UNTANGLING MOTIVATION AND PERFORMANCE: EXAMINING THE IMPACT OF FEEDBACK, EXPECTANCY, AND RESILIENCE ON PERFORMANCE

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DEDICATION

This thesis is dedicated to the obstacles I have overcome in order to complete my degree and to those who have joined me along my journey.

The person I was at the beginning of this process did not have the capacity to complete the work presented here, but the obstacles I have encountered have given me the capacity to complete this challenging work.

The obstacles I have faced: suicide of a mentor, death of a grandmother, a career change and leading a department through crisis grew my capacity to persevere and finding meaning in all things.

As I have learned over the seven-year pursuit of my degree, journeys have a mind of their own. The challenge is follow where they lead, while choosing to learn, grow, accept obstacles and find joy.

The close of my thesis is a bittersweet obstacle because of those who are not present to celebrate its conclusion. It is a final marker that acknowledges both the permanent loss of my grandmother, Norma Jean Cagley, and my mentor, Lorna Norwood, and a permanent achievement, obtaining my master's degree.

This acknowledgment has caused me trepidation as I have approached the finish line. But, I have accepted this obstacle, knowing I will cross the finish line with both joy and sadness, celebrating the support from those who hoped this moment would come but could not be present and celebrating with those who could be.

Here's to the end of one journey and to the start of the next.

ABSTRACT

This study explored the relationship between motivation and performance by examining factors, such as feedback and individual differences, posited to influence motivation and performance. The most damaging form of performance feedback, destructive critical, was contrasted with constructive critical feedback to determine its impact on motivation. Expectancy theory, a mainstay theory in research on motivation, served as the theoretical framework to study motivation. An individual difference variable, resilience, was examined in relation to performance. These relationships were explored through the lens of both actual and perceived performance. An online quasi-experiment was conducted to examine these relationships, in which participants were asked to complete a task, receive feedback and then complete the task a second time. This study expanded understanding of the motivation-performance relationship and provided epistemological depth to the individual variables being studied.

Keywords: resilience, motivation, performance, performance feedback, expectancy theory

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CHAPTER 1

INTRODUCTION

Overview

Researchers have hypothesized that expectations, performance feedback, and individual differences predict motivation. Expectancy theory posits that behavior is motivated by expectations. Specifically, the interactions between the theory's three components (i.e., expectancy, instrumentality, and valence) are hypothesized to predict motivation, which contributes to performance (Robbins et al., 2004). Performance feedback has also been linked to motivation (Pavett, 1983) and performance (Raver, Jensen, Lee, & O'Reilly, 2012), but its role in the motivation-performance relationship is unclear. Furthermore, resilience is a widely-studied individual difference variable with competing studies both supporting and not supporting its relationship to performance (Luthans, Avolio, Walumbwa, & Li, 2005; Youssef & Luthans, 2007). Foundational research exists to connect expectancy theory, performance feedback, and individual differences, but there are many gaps in the research literature. Therefore, one purpose of the proposed study is to examine the relationships among expectancy theory components, performance feedback and an individual difference variable.

Expectancy Theory

In early phases of study development, goal setting theory was considered as the conceptual framework for this study. However, as the study evolved to include a focus on perceived performance, expectancy theory was uniquely positioned to serve as the theoretical framework. Goal setting theory states that difficult goals are associated with

higher levels of performance (Locke & Latham, 2006), while expectancy theory incorporates a motivational component that involves belief in performance (Lawler & Jenkins, 1992).

Vroom is credited with introducing expectancy theory in the early 1960s (Isaac, Zerbe, & Pitt, 2001). He developed expectancy theory to describe the process an individual uses to make behavior choices. Vroom posited that an individual's choice is motivated by his or her beliefs, perceptions, and attitudes (Vroom, 1964). These concepts are incorporated in the theory's components of expectancy, instrumentality, and valence (Fudge & Schlacter, 1999). Expectancy is an individual's belief that a positive correlation between effort and performance exists (Lawler & Jenkins, 1992). Instrumentality is an individual's expectation that the rewards he or she will receive are closely tied to performance (Gatewood, Shaver, Powers, & Gartner, 2002). Valence is the value of the reward to the individual (Lawler, 2006).

The model's original value was the product of these components, motivational force; however, Van Eerde and Thierry's (1996) meta-analysis indicated that the true value lies in the individual components. They determined that Vroom's (1964) model of calculating motivation did not result in higher correlations than the individual expectancy, instrumentality, and valence variables. Specifically, they found that although the total motivation score had a modest positive correlation to performance (r = .19), the relationship strengthened when only the expectancy and valence components were combined (r = .27). Thus, the findings led to the authors to recommend testing the model components rather than the full model.

The instrumentality component has been studied more widely than the expectancy component. This may be attributed, in part, to a misunderstanding of expectancy's fundamental nature and difficulty operationalizing it. Typically, expectancy has been measured as a subjective probability of success. However, this measure is problematic because it is burdensome and an unnatural form of assessment for participants (Eden, 1988). Eden (1988) proposed a much simpler measure that has been tested and has produced an acceptable Cronbach's alpha (.71). Additional studies using this measure would create a foundation for a more standardized expectancy measure, help to clarify its nature, and simplify how it is operationalized.

In summary, expectancy theory has withstood decades of scientific inquiry and has emerged as a mainstay in motivation theories. The overall value of the multiplicative motivational score envisioned in the original model is weak, indicating that studies investigating the model's components would be most useful to advancing the literature. Although many studies have examined the instrumentality component, additional studies of the expectancy component are needed.

Feedback, Instrumentality, and Expectancy

Venables and Fairclough (2009, p. 64) defined performance feedback as, "an objective indication of ability, current performance quality and the longer-term likelihood of success." Research has found that feedback has the ability to both positively and negatively influence motivation based on feedback type (Deci, Cascio, & Krusell, 1973; Pavett, 1983; Raver et al., 2012; Seybolt & Pavett, 1979). Seybolt and Pavett (1979) determined that the most motivated individuals perceived they received high positive

and low negative (critical) feedback. Deci, Cascio, and Krusell (1973) discovered that negative feedback decreased intrinsic motivation. Regarding expectancy theory, Pavett (1983) found that feedback correlated positively with the instrumentality component of expectancy theory but had no relationship with the expectancy component.

