The Relationships between Psychological Capital and GPA: A Study of One Freshmen Cohort

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This survey research study examined the relationships between psychological capital and GPA among a cohort of college freshmen attending a small private residential liberal arts college. The survey, consisting of measures of psychological capital and demographic variables, received a response rate of 76% (n=388). Each psychological capital construct – hope, self-efficacy, resilience, and optimism – had a positive and statistically significant relationship with academic performance as measured by GPA. Psychological capital, and all four psychological constructs – hope, self-efficacy, resilience, and optimism – were statistically significant predictors of spring semester GPA.

INTRODUCTION

Today's turbulent business environment does not exclude the business of academic institutions. Colleges and universities are seeking ways to manage expenses as government funding declines and student expectations rise. In the private sector, specifically private liberal arts colleges, the turbulent environment is obvious. In a meeting between 200 educators on the state of the liberal arts college, commonalities appeared that validated the difficult times these schools are experiencing (Jaschik, 2016). Liberal arts institutions are trying to navigate declining enrollment and retention rates with cost control measures, while maintaining academic excellence standards.

With academic statistics publicized, and with the goal to educate our students to become productive citizens, educators take seriously their role in academic performance. Human capital and social capital are discussed, but this is not the entire person. Psychological capital - hope, self-efficacy, resilience, and optimism - are equally important and must be considered when we are developing college students, especially freshmen. Focusing attention on psychological capital in academic institutions not only positively helps students academically, but it serves human resources by producing stronger graduates for the workforce. There is limited research on psychological capital and its relationships with academic performance as measured by grade point average (GPA). This study examined this relationship and also

further examined the relationships by gender. Specifically, this study aimed to answer the following research questions:

RQ1: *To what extent are there statistically significant relationships between psychological capital (self-efficacy, hope, resilience, optimism, overall psychological capital) and academic performance (fall grade point average, spring grade point average)?*

RQ2: *To what extent is overall psychological capital a significant predictor of academic performance (fall grade point average, spring grade point average) after controlling for predicted grade point average?*

RQ3: *To what extent are there statistically significant gender differences in academic performance (fall grade point average, spring grade point average) and psychological capital (self-efficacy, hope, resilience, optimism, overall psychological capital)?*

RQ4: *To what extent are there statistically significant relationships between psychological capital (self-efficacy, hope, resilience, optimism, overall psychological capital) and academic performance (fall grade point average, spring grade point average) among a sample of female freshmen students?*

RQ5: *To what extent is overall psychological capital a significant predictor of academic performance (fall grade point average, spring grade point average) after controlling for predicted grade point average among female freshmen students?*

RQ6: *To what extent are there statistically significant relationships between psychological capital (self-efficacy, hope, resilience, optimism, overall psychological capital) and academic performance (fall grade point average, spring grade point average) among a sample of male freshmen students?*

RQ7: *To what extent is overall psychological capital a significant predictor of academic performance (fall grade point average, spring grade point average) after controlling for predicted grade point average among male freshmen students?*

Psychological Capital

Psychological Capital (hereafter referred to as PsyCap) is defined as "An individual's positive psychological state of development that is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering towards goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success" (Luthans, Youssef, & Avolio, 2007, p. 3). PsyCap, rooted in positive organizational behavior, is "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace" (Luthans, 2002, p. 59). Given that PsyCap can be developed, this is an important construct for academic institutions and human resource professionals to explore for both student success, institutional success, and for the caliber of students graduating into the external workforce.

