisano et al. (2010) suggested that setting, elaborating, and reflecting upon personal goals may drive improvements in academic performance in college students. Accordingly, positive writing cues were written to align with expected topics in the varied classrooms of this study's unique sample. However, time and monetary constraints prevented systematic evaluation of the writing cues before implementation in the intervention (e.g. Young, Rodriguez, & Neighbors, 2013). This has two possible implications. First, the writing cues may not have accurately reflected the tasks and assignments of a digital portfolio course in communications or sophomore or senior-level PD-related course in psychology. Second, the neutral cues may not truly have been neutral and may have produced positive gains in the control condition. As an example, the day 11 neutral cue, "write about the first job you ever had" is appropriately grounded in the past and absent any overt emotional substance yet may have prompted participants to write about their emotional experience at the job and how that experience shaped future job and career goals. This future- and goal-oriented consequence is more appropriate for a positive, or experimental, writing cue, as it prompts the participant to explore the content and meaning of emotions tied to future-oriented goals (Langelle, et al., 2014). Taken together, this suggests some overlap may

have existed between the experimental and control conditions, potentially masking the full effects of the intervention.

Future Directions

The administration challenges and potential confounds with internal and external PD provide rationale for alterations and changes in future studies. Future directions include the psychometric development of internal and external PD assessments that are appropriate across university majors, creation and vetting of writing cues (Young, Rodriguez, & Neighbors, 2013), replication of the intervention to correct administration errors, and a follow-up to investigate how long the effects of the intervention last (Francis & Pennebaker, 1992; Lengelle et al., 2014).

While the SPES and SPDP measures demonstrated superior reliability and internal consistency, initial validation of the scales did not report discriminant validities (Dillinger & Landrum, 2002; Rothwell, Herbert, & Rothwell, 2008). This suggests the measures should undergo factor analysis to investigate potential overlap as well as comparison against other measures of internal and external PD, such as the External Employability Scale (Rothwell, Herbert, & Rothwell, 2008). Further, some SPDP scale items such as, “I know how to find information about psychology using PSYCInfo” and, “I know where/how to find answers to questions I have surrounding psychology research” are specific to psychology and lean heavily on the importance placed on psychology research. The extent to which adapted versions of these questions are appropriate to other majors, such as communications, are unclear and require further investigation.

Future studies could utilize content analysis to prevent experimental and neutral writing cues from overlapping and creating a confounding variable. Young, Rodriguez, & Neighbors (2013) provide a model for how to use content analysis to create positive, neutral, and negative

writing cues by using a pilot study on a representative sample. Future interventions featuring such an analysis may be more likely to accurately measure results, if they exist, by ensuring this separation of experimental and control conditions. Additionally, such content analysis may provide important information for the creation of appropriate PD assessments by identifying major-specific features of PD from participants writing.

Despite significant limitations, the current intervention provided evidence of small, positive outcomes in internal PD for communications students. Replication of the intervention is warranted to investigate the intervention's contribution to these gains. The current sample was reasonably homogenous (69% Caucasian, 68% female), suggesting that research into the intervention's efficacy for more diverse populations is prudent. Additionally, the current intervention utilized the average "dose" of time spent writing and writing sessions, as identified by Travagin et al. (2015). The intervention represented around 10% of total classroom time for psychology participants, as the psychology courses only met fifteen times for fifty minutes per class meeting. Future studies may seek to manipulate the number of writing sessions and time spent writing to better understand how the dosage could be reduced so the intervention could be minimally invasive to the classroom.

Pennebaker and Beall's (1986) original expressive writing intervention featured a 6-month follow-up to measure the duration of intervention gains. Other interventions for reducing drinking behaviors (Young, Rodriguez, & Neighbors, 2013), improving math skills (Santagata, et al., 2011), and reducing stress (Rani & Princely, 2016) featured similar follow-ups at intervals between 3 months and 1 year. Future expressive writing interventions to increase professional development should feature follow-ups measuring rate of employment or admission to graduate school, kind of employment, and job satisfaction. Previous research (see Lengelle, et al., 2013;

Prehar & Ignelzi, 2012) suggests that a positive correlation should exist between participation in an intervention to increase professional development and rate of employment or admission to graduate school, kind of employment, and job satisfaction. However, systematic research into this area is severely limited and warrants future study (Lengelle et al., 2014; Travagin et al., 2015).

The current study sought to improve university students' perceptions of employability with an expressive writing intervention. Intervention administration and sample size primarily limited the study from achieving significant positive results. Even so, the intervention demonstrated mixed positive results, suggesting that correction and future replication is warranted, along with an intervention follow-up to ascertain the longevity of intervention effects.