For the instrumentality component of expectancy theory to affect motivation, individuals must trust the connection between performance and rewards (Lawler & Jenkins, 1992). They must believe that the leader will be able to produce the reward and will do so in an honest and fair manner (Isaac et al., 2001). Pavett's (1983) study attributed the instrumentality-feedback relationship to the role of feedback in affirming the existence and ability of rewards to be granted for performance**.** Thus, Pavett's study provides the foundation for a relationship among instrumentality, feedback, and performance.

Over the past 50 years, the lack of relationship between feedback and the expectancy component has confounded researchers (Pavett, 1983; Seybolt & Pavett, 1979). Study design is the likely culprit for the lack of an established relationship between feedback and expectancy. Pavett's (1983) study did not utilize an experimental design and focused primarily on positive feedback. Gatewood et al.'s (2002) experimental design incorporated both positive and negative feedback. However, the study failed to measure expectancy prior to administering feedback, which eliminated the possibility of determining a causal relationship. Furthermore, feedback was operationalized as a standardized assessment, not as an actual task performance assessment. Despite continued rationale for a connection between expectancy and

feedback, a relationship has not been established, thereby indicating that further research examining this relationship is needed. Specifically, studies utilizing a design with a pre-post methodology that measures expectancy following a task would be most useful to advancing the literature.

In summary, feedback's connection to motivation and performance is not in question. However, feedback's specific role in the motivation-performance relationship is unclear based on current literature. There is evidence that performance feedback is connected to expectancy theory, although only to the instrumentality component (Pavett, 1983). However, the literature lacks findings regarding the relationship between feedback and the expectancy component. A study using a rigorous quasi-experimental design with pre- and post-feedback measures to examine the relationships between instrumentality, expectancy and feedback would bring clarity to the literature.

Destructive and Constructive Feedback

The act of giving feedback is defined by Kluger and DeNisi (1996, p. 255) as, "actions taken by an external agent to provide information regarding the aspects of one's task performance." The content of the message creates a feedback type (Pavett, 1983), which may either positively or negative impact motivation and performance (Deci et al., 1973; Pavett, 1983). Negative feedback is also called critical feedback (Raver et al., 2012). In recent years, an additional designation of constructive and destructive has been added to account for feedback delivery type. Both positive and negative feedback can be delivered in constructive or destructive manners (London, 2003). Feedback is considered constructive if it attributes good performance to internal causes, poor

performance to external causes, and is specific and considerate. Destructive feedback attributes poor performance to internal causes, is non-specific and inconsiderate, and may contain threats (London, 1995) and interpersonal mistreatment (Raver et al., 2012). An example of constructive feedback would be, “Without growth rate information, we can’t make good decisions for our client.” Destructive feedback might note, “Your presentation was ineffective. I think the analysis you presented was incomplete and careless and should be improved,” (Raver et al., 2012, p. 186).

Feedback summary and hypotheses. In summary, feedback’s relationship with motivation needs clarity. Studies support feedback’s ability to positively and negatively impact motivation (Deci et al., 1973; Pavett, 1983), but there are gaps. Specifically, there are issues with study design and conflicting findings. Furthermore, several studies that have linked feedback and motivation have not included a critical feedback condition (Kim & Keller, 2008, 2011). Moreover, the findings become increasingly sparse when examining feedback delivery type, both constructive and destructive, in connection with motivation. Therefore, examining the relationship between feedback types and expectancy theory components would address this gap in the literature and clarify the relationship between feedback and motivation. Using the most damaging form of performance feedback, destructive critical is likely to create conditions that will affect the motivation components of expectancy and instrumentality. Therefore, the following hypotheses will be tested.

H1: Expectancy will be lower following destructive critical feedback than following constructive critical feedback.

H2: Instrumentality will be lower following destructive critical feedback than following constructive critical feedback.

H3: Constructive critical feedback will be associated with higher actual performance than destructive critical feedback.

Resilience

Resilience, an individual difference variable that has been linked to and is comprised of several personality factors (Fletcher & Sarkar, 2013), is widely studied but its development has been hampered by competing definitions and conceptualizations. Its predictive capacity is not fully understood, but foundational research provides promise for significant findings.

Fletcher and Sarkar (2013) noted that most definitions of resilience include adversity and positive adaptation. For example, Connor and Davidson (2003, p. 76) define resilience as, “The personal qualities that enables one to thrive in the face of adversity.”

Resilience has been conceptualized as static and trait-like, and as dynamic and elastic (Fletcher & Sarkar, 2013). Researchers who study trait-like resilience see it as protective factors that create this abstract concept. Protective factors include positive emotions (Tugade & Fredrickson, 2004), extraversion (Campbell-Sills et al., 2006), self-efficacy (Gu & Day, 2007), and self-esteem (Kidd & Shahar, 2008) to name a few. Those who study resilience as a process incorporate adversity, positive adaptation, promotive and protective factors but argue that the individual’s resilient response to adversity may vary over a lifetime (Fletcher & Sarkar, 2013).

Only recently have researchers turned their attention to studying the predictive functions of resilience. Resilience has been negatively correlated with depressive symptoms in adolescents (Hjemdal, Aune, Reinfjell, Stiles, & Friborg, 2007) and spouses of persons with Alzheimer's disease (O'Rourke et al., 2010). It was also a predictor of job satisfaction in teachers (Pretsch, Flunger, & Schmitt, 2012) and was found to negatively correlate with rumination on physical pain (Ong, Zautra, & Reid, 2010). The effects of resilience have also been studied, but have yielded inconclusive results, on U.S. military service members' vulnerability to mental health, drug, and alcohol problems (Eisen et al., 2014), risk for suicidality across many age groups (Liu, Fairweather-Schmidt, Roberts, Burns, & Anstey, 2014), and recidivism in youth offenders (Fougere, Daffern, & Thomas, 2015). However, this small, but growing body of research has yet to examine the predictive function of resilience in relation to actual performance.