Psychological Capital and Workplace Outcomes

PsyCap has been studied primarily with workplace outcomes and leadership. It is positively related with perceptions of learning organization dimensions (Little & Swayze, 2015; Sweet, 2012). PsyCap also significantly impacts commitment to organizational mission (Luthans & Jensen, 2005), workplace attitudes of job satisfaction and organizational commitment (Avey, Reichard, Luthans & Mhatre, 2011; Larson & Luthans, 2006), employee stress and turnover (Avey, Luthans & Jensen, 2009), absenteeism

(Avey, Patera & West, 2006), performance (Luthans, Avolio, et al., 2005; Luthans, Avolio, et al., 2007; Luthans, Lebsack, et al., 2008; Stajkovic & Luthans, 1998), intent to quit and job search behaviors (Avey et al., 2009), performance and organizational citizenship behaviors (Gooty et al., 2009), as well as psychological well-being and health (Avey, Luthans, Smith, & Palmer, 2010; Avey, Luthans, & Youssef, 2010; Avey et al., 2011). Team-level or organizational-level PsyCap has also been explored (Clapp-Smith, Vogelgesang, & Avey, 2009; McKenny, Short, & Payne, 2013; Walumbwa, Luthans, Avey, & Oke, 2011; West, Patera, & Carsten, 2009), as well as the relationship between PsyCap and leadership (Caza, Bagozzi, Woolley, Levy, & Caza, 2010; Clapp-Smith et al., 2009; Gooty et al., 2009; McMurray, Pirola-Merlo, Sarros, & Islam, 2010).

Psychological Capital and Millennials

PsyCap varies by generation (Sparks, 2012; Staples, 2014; Sweet & Swayze, 2017a, 2017 b). Staples (2014) explored the generational differences in PsyCap across multiple industries and found that Baby Boomers' PsyCap scores were higher than their younger generations and ANOVA results suggested statistically significant difference among the generations. Complimentary to the study of PsyCap variances by generation, Sparks (2012) found significant differences among generations' psychological empowerment scores. Baby Boomers and Generation X nurses differed in their total psychological empowerment scores – how they perceived their environments. Additionally, Sweet and Swayze (2017a, 2017b), in a study of nurses' overall PsyCap found that PsyCap and self-efficacy significantly varied by generation, with Baby Boomer nurses having the highest overall level of PsyCap, hope, self-efficacy, and optimism, followed by Generation X nurses with Millennials nurses reporting "the lowest average scores on each of the PsyCap sub-scales as well as on the composite PsyCap score" (Sweet & Swayze, 2017b, p. 11).

Psychological Capital Research and Academic Performance

Most studies of PsyCap have been conducted in workplace organizations. PsyCap has only been explored in a few studies in academic institutions (Daspit, Mims, & Zavattaro, 2015; Jafri, 2013; Luthans, Avey, Avolio, & Peterson, 2010; Luthans, Luthans, & Avey, 2014; Luthans, Luthans, & Jensen, 2012; Vanno, Kaemkate, & Wongwanich, 2014; Vanno, Kaemkate, & Wongwanich, 2015; You, 2016). Jafri (2013) found that among students studying at a management college in Bhutan, the students with high academic performance also had higher levels of PsyCap compared with students who had lower levels of academic success. Luthans et al. (2012) detected a similar pattern among undergraduate business students – students with higher levels of PsyCap had higher GPAs. Moreover, Vanno et al. (2014) found a positive direct effect of academic performance on PsyCap in their study of Thai undergraduate students. In another study of Thai students, Vanno et al. (2015) found that group-level PsyCap had a positive effect on group effectiveness in completing group assignments. You (2016) found that PsyCap was positively and significantly related to learning empowerment – where learning empowerment mediated the relationship between PsyCap and student engagement. Two studies, Luthans, Avey, Avolio and Peterson (2010) and Luthans, Luthans, and Avey (2014), demonstrated that PsyCap can be enhanced among college students. The former study (Luthans et al., 2010) utilized the PsyCap Intervention (PCI) with undergraduate business students whereas the latter study (Luthans et al., 2014) demonstrated increased PsyCap after evaluating the implementation of a micro-training intervention using a pretest-posttest-control group design.