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Appendix A

Self-Perceived Employability Scale		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	I regard my academic work as a top priority.	1	2	3	4	5
2.	The status of this university is a significant asset to me in job seeking.	1	2	3	4	5
3.	My university has an outstanding reputation in my field(s) of study.	1	2	3	4	5
4.	My chosen subject(s) rank(s) highly in terms of social status.	1	2	3	4	5
5.	My degree is seen as leading to a specific career that is generally perceived as highly desirable.	1	2	3	4	5
6.	There are plenty of job vacancies in the geographical area where I am looking.	1	2	3	4	5
7.	The skills and abilities that I possess are what employers are looking for.	1	2	3	4	5
8.	I feel I could get any job as long as my skills and experience are reasonably relevant.	1	2	3	4	5

Appendix B

Survey in Professional Development in Psychology		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I have a good understanding of the subfields within psychology and which ones interest me	1	2	3	4	5
2	I am familiar with the jobs I could attain with a BA/BS in psychology	1	2	3	4	5
3	I am certain I will be able to work in a psychology-related job	1	2	3	4	5
4	I understand some of the disciplines related to psychology	1	2	3	4	5
5	I am committed to the psychology major	1	2	3	4	5
6	I want a career that is psychology-related	1	2	3	4	5
7	I understand the course requirements for the psychology major at this university	1	2	3	4	5
8	I understand the requirements for a psychology minor at this university	1	2	3	4	5
9	I know about the opportunities in psychology that I can experience outside of the classroom	1	2	3	4	5
10	I know about the opportunities across campus that I can participate in	1	2	3	4	5
11	After this course, I am still interested in majoring in psychology	1	2	3	4	5
12	I know how to find information about psychology on the internet	1	2	3	4	5
13	I understand the importance of math and science in psychology	1	2	3	4	5
14	I know how to find information about psychology using PsycINFO	1	2	3	4	5
15	I have a good understanding of the study skills needed for success in college	1	2	3	4	5
16	I am familiar with the careers graduates from this program have attained	1	2	3	4	5
17	I am familiar with the day-to-day work of psychologists in various fields	1	2	3	4	5
18	I understand the ethical implications of studying psychology and doing psychological research	1	2	3	4	5
19	I am familiar with the APA ethics code and what it entails	1	2	3	4	5
20	Letters of recommendation are an important part of the post-BA/BS process	1	2	3	4	5

21	I feel prepared for any type of post-BA/BS career	1	2	3	4	5
22	I know the information necessary to apply for graduate programs I psychology	1	2	3	4	5
23	I feel prepared to apply for graduate school	1	2	3	4	5
24	I feel prepared to find and apply for a job after graduation	1	2	3	4	5
25	I know where/how to find answers to questions I have surrounding psychology major	1	2	3	4	5
26	I know where/how to find answers to questions I have surrounding psychology career	1	2	3	4	5
27	I know where/how to find answers to questions I have surrounding psychology research	1	2	3	4	5
28	I know where/how to find answers to questions about attaining a job in a psychology-related field	1	2	3	4	5

Appendix C

Survey in Professional Development in Communications		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I have a good understanding of the subfields within communications and which ones interest me	1	2	3	4	5
2	I am familiar with the jobs I could attain with a BA/BS in communications	1	2	3	4	5
3	I am certain I will be able to work in a communications-related job	1	2	3	4	5
4	I understand some of the disciplines related to communications	1	2	3	4	5
5	I am committed to the communications major	1	2	3	4	5
6	I want a career that is communications-related	1	2	3	4	5
7	I understand the course requirements for the communications major at this university	1	2	3	4	5
8	I understand the requirements for a communications minor at this university	1	2	3	4	5
9	I know about the opportunities in communications that I can experience outside of the classroom	1	2	3	4	5
10	I know about the opportunities across campus that I can participate in	1	2	3	4	5
11	After this course, I am still interested in majoring in communications	1	2	3	4	5
12	I know how to find information about communications on the internet	1	2	3	4	5
13	I understand the importance of math and science in communications	1	2	3	4	5
14	I know how to find information about	1	2	3	4	5

	communications using ABI/INFORM Global					
15	I have a good understanding of the study skills needed for success in college	1	2	3	4	5
16	I am familiar with the careers graduates from this program have attained	1	2	3	4	5
17	I am familiar with the day-to-day work of communications graduates in various fields	1	2	3	4	5
18	I understand the ethical implications of studying communications and doing communications research	1	2	3	4	5
19	I am familiar with the SPJ ethics code and what it entails	1	2	3	4	5
20	Letters of recommendation are an important part of the post-BA/BS process	1	2	3	4	5
21	I feel prepared for any type of post-BA/BS career	1	2	3	4	5
22	I know the information necessary to apply for graduate programs I communications	1	2	3	4	5
23	I feel prepared to apply for graduate school	1	2	3	4	5
24	I feel prepared to find and apply for a job after graduation	1	2	3	4	5
25	I know where/how to find answers to questions I have surrounding a communications major	1	2	3	4	5
26	I know where/how to find answers to questions I have surrounding communications careers	1	2	3	4	5
27	I know where/how to find answers to questions I have surrounding communications research	1	2	3	4	5
28	I know where/how to find answers to questions about attaining a job in a communications-related field	1	2	3	4	5

Appendix D

Informed Consent

The Department of Psychology supports the practice of protection for human subjects participating in research. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate you are free to withdraw at any time, without penalty.