While resilience has not been studied as a predictor of actual performance, there is support for a resilience and performance relationship under some conditions. Two studies have examined resilience and performance with differing results (Luthans, Avolio, Walumbwa, & Li, 2005; Youssef & Luthans, 2007). Youssef and Luthans (2007) tested resilience with self-rated and objective performance and found that resilience did not correlate nor uniquely contribute to either self-rated or objective performance. Luthans et al.'s (2005) study found a positive correlation between resilience and supervisor-rated performance (r = .24). The studies used the same resilience scale but different sample populations, which may have been a factor in the contrasting results.

Luthans et al. (2005) studied Chinese factory workers, who face widely-recognized adversity in working conditions. Thus, Youssef and Luthans' (2007) study may have not yielded a relationship between resilience and performance because adversity was not high enough to require resilience. To resolve these contrasting results, this study examined the resilience-performance relationship by enhancing adversity through the use of destructive critical feedback.

Hypothesis 4: High resilience will be associated with higher (a) actual and (b) perceived performance than low resilience.

Hypothesis 5: High expectancy will be associated with higher (a) actual and (b) perceived performance than low expectancy.

Summary

Resilience is an individual-difference variable with contrasting findings regarding its relationship to performance. This study addressed these findings by enhancing adversity through the use of destructive critical feedback to strengthen the overall understanding of resilience and performance.

CHAPTER 2

METHOD

Design

The proposed hypotheses were examined using a correlational approach. Type of feedback was manipulated and all other variables were measured. Feedback was manipulated as constructive critical and destructive critical. The design was a quasi-experiment.

Participants

Approximately 200 undergraduate communication students at a large southeastern university were recruited for this study. Participants were at least 18 years of age and received course credit, per department policy, for participation.

The sample was 43 percent male and 57 percent female. Twenty-seven percent were college freshman, 49 percent were sophomores, 12 percent were juniors and 11 percent were seniors. Eight percent were employed full-time, 33 percent were employed part-time, 59 percent were not employed, and one percent were employed in an unpaid internship. Forty-two percent had been in a paid supervisor role, 23 percent had supervised someone in an unpaid capacity, and 34 percent had no supervisory experience.

Task

An anagram task was used (Ammons & Ammons, 1959; Hicks et al., 1969) to measure performance. The instructions directed participants to use a series of letters to

form words. For example, from the letters “apres,” a participants could construct the words spare, pares, rapes, reaps, spear, or apres. Cadsby, Song, and Tapon (2007) noted this task is particularly useful for studies where ability and effort are needed.

Participants were provided a series of ten anagrams from Hicks et al.’s (1969) list and were given a total 5 minutes to provide as many of the 61 solutions as possible. Participants had 30 seconds per anagram in order to best standardize the experience. The ten anagrams selected for the study were those with the greatest number of solutions. The list of anagrams and solutions can be found in Appendix A. All characters were lowercase. Participants were instructed to use all letters to create new words. Misspelled words were not counted in the task score. Each anagram had at least two possible solutions.

Measures

Resilience. Resilience was assessed using the 10-item Connor-Davidson Resilience Scale (CD-RISC). The 10-item unifactor scale has a Cronbach’s alpha of .85 (Campbell-Sills, 2006). Participants rated items using a 4-point Likert-type scale ranging from 0 (*not true at all*) to 4 (*true nearly all of the time*). A sum of the rating provided a resilience score. The 10-item measure is endorsed and licensed by Connor-Davidson. The scale is a total of 40 points. The letter of agreement is shown in Appendix B**.**

Expectancy. Expectancy was measured based on Eden’s (1988) expectancy measure that includes the amount of output expected (See Appendix C). To measure the amount of output expected, participants typed in the number of correct solutions they expected to produce if they tried hard within the task timeframe. Higher scores

indicated higher levels of expectancy. Lower scores indicated lower levels of expectancy.

Instrumentality. Pavett's (1983) instrumentality measure was used. This scale has a Spearman-Brown reliability of .90. Participants were given a 7-point Likert scale ranging -1 *(not important at all)* to + 1 *(extremely important)* to rate a single reward outcome. Participants were informed that those who scored in the top 20 percent would double their odds of winning the random drawing for the $25 Amazon gift card and were then asked to rate how important they believed that performing well was to obtaining a $25 gift card. See Appendix D.

Perceived performance. Perceived performance was assessed using a single item. After completing the task, participants were asked to type in an estimated number of solutions that he or she answered correctly. The maximum possible score was 61. Higher scores reflected greater perception of performance. See Appendix E.

Actual performance. Actual performance was assessed as the correct number of solutions provided by each participant. Correct solutions were based on Hicks et al.'s (1969) list of anagram solutions in Appendix A. Higher scores reflected greater performance. Lower scores reflected lower performance. The maximum possible score was 61.

Manipulation. Participants were assigned to either a destructive critical or constructive critical feedback condition. The definition of destructive critical feedback requires that feedback be ambiguous, attribute poor performance to internal attributes and possibly contain a threat (London, 1995). Thus, destructive critical feedback was

the following statement: “There was an issue with your completion of the study, and it appears to be user error. The study’s instructions are designed for college-level participants, so you must not have been paying attention. To complete the study again and receive research credit, click the button below. Make sure to carefully read all instructions.”

For the constructive critical feedback condition, feedback must be specific, attribute poor performance to external attributes, and be considerate (London, 1995). Therefore, constructive critical feedback was manipulated using the following statement: “There was an issue with your completion of the study. It appears that you completed the task and measures, but failed to click the button confirming you understood the terms of the drawing. Please complete the study again and carefully make sure to click the button confirming you understand the terms of the drawing.”