Hope and Academic Performance

Hope is defined as persevering towards goals and, when necessary, redirecting paths to goals in order to succeed (Luthans et al., 2007). Hope predicts college student's academic performance and reliably predicts GPA and the likelihood of graduating (Synder, Shorey, Cheavens, Pulvers, Adams, & Wiklund,, 2002). Hopeful students display higher levels of engagement in classroom settings (Chang, 1998), and stay focused on task, and conceptualize goals clearly (Snyder, 1994). Hopeful students perform better (Gilman, Dooley & Florell, 2006) and are intrinsically motivated (Conti, 2000).When accounting for the

positive outcomes of hope and academic performance, Synder et al. (2002) noted that students who display high levels of hope are more motivated and determined than less hopeful students. Hopeful students find multiple pathways to reach goals and willingly try new approaches (Tierney, 1995). In addition to finding supporting evidence for hope's association with classroom engagement and performance, it was also found that students with higher levels of hope achieved higher GPAs at the end of the semester. Seirup and Rose (2011) found that probationary students who possess higher levels of hope obtained a higher GPA increase at the end of the semester than students who had lower levels of hope. In a six-year longitudinal study, students who displayed higher levels of hope when they first entered college had higher overall GPAs (Synder et al., 2002).

Self-efficacy and Academic Performance

Self-efficacy is defined as having confidence to take on and put in the necessary effort to succeed at challenging tasks (Luthans et al., 2007). Self-efficacy is a strong predictor of academic performance in students (Linnenbrink & Pintrich, 2003; Multon, Brown, & Lent ,1991; and Pajares, 1996). Moreover, self-efficacy when studied with other academic and support variables, generates high levels of academic achievement (Hackett, Betz, Casas, & Rocha-Singh, 1992). In a meta-analysis by Multon et al. (1991), it was found that high levels of self-efficacy explained a 14% variance in the level of performance and a 12% variance of persistence in an academic setting. Perception of efficacy in self-regulated learning in students impacted their self-efficacy in predicting academic achievement (Zimmerman, Bandura, & Martinez-Pons, 1992). Chemers, Hu, & Garcia (2001), found that in addition to optimism, high scores of self-efficacy are related to better academic performance and adjustment. Self-efficacy has an indirect effect on levels of academic expectations, as well as performance and challenge-threat situations (Chemers, 2002), and it predicts academic success more than stress (Zajacova, Lynch, & Espenshade, 2005). Self-efficacy significantly and positively relates to course performance (Mooi, 2006), and first year academic performance (Bandura, 1997; Chemers et al., 2001).

Resilience and Academic Performance

Resiliency is defined as "when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success" (Luthans et al., 2007). Students with higher levels of interpersonal resilience obtain higher academic performance - higher grade point averages (Hartley, 2011). In a longitudinal study, increased levels of resiliency traits are strongly correlated with higher GPA scores (Scales, Roehlkepartain, Neal, Kielsmeier & Benson, 2006). In addition to higher academic performance, individuals who scored higher in resiliency also scored higher in levels of self-esteem, self-efficacy, and self-awareness (Coutu, 2002; Ryff & Singer, 2003). In a study by Phinney and Haas's (2003), ethnic minority students displayed higher levels of resilience when they were in an environment that fostered social support and self-efficacy. Academic resilience predicts enjoyment, class participation, and general self-esteem (Martin & Marsh, 2006).

Optimism and Academic Performance

Optimism is defined as making a positive attribution (optimism) about succeeding now and in the future (Luthans et al., 2007). High scores on academic optimism are related to better academic performance and adjustment - academic coping, stress, health, satisfaction, and overall commitment to stay in school (Chemers et al., 2001). Students who had higher scores of academic optimism were associated with obtaining a higher GPA (Nes, Evans & Segerstrom, 2009).

Additionally, students with higher levels of optimism have higher levels of motivation (Chemers et al., 2001; Pritchard & Wilson, 2003). Nonis and Wright (2004) found that students who scored high in situational optimism and strived for high achievement had higher academic performance. Optimism was found to be a moderator when examining student ability (Nonis & Wright, 2004). Students who demonstrated lower levels of ability but higher levels of situational optimism were found to perform similarly to students high in ability and lower in situational optimism (Nonis &Wright, 2004).