A major complaint among employers today is that college graduates do not possess the skills required to be successful in a career. A growing body of research suggests that expressive writing is a versatile and flexible brief intervention that generally results in moderate positive gains. The purpose of this research is to explore the application of expressive writing to the perception of professional development. More precisely, we are interested in understanding how positive expressive writing cues may increase perceived preparation for the professional world when compared against neutral expressive writing cues. Accordingly, you will be asked to self-report your feelings and perceptions regarding your preparation for a career in the field of psychology before and after participating in a brief expressive writing intervention.

Participation in this study will include answering a 36 survey questions, in writing, at the beginning of the class and before and after the completion of the intervention. These questions are expected to take less than 10 minutes to answer fully. Participation will also involve completing a 15-minute writing assignment for 5 consecutive days starting on the 11th day of the class. Participation is not a requirement for your grade in the class. Participants are not expected to experience any negative outcomes from their participation, although the possibility of experiencing some mild psychological discomfort related to examining one's own memories, wants, and desires exists.

Your participation is solicited, but strictly voluntary. Be assured that your name will not be associated in any way with the research findings. We appreciate your cooperation very much. Please print this form for your records. Please contact the following individuals for questions in regard to your participation:

- . - -
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Tracy Routsong, Chair, Institutional Review Board, Washburn University
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I understand this project is research and that my participation is completely voluntary. I also understand that if I decide to participate in this study, I **may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits or academic standing to which I may otherwise be entitled. Finally, I understand that I may read a peer-reviewed article from a psychology journal and respond to it in writing for credit rather than participating in research studies.**

Signature: _____

Date: _____

Printed Name: _____

Appendix E

Writing Instructions:

Please write about the following topic for 15 minutes. You are not being graded in any way, so do not worry about organization, flow, or sentence structure. It is okay to repeat yourself. Make sure to specifically include any emotions that come to mind as you write. Please write continuously until you are told to stop.

Administrator

Timing is crucial. Make sure that everyone starts and ends at the same time. Further, make sure that EVERY student writes continuously for the entire 15 minutes. It is okay if they repeat themselves as long as they are writing on the topic.

Appendix F

Neutral Cues

Day 1 – Write about your first day at Washburn University

Day 2 – Write about the first job you ever had

Day 3 – Write about the first research paper you were assigned

Day 4 – Write about the first book report you ever had to do

Day 5 – Write about your last day of high school

Positive Cues

Day 1 - Write about a time when were able to achieve a difficult goal that was important to you.

Day 2 - Write about how your current actions are consistent with your long-term career goals.

Day 3 - Write about a project or research paper in which you put forth a lot of effort received a good grade.

Day 4 - Write about your ideal job or career.

Day 5 - State a major obstacle to achieving your ideal job or career and write about some ways to overcome this obstacle.

Appendix G**Demographic Information**

1. How old are you? _____

2. Please describe your race/ethnicity _____
 - a. Latino/Hispanic
 - b. Black/African American
 - c. Asian
 - d. Native American
 - e. Pacific Islander
 - f. White/Caucasian
 - g. Biracial/Mixed
 - h. Other (Please specify)

3. If you are a student, what is your class year? _____
 - a. Freshman
 - b. Sophomore
 - c. Junior
 - d. Senior
 - e. 5th year or more undergraduate
 - f. Graduate student
 - g. Not applicable

Appendix H

Debriefing

Thank you for your participation! The purpose of this study was to determine the effectiveness of an expressive writing intervention in a classroom setting on internal and external professional development. Students often enter college feeling uncertain about their course of study or area of specialization (Komarraju, Swanson, & Nadler, 2014) and many college seniors lack the skills required to secure a job or to continue to graduate school (Roscoe & Strapp, 2009). Further, there appears to be a gap between a student's expectations of employability and the realities of the labor market (Brown & Hesketh, 2004). Expressive writing has been demonstrated to generally produce small, significant positive effects across a wide variety of settings (Travagin, Margola, & Revenson, 2015) and does not appear to result in negative outcomes (Riddle, Smith, & Jones, 2016). We wanted to see if college students who participated in an expressive writing intervention as part of a course in professional development would report feeling more prepared to enter the workplace and, generally, experience an increase in perceived professional development. Please contact the principle investigator (RaLynn Schmalzried, PhD) or the graduate student investigator (Caleb Hallauer) if you have further questions about this study.