These feedback manipulations were also supported by the self-serving bias, which posits that individuals attribute success to internal factors and failure to external factors in attempt to protect self-esteem (Harvey and Weary, 1984). Both feedback manipulations forced participants to accept responsibility for failure, but the constructive condition provided participants with a perception of control by informing of them of the specific step they needed to take to successfully recomplete the study. The destructive critical feedback condition brought a stark contrast, attributing failure to an internal cause, the participant’s lack of attention, and offering no specific recourse of action when retaking the study. The destructive critical feedback condition provided no self-

esteem protection or sense of control to the participants, which enhanced the potency of this feedback type in contrast to the constructive critical feedback condition.

Demographics. Biological sex, age, class status, employment status, and supervisory experience were measured. See Appendix F.

Procedure

Participants were recruited through a departmental research pool. Participants were informed that successful completion of the study would result in class research credit. All participants had the opportunity, but were not required, to enter a 5-digit code provided by the departmental research pool (Appendix M).

When participants accessed the study, they read the consent form (Appendix G). Consent was granted if a participant selected the option to consent or clicked the button to continue to the study materials. Those who selected the option to not consent received a brief message thanking them for their time and informed that if an email address was provided, he or she would be contacted if randomly selected as a recipient of the gift card (Appendix H).

All participants were given the opportunity to provide an email address at which he or she could be contacted if determined a winner of the drawing, and all students who logged in to the study link had the opportunity to register for the gift card, regardless of whether they completed the study. All email addresses were destroyed after the winner was selected and notified. Participants were asked to click a button confirming they understood that the email address would be used to contact the

participant if he or she was selected the winner of the $25 Amazon gift card (Appendix N).

Participants who consented then completed the CD-RISC resilience measure. They received online instructions regarding how to complete an anagram task, and they were shown an example (Appendix L). Next, participants were informed that those who scored in the top 20 percent on the anagram task would double their chance of winning the gift card. Then, participants completed the Time 1 instrumentality and expectancy measures. They selected an online button signaling they are ready to begin the task and then completed the timed anagram task. Next, participants completed the Time 1 perceived performance measure. All study participants received an onscreen message asking them to not exit the browser window and wait while their scores were being calculated (Appendix O). Then, they were randomly assigned a feedback condition. One condition contained constructive critical feedback, feedback that was specific, attributed poor performance to external factors and was considerate. The second condition contained destructive critical feedback, feedback that was non-specific, attributed poor performance to internal factors and was inconsiderate. Participants then received digital feedback informing them that they had failed to complete the task in a sufficient manner. Message content differed based on feedback condition (Appendix I & J).

All participants were asked to complete the task again in order to obtain research credit. The aforementioned procedure was then be repeated and Time 2 responses were collected. Participants received a debrief message at the end of the study.

All participants, regardless of whether they completed the study or not, received a debrief message that informed them of the nature and purpose of the deception and had the opportunity to withdraw consent. Participants who completed the study received a debrief message on-screen immediately following the study's completion (Appendix K). Participants who did not complete the study but enter their 5-digit code provided by the departmental research pool received an email from the departmental research pool coordinator with the same debrief message.

CHAPTER 3

RESULTS

A correlational approach and quasi-experiment design was used to investigate the proposed hypotheses. Participants were asked to complete resilience, expectancy, instrumentality, and performance measures twice as part of a task-based experiment. Cronbach's alpha was .86 for the Time 1 resilience scale and was .90 at Time 2. All other measures were single item.

A feedback manipulation was used to influence the expectancy, instrumentality, and performance variables. Destructive feedback was coded as 1 and constructive feedback was coded as 2. Prior to analysis, data was removed for eight participants who disallowed used of data at the end of the survey. Data was also removed for 22 participants who exited the browser window before seeing the feedback message. The descriptive statistics and correlations among the variables are presented in Tables 1 and 2.

All hypotheses were tested using one-tailed Pearson's correlation coefficient. Hypothesis 1, which predicted a significant positive relationship between Time 2 expectancy and feedback was not supported (r = -.12, ns). Hypothesis 2, which proposed a significant positive relationship between Time 2 instrumentality and feedback was not supported (r = .13, ns). Hypothesis 3, which predicted a significant positive relationship between Time 1 actual performance and feedback was also not supported (r = .02, ns). Hypothesis 4a proposed a significant positive relationship between Time 1 resilience and Time 1 actual performance. This hypothesis was not

Table 1

Descriptive Statistics

Variable	Mean	Standard Deviation	N
Feedback Type	1.50	.50	170
Time 1 Expectancy	23.63	16.42	168
Time 2 Expectancy	20.55	12.27	147
Time 1 Instrumentality	3.50	1.75	168
Time 2 Instrumentality	3.61	1.82	146
Time 1 Perceived Performance	17.75	11.99	170
Time 2 Perceived Performance	19.05	13.17	147
Time 1 Actual Performance	8.89	7.37	170
Time 2 Actual Performance	10.18	9.54	170
Time 1 Resilience	28.50	5.73	170
Time 2 Resilience	28.26	6.88	149
Age	19.58	1.39	170

Table 2

Variable Correlations

Item	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Feedback Type	-												
2. Expectancy (T1)	-.01	-											
3. Instrumentality (T1)	.13*	.04	-										
4. Perceived Performance (T1)	-.06	.24**	.12	-									
5. Actual Performance (T1)	.02	.10	.13*	.04	-								
6. Resilience (T1)	.10	.21**	-.03	-.02	.01	-							
7. Expectancy (T2)	-.12	.47**	.14*	.62**	-.02	.10	-						
8. Instrumentality (T2)	.13	.00	.86**	.12	.09	-.08	.14*	-					
9. Perceived Performance (T2)	-.09	.24**	.07	.73**	-.14*	.07	.64**	.10	-				
10. Actual Performance (T2)	.08	.05	.13*	.01	.59**	.04	.06	.12	.12	-			
11. Resilience (T2)	.13	.17*	-.06	-.01	-.05	.87**	.08	-.10	.10	.05	-		
12. Sex	.04	-.13*	.07	-.08	-.16*	-.37**	-.09	.16*	.00	-.10	-.31**	-	
13. Age	.05	.08	-.03	.08	.03	.10	.10	-.21**	.10	-.02	.09	-.10	-