RESEARCH QUESTIONS & METHODS

The purpose of this exploratory study was to examine the relationship between the PsyCap of freshmen students and academic performance (fall GPA, spring GPA). Predicted GPA was also collected and used as a covariate in multivariate analyses. Additionally, gender and demographic differences in academic performance were examined. The research questions and associated null hypotheses for this study were:

RQ1: *To what extent are there statistically significant relationships between psychological capital (self-efficacy, hope, resilience, optimism, overall psychological capital) and academic performance (fall grade point average, spring grade point average)?*
Null Hypothesis 1: *There are no statistically significant relationships between psychological capital and academic performance.*

RQ2: *To what extent is overall psychological capital a significant predictor of academic performance (fall grade point average, spring grade point average) after controlling for predicted grade point average?*
Null Hypothesis 2: *Overall psychological capital is not a statistically significant predictor of academic performance after controlling for predicted grade point average.*

RQ3: *To what extent are there statistically significant gender differences in academic performance (fall grade point average, spring grade point average) and psychological capital (self-efficacy, hope, resilience, optimism, overall psychological capital)?*
Null Hypothesis 3: *There are no statistically significant gender differences in academic performance or psychological capital.*

RQ4: *To what extent are there statistically significant relationships between psychological capital (self-efficacy, hope, resilience, optimism, overall psychological capital) and academic performance (fall grade point average, spring grade point average) among a sample of female freshmen students?*
Null Hypothesis 4: *There are no statistically significant relationships between psychological capital and academic performance among female freshmen students.*

RQ5: *To what extent is overall psychological capital a significant predictor of academic performance (fall grade point average, spring grade point average) after controlling for predicted grade point average among female freshmen students?*
Null Hypothesis 5: *Overall psychological capital is not a statistically significant predictor of academic performance after controlling for predicted grade point average among female freshmen students.*

RQ6: *To what extent are there statistically significant relationships between psychological capital (self-efficacy, hope, resilience, optimism, overall psychological capital) and academic performance (fall grade point average, spring grade point average) among a sample of male freshmen students?*
Null Hypothesis 6: *There are no statistically significant relationships between psychological capital and academic performance among male freshmen students.*

RQ7: *To what extent is overall psychological capital a significant predictor of academic performance (fall grade point average, spring grade point average) after controlling for predicted grade point average among male freshmen students?*
Null Hypothesis 7: *Overall psychological capital is not a statistically significant predictor of academic performance after controlling for predicted grade point average among male students.*

Freshmen students (n = 508) enrolled at a small, independent, co-educational, liberal arts college in the Mid-Atlantic region completed a survey during fall freshmen orientation that measured their level of PsyCap. Demographic information was also collected as part of the survey effort. The survey data was matched with student records that included academic performance data (e.g., predicted GPA, fall GPA, and spring GPA) and school experience data (e.g., in-state status, residence, and involvement in student organizations and athletics).

The survey consisted of 24 PsyCap questions using the PsyCap Questionnaire (PCQ) (Luthans et al., 2007), and 4 demographic questions. The survey was anonymous. Students were asked to log-in to the survey in a computer lab during a structured 30-minute time during freshmen orientation. The log-in captured their student ID, through the survey tool. A third party (Director of Institutional Research) replaced the student ID with an identifier before providing data to the researcher. The third party additionally provided all subsequent information (predicted GPA and GPA) to the researcher using the identifier. Predicted GPA is an algorithm that predicts student GPA based on high school GPA and college entry testing scores.

PsyCap was measured using the self-reported 24-item PsyCap Questionnaire (PCQ) (Luthans et al., 2007). The questionnaire was adopted from established scales to include the self-efficacy scale (Parker, 1998), hope scale (Snyder et al., 1996), resilience scale (Wagnild & Young, 1993), and optimism scale (Scheier & Carver, 1985). PsyCap is defined as "An individual's positive psychological state of development that is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering towards goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success" (Luthans et al., 2007, p. 3).

The PCQ used a Likert-type scale from one to six: strongly disagree (1), disagree (2), somewhat disagree (3), somewhat agree (4), agree (5), and strongly agree (6). There were six questions for each of the four constructs. To emphasize the "state-like" nature of the measure, the participants were asked to respond by describing "how you may think about yourself right now." The survey measured four constructs - hope, self-efficacy, resilience, and optimism - as subscales. The subscale scores were computed by averaging the responses to the six questions for each construct. The composite score (or the overall PCQ score) was computed by averaging the four subscales. The researcher adapted the questions of the PCQ for the college environment.