**. Correlation is significant at the 0.01 level (1-tailed).
*. Correlation is significant at the 0.05 level (1-tailed).

supported (*r* = .01, ns). Hypothesis 4b predicted a significant positive relationship between resilience and perceived performance, which was not supported (*r* = -.02, ns). Hypothesis 5a, which proposed a significant positive relationship between Time 1 expectancy and Time 1 actual performance was also not supported (*r* = .10, ns). Hypothesis 5b, which predicted a significant positive relationship between Time 1 expectancy and Time 1 perceived performance was supported (*r* = .24). The relationship grew stronger between Time 1 (*r* = .24) and Time 2 (*r* = .64).

Additional relationships of significance not originally hypothesized were discovered through the analysis of this data set. Resilience was positively related to Time 1 expectancy (*r* = .21), meaning that participants with higher resilience had a greater belief in the effort-performance relationship. The resilience-expectancy relationship was not present at the Time 2 measure (*r* = .08).

Actual performance was negatively related to sex (*r* = -.16) and Time 2 perceived performance (*r* = -.14), meaning higher performance was associated with males. Perception of performance after completing the task twice was higher than the Time 1 actual performance. The relationship between sex and performance grew stronger from Time 1 (*r* = -.16) to Time 2 (*r* = -.31). Time 1 actual performance was positively related to Time 1 instrumentality (*r* = .13), meaning that higher performance was associated with the perception that the reward was connected to performance. This relationship was not present at Time 2.

Sex, coded as male = 1 and female = 2, was negatively correlated with both resilience (*r* = -.37) and Time 1 expectancy (*r* = -.13) meaning that females were

associated with lower resilience and lower belief in the effort-performance relationship than males. The relationship between sex and resilience at Time 2 was similar to the Time 1 relationship.

CHAPTER 4

DISCUSSION

The primary purpose of this study was to explore the relationships of motivation and performance in relation to feedback. The secondary purpose was to examine the relationships between motivation and an individual difference variable in relation to performance. Motivation was operationalized using the expectancy theory components of expectancy and instrumentality. Resilience was used as the individual difference variable and feedback was operationalized as critical feedback that was either constructive or destructive. Both actual and perceived performance were measured. This study also used a quasi-experimental approach to produce genuine measurements of motivation and performance in response to feedback. The implications and limitations of the study are presented below.

Nearly all main effects hypothesized in this study were not supported. However, the relationships that were supported prompt further study into interactions between resilience, expectancy, feedback and performance.

Feedback was not connected to performance, either actual or perceived. This surprising finding should challenge communication researchers to question the role of feedback in performance management.

The lack of relationship between the instrumentality and expectancy components of motivation and feedback partially supports existing literature. Similar to this study, previous research has also failed to show a direct relationship between feedback and expectancy (Pavett, 1983; Seybolt & Pavett, 1979). The lack of relationship between

instrumentality and feedback is in contrast to previous research (Pavett, 1983). While there are study design limitations that may have influenced these results, the lack of relationship between expectancy and feedback may be better understood by examining each variable conceptually. In re-visiting each variable conceptually, one can see that the concept of belief (expectancy) and an objective assessment (feedback) do not produce a relationship because, through confirmation bias, individuals are predisposed to affirm information that aligns with his or her belief and reject information that does not align (Nickerson, 1998). Therefore, it is entirely possible that researchers have been unable to find a relationship between expectancy and feedback because an individual's internal belief about his or her performance is stronger than an external objective indication of performance.

The positive relationship that was supported between expectancy and perceived performance indicates that, conceptually, belief and perception are correlated. Put simply, participants who *believed* they would perform better by trying harder also *perceived* they performed better. Interestingly, this relationship grew stronger from Time 1 to Time 2. However, this belief had no relationship to the participant's actual performance. Furthermore, there was no relationship between actual and perceived performance. To summarize, belief in performance may be related to perception of performance. However, both belief in and perception of performance have no relationship to actual performance.

The lack of relationship between resilience and actual and perceived performance brings clarity to the literature by supporting Youssef and Luthans' (2007)

findings that also showed no relationship between resilience and either self-rated (perceived) or objective (actual) performance. The hypothesis for this study, which predicted a positive resilience-performance relationship, was based on a contrasting study that did support the resilience-performance relationship (Luthans, Avolio, Walumbwa, & Li, 2005).

Limitations

Study design for instrumentality and expectancy serve as limitations for this study. In operationalizing instrumentality, the reward was two-fold: research participation credit and increased odds for top performers on the task. However, the instrumentality measure only evaluated the relationship between increased performance and increased odds of winning the giftcard. The feedback message neither threatened a participant's odds or opportunity to qualify for the giftcard drawing nor threatened the participant's opportunity to receive research credit. In sum, instrumentality could have been better operationalized to produce a relationship with feedback. Therefore, future research should include a stronger operationalization of instrumentality. A better operationalization of this variable would have required participants to have an increased perception of risk related to their performance. The increase in perceived risk may not have met institutional IRB standards of protection of subjects or may have required an intensive debrief protocol.

A second limitation was the study design for expectancy. While the feedback conditions provided to participants met the criteria for constructive and destructive critical feedback, the messages participants received were not directly tied to

performance on the anagram task. Instead, the messages provided participants with feedback on their ability to successfully complete the study. Therefore, one may argue that it was not possible to produce a significant relationship between expectancy and feedback when expectancy was tied to the anagram task and the feedback message referred to performance on the study as a whole.

CHAPTER 5

FUTURE STUDY AND CONCLUSION

The results of this study did not provide simple answers to the main effects proposed, but instead leave researchers with questions to investigate, other theories to consider, and methodologies to implement. Researchers should investigate questions, such as: To what degree is belief in and perception of performance important if neither are related to an individual's actual performance? If belief is stronger than an objective indication of performance (feedback), then how do leaders influence performance? Finally, if feedback is defined as an objective indication of performance, but is not correlated with performance, then what is feedback related to and what does it influence?

Regarding the first proposed question: To what degree is *belief in* and *perception of* performance important if neither is related to an individual's actual performance? The lack of a relationship between perceived and actual performance points to a more fundamental issue that future studies should address: belief and perception are not only strong and difficult to change, but they do not correlate to reality. The mean of both actual and perceived performance increased from Time 1 to Time 2 in this study. However, the mean perception was nearly double the mean actual performance, indicating that participants perceived they performed much better than they actually performed. Furthermore, mean expectancy was much closer to the mean perception of performance than actual performance. Future studies should seek to understand the role of perception in order to better understand effective performance management.

In addition to understanding the importance of perceived performance, future studies should also investigate the role of expectancy, or belief that effort and performance are positively correlated. In this study, actual performance increased from Time 1 to Time 2, which means that actual effort also increased. However, the *belief* in the effort-performance relationship, expectancy, decreased from Time to Time 2. In sum, while actual effort increased, belief that effort would result in higher performance decreased. This confounding finding warrants future research to understand the impact of expectancy on performance management. Future studies should investigate this relationship for mediators, moderators and confounding variables.

Communication researchers should also answer the second question proposed: If feedback is defined an objective indication of performance, but is not correlated with performance, then what is feedback related to and what does it influence? The results of this study hint at a starting place with the results between expectancy and resilience. This study found a relationship between Time 1 resilience and expectancy, which was not present at Time 2. The mean resilience score for participants remained stable from Time 1 (n = 28.50) to Time 2 (n = 28.26), while mean expectancy score decreased for participants from Time 1 (n = 23.63) to Time 2 (n = 20.55). The main difference between Time 1 and Time 2 was a feedback treatment. While feedback was not correlated with expectancy or resilience, the expectancy score changed, while feedback remained stable. A study examining an interaction is necessary to understand the reason for the change between Time 1 and Time 2. Support for future studies into this interaction is found in a previous study by Raver et al. (2012). This study examined the relationship

between a motivational output, performance, critical feedback, and a personality trait. The authors found that under a destructive critical feedback condition, personality produced a difference between an individual's intention to increase performance and an individual's actual performance. In sum, perhaps feedback and performance are related when interactions with other variables are included.

Future research may also consider these results within the context of other theories, such as equity theory. This study used expectancy theory as its theoretical framework; however, other theories may offer additional explanations regarding the beliefs and perceptions connected to an individual's performance.

Three methodological changes are also proposed for future studies. First, a manipulation check could be added to assess the potency of the feedback messages. . Second, the potency of feedback messages could be enhanced by creating a perception that the messages were from a human observing the participant's actual performance. This study featured automated feedback messages. Third, the potency of instrumentality could be enhanced by increasing participants' belief in the researcher's ability to give and take away rewards. Lawler and Jenkins (1992) noted that individuals must trust the connection between performance and rewards in order for the reward to impact motivation. Specifically, individuals must believe that the leader will be able to produce the reward and will do so in an honest and fair manner (Isaac et al., 2001). In this study, the researcher only had the power to conduct a random giftcard drawing.

In conclusion, this study sought to better understand the relationships between feedback, motivation, performance and individual differences. However, there was no

support for many of the predicted relationships. Actual performance was not connected to any of the predicted variables: resilience, feedback, expectancy and instrumentality. This study leaves researchers with questions about the relationship between perception and reality and the role of feedback in managing performance. Answering these questions will help managers understand how to effectively drive employee performance. Feedback, which is one of the most popular tools that managers use to drive feedback, was not related to actual performance, perceived performance expectancy, or belief in the effort-performance relationship or instrumentality. Communication researchers could make a significant impact on the work of practitioners by identifying the variables to which feedback is related. Finally, this study provided recommendations for methodological enhancements and encouraged researchers to consider interpreting the results in the context of other theories.

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APPENDICES

APPENDIX A

Multi-Solution Anagram Task

Anagrams and Solutions In Order Of Frequency

Anagram	**Solution**	**Solution**	**Solution**	**Solution**	**Solution**	**Solution**	**Solution**
apres	pears	rapes	reaps	spear	spare	pares	apres
palse	lapse	peals	leaps	pales	sepal	pleas	spale
arcte	crate	carte	trace	react	cater	caret	
selat	tales	slate	stale	steal	least	teals	
netso	tones	stone	notes	steno	onset	seton	
baset	beast	beats	bates	baste	abets	tabes	
aslev	slave	vales	salve	veals	laves	valse	
sneir	reins	siren	resin	risen	rines	rinse	
arest	stare	tears	rates	stear	tares	aster	
idset	tides	diets	edits	sited	deist		

APPENDIX B

Connor-Davidson Resilience Scale (CD-RISC)

Dear Erica:

Thank you for your interest in the Connor-Davidson Resilience Scale (CD-RISC). We are pleased to grant permission for use of the CD-RISC in the project you have described under the following terms of agreement:

1. You agree not to use the CD-RISC for any commercial purpose, or in research or other work performed for a third party, or provide the scale to a third party. If other off-site collaborators are involved with your project, their use of the scale is restricted to the project, and the signatory of this agreement is responsible for ensuring that all collaborators adhere to the terms of this agreement.

2. You may use the CD-RISC in written form, by telephone, or in secure electronic format whereby the scale is protected from unauthorized distribution or the possibility of modification. **In all presentations of the CD-RISC, including electronic versions, the full copyright and terms of use statement must appear with the scale. The scale should not appear in any form where it is accessible to the public, and should be removed from electronic and other sites once the project has been completed.**

3. Further information on the CD-RISC can be found at the www.cd-risc.com website. The scale's content may not be modified, although in some circumstances the formatting may be adapted with permission of either Dr. Connor or Dr. Davidson. If you wish to create a non-English language translation or culturally modified version of the CD-RISC, please let us know and we will provide details of the standard procedures.

4. Three forms of the scale exist: the original 25 item version and two shorter versions of 10 and 2 items respectively. When using the CD-RISC 25, CD-RISC 10 or CD-RISC 2, whether in English or other language, please include the full copyright statement and use restrictions as it appears on the scale.

5. A fee of $ 30 US is payable to Jonathan Davidson at 3068 Baywood Drive, Seabrook Island, SC 29455, USA, either by PayPal (at: mail@cd-risc.com), cheque, bank wire transfer (in US $$), international money order or Western Union.

6. Complete and return this form via email to mail@cd-risc.com.

7. In any publication or report resulting from use of the CD-RISC, you do not publish or partially reproduce items from the CD-RISC without first securing permission from the authors.

If you agree to the terms of this agreement, please email a signed copy to the above email address. Upon receipt of the signed agreement and of payment, we will email a copy of the scale.

For questions regarding use of the CD-RISC, please contact Jonathan Davidson at mail@cd-risc.com. We wish you well in pursuing your goals.

Sincerely yours,

Jonathan R. T. Davidson, M.D.
Kathryn M. Connor, M.D.

Agreed to by:

Erica Jenkins — 9-26-16
Signature (printed) — Date

Candidate for M.S. in Communication and Information
Title

University of Tennessee, Knoxville
Department of Communication Studies
Organization

APPENDIX C

Expectancy Measure

Type the number of correct solutions you EXPECT to produce if you work hard during the allotted time. Keep in mind that there are at least two solutions per anagram and no more than 61 possible solutions.

__ [Participants were able to enter a number between 0 and 61 electronically. Decimals or numbers higher than 61 were not accepted. Participants who tried to enter a decimal or number higher than 61 were prompted to enter an appropriate response.]

APPENDIX D

Instrumentality Measure

Participants who score in the top 20 percent will double their odds of winning the random drawing for the $25 Amazon gift card.

Click the response that best reflects how important you believe performing well is to obtaining a $25 gift card.

Not important at all

Low importance

Slightly important

Neutral

Moderately important

Very important

Extremely important

APPENDIX E

Perceived Performance

Type the number of correct solutions you believe you were able to produce in the allotted time. Keep in mind that there are no more than 61 possible solutions.

__ [Participants were able to enter a number between 0 and 61 electronically. Decimals or numbers higher than 61 were be accepted. Participants who tried to enter a decimal or number higher than 61 were prompted to enter an appropriate response.]

APPENDIX F

Demographics

Select your biological sex.

___ Male

___ Female

___ Intersex

Select your age. [Participants were given a list of numbers, 0 through 100 to select from.]

Select your class rank.

___ Freshman

___ Sophomore

___ Junior

___ Senior

___ Graduate Student (Master's or above)

Select the employment status that best describes you currently.

___ Employed full-time (21+ hours per week)

___ Employed part-time (1-20 hours per week)

___ Not employed

___ Employed in an unpaid internship

Select the level of supervisory experience that best describes you.

___ I have been paid to supervise one or more individuals.

___ I have supervised one or more individuals in an unpaid capacity.

___ I have never supervised anyone.

APPENDIX G

INFORMED CONSENT STATEMENT

The effects of motivation on performance

INTRODUCTION

You have been invited to participate in a research project being conducted by the University of Tennessee, Knoxville School of Communication Studies. The goal of this research is to understand the role of individual differences in a performance theory. Specifically, this study will investigate the relationship between your level of resilience and your motivation to perform well on a task.

INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY

Activities and Time Commitment: You will be asked to perform an online task. Prior to the task, you will be asked to complete a self-assessment measure. During the activity, you will be asked to unscramble ten anagrams. Afterwards, you will be asked to complete brief questions about your experience and a final self-assessment measure. In all, your participation should take 30 to 60 minutes.

RISKS

Most research involves some risk to confidentiality, and it is possible that someone could find out that you participated in this study or may see your study information. However, the researchers believe this risk is unlikely because of the procedures used to protect your information. In the unlikely event you experience discomfort from

participating in the study, you may exit the study at any time and contact the University of Tennessee, Knoxville Counseling Center at 865-974-2196 or counselingcenter@utk.edu.

BENEFITS

You may or may not directly benefit from participating in this study. You may benefit by learning more about how research is conducted and may experience a feeling of pride from contributing to the science of communication. The results from this study will add to the research literature and may enhance supervisor ability to manage employee performance.

CONFIDENTIALITY

All information you provide in the research is CONFIDENTIAL. During this research project, all data will be kept in a secure online location. Only the researchers conducting this study will have access to the data. Only group level results will be reported. No individual level data will be reported. Data from this study may be used in future studies or for teaching purposes. No data that would identify you as an individual will be used in future studies or for teaching purposes.

COMPENSATION

You will have the opportunity to win an Amazon gift card worth $25 through a random drawing. You will also have an opportunity to increase your odds of winning the gift card

based on your performance. Your estimated odds of winning the gift card are 1 in 200. Anyone age 18 or over is eligible to enter the random drawing for the gift card. Participation in and completion of the study is not required for eligibility. To enter the drawing without participating in the study, proceed to the next page and enter a valid email address at which you will be contacted if you are selected as a winner. If you are identified as a gift card recipient, you will receive an email from Amazon within 30 days of the study's conclusion. The email will contain a link at which you may redeem the gift card. The email address used to enter you into the drawing will only be used to notify you if you have been selected as the gift card recipient. For reconciliation purposes, if provided, your 5-digit research code will be shared with the University's budget office if you are selected as the gift card recipient.

In addition, if you are enrolled in a course giving credit for participation in research, you may receive two units of research participation credit for fully completing the study. To receive research participation credit, enter your unique, 5-digit research code during the course of the study. At the conclusion of the study, the researcher will provide a list of research codes of participants who fully completed the study to the department's research pool coordinator. The researcher pool coordinator will inform your course instructor of the total number of credits you have earned at the end of the semester. If you choose not to participate in the study or choose not to complete the study, you will have the opportunity to earn course credit through non-research alternatives involving

comparable time and effort to study participation. You may contact your course instructor for a list of alternatives.

CONTACT INFORMATION

If you have questions at any time about the study or procedures (or if you experience adverse effects as a result of participating in this study), you may contact the researcher, Erica Jenkins at 865-291-7818 or ejenkins@tennessee.edu or her advisor, Joan Rentsch, at jrentsch@utk.edu. If you have questions about your rights as a participant, contact the Office of Research Compliance officer at (865) 974-7697.

PARTICIPATION

You must be 18 years of age or older to participate in this study. Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you choose not to participate in the study or choose not to complete the study, you will have the opportunity to earn course credit through non-research alternatives involving comparable time and effort to study participation. You may contact your course instructor for a list of alternatives. If you withdraw from the study before data collection is completed, your exit from the study will be recorded, but the contents of your participation will be discarded. Study participation and completion is not required to enter the drawing for the $25 Amazon gift card.

CONSENT

Indicate below that you have read the information provided and your intent to participate in the study.

[Online button options]

- I agree to participate in this study.
- I do not agree to participate in this study.

APPENDIX H

Non-Consent Message

This message is to confirm that you have chosen not to consent to participate in this study and will not be awarded research credit for participation.

If you entered the random drawing for the $25 Amazon giftcard, you will be contacted at the email address provided if you are selected a winner.

Thank you for your time and interest.

Erica Jenkins
Master's Student
School of Communication Studies
University of Tennessee, Knoxville
ejenkins@tennessee.edu

APPENDIX I

Destructive Critical Feedback Condition

SURVEY ERROR

There was an issue with your completion of the study, and it appears to be user error.

The study's instructions are designed for college-level participants, so you must not have been paying attention.

To complete the study again and receive research credit, click the button below. Make sure to carefully read all instructions.

APPENDIX J

Constructive Critical Feedback Condition

SURVEY ERROR

There was an issue with your completion of the study. It appears that you completed the task and measures, but failed to click the button confirming you understood the terms of the drawing. Please complete the study again and carefully make sure to click the button confirming you understand the terms of the drawing.

APPENDIX K

Debrief Message

Dear Participant,

Thank you for your participation in this study.

While you received a message indicating you performed poorly on your first attempt at completing the study, this was actually a manipulation to examine your performance in response to the feedback. The message you received was randomly assigned and was **not** a reflection of your actual performance during the study.

When participants are aware that specific behaviors are being observed, they may alter behavior and act in a way that unnaturally influences study results. The feedback manipulation was required to understand your natural reaction to feedback.

Giving and receiving feedback is a performance management tool used in every role. This study will help those giving feedback better understand the impact of critical feedback on performance and may provide motivation to improve delivery of critical feedback.

You have already consented to this study, but now that you are fully aware of the study's purpose, you will have the opportunity to confirm or withdraw consent by clicking one of the two options below.

If you withdraw consent, you will still receive full research credit for fully completing the study and will still be eligible to win the $25 Amazon gift card. Your

withdrawal from the study will be documented, but the contents of your study participation will not be used.

[BUTTON] I confirm my consent.

[BUTTON] I withdraw my consent.

Please keep the contents of this study CONFIDENTIAL from other potential participants to prevent contamination of the results.

Thank you again for your participation, and please contact Erica Jenkins at ejenkins@tennessee.edu if you have any questions about this study.

Erica Jenkins

Master's Student

School of Communication Studies

University of Tennessee, Knoxville ejenkins@tennessee.edu

APPENDIX L

Task Instructions

This is a task in which you will construct every possible word you can from a string of letters. Each string of letters has multiple solutions. Try to give as many solutions as possible. The number of blanks does not necessarily reflect the number of possible solutions for each string of letters. You will have a total of 5 minutes for this task and 30 seconds per string of letters.

EXAMPLE:

stoac

Solution 1: coats

Solution 2: coast

Solution 3: ascot

APPENDIX M

Research Participation Code

If you have a 5-digit code, type it in the space below in order to receive research credit for participating in this study.

_____

APPENDIX N

Gift Card Registration

You are eligible, but are not required, to register to win an Amazon gift card, regardless of whether you consent to participate in this study. If you consent to participate, you may increase your odds of winning based on your performance on a task during this study.

If you would like the opportunity to receive a $25 Amazon gift card, type a valid email address in the space below. The email address you provide will be used to contact you if you are selected a winner.

_____

Gift card confirmation:

- ○ I confirm that I understand the terms of gift card drawing.

APPENDIX O

Score Calculation Message

Please wait while your results are being calculated.

Do not close your browser or exit this page.

VITA

Erica W. Jenkins was born into a large extended family with an east Tennessee heritage dating back to the Civil War. She is the daughter of an insulator and a professor, Zirkle and Patricia Jenkins. Her only sibling, Shane Jenkins, is a pararescue jumper with the United States Air Force. She is the proud aunt to four: Brycen, Brayden, Bryleigh, and Baylen. The field of communication has always been a natural fit for Erica, with childhood report cards noting, “Erica is very smart, but she talks a lot.” Erica put her communication skills to use in middle school by competing in public speaking competitions and in the communication project with 4-H. She double-majored in communication studies and political science for her undergraduate degree and pursued a dual academic-practitioner path post college by working in public relations while pursuing her master’s degree. Her work on her thesis and love of organizational issues inspired a change of career, and Erica now works as the organizational development manager for Baptist Health Care where she spent the last two years building a system-wide leadership development curriculum for the organization. Erica will graduate with her master’s degree in communication and information in May 2019 after nearly seven years of effort. She plans to continue her work training and developing leadership skills in others.