Demographic questions were also asked. Freshmen students were asked if they identified themselves as a student athlete, female or male, if the student plans to join a student organization or group, and if they are affiliated with the LGBTQ community. Although the question of "are you a student athlete" and "do you plan to join a student organization or group" was asked of students, for the purpose of accuracy in the data, the researcher used the data provided by the institution. Students could have joined an athletic team after the survey was administered. Gender, as listed with college administration, was cross-referenced with self-reported gender identification. One female self-identified as male. For this student, the gender listed by enrollment was used.

RESULTS/DATA ANALYSIS

At the time of the study, there were 510 students enrolled as freshmen and the response rate was 76% (n=388). The study sample was 61% female (n = 235), 82% Caucasian (n = 316), and 9% self-reported as LGBTQ (n = 33). The sample is evenly split between in-state (53%; n = 206) and out-of-state students and overwhelmingly residential with 93% (n = 361) of the survey respondents reporting that they lived in resident halls. Approximately a third of the students (31%; n = 121) were involved in at least one student organization.

When examining the freshmen, there were statistically significant positive relationships between predicted GPA and fall GPA ($r = +.625$, $p \leq .01$) as well as predicted GPA and spring GPA ($r = +.635$, $p \leq .01$). The relationship between fall GPA and spring GPA was also statistically significant, positive, and

quite strong (r = +.904, p ≤ .01). The data revealed that overall PsyCap, as well as the elements of PsyCap, were more strongly correlated with spring GPA than with fall GPA. As Table 1 shows, the correlation coefficients representing the relationships between self-efficacy, hope, resilience, optimism, overall PsyCap and academic performance were positive suggesting that as PsyCap increased so did academic performance.

TABLE 1
MEANS, STANDARD DEVIATIONS, CRONBACH'S ALPHAS, AND CORRELATION COEFFICIENTS OF STUDY VARIABLES (ALL FRESHMEN)

All Freshmen (n = 388)	Mean (sd)	Cronbach's Alpha	Predicted GPA	Fall GPA	Spring GPA
Predicted GPA	2.82 (.52)	---	---	---	---
Fall GPA	2.90 (.77)	---	+.625**	---	---
Spring GPA	2.88 (.72)	---	+.635**	+.904**	---
Self-efficacy	4.53 (.71)	.763	+.050	+.088	+.130*
Hope	4.70 (.63)	.789	+.119*	+.127*	+.159**
Resilience	4.27 (.67)	.748	+.107*	+.110*	+.146**
Optimism	3.92 (.68)	.694	+.061	+.100	+.130*
Overall PsyCap	4.35 (.54)	.889	+.104*	+.132**	+.176**

**p≤.01 *p≤.05

Hope, resilience, and overall PsyCap were significantly correlated with fall GPA (r = +.127, p ≤ .05; r = + .110, p ≤ .05; r = +.132, p ≤ .01 respectively) while self-efficacy and optimism were not significantly correlated with fall GPA (r = +.088, p ≥ .05; r = + .100, p ≥ .05). Self-efficacy, hope, resilience, optimism, and overall PsyCap were significantly correlated with spring GPA (r = +.130, p ≤ .05; r = + .159, p ≤ .01; r = +.146, p ≤ .01; r = +.130, p ≤ .05; r = +.176, p ≤ .01 respectively). For the majority of bi-variate relationships, the correlations coefficients were large enough to be considered statistically significant. It is important to note that the relationships between overall PsyCap and academic performance (fall GPA: r = +.132; spring GPA: r = +.176) were stronger than the relationships between the PsyCap scales and academic performance (fall GPA: r = +.088 to +.127; spring GPA: r = +.130 to +.159). To conclude, the null hypothesis that there are no statistically significant relationships between PsyCap and academic performance is rejected.

To further explore the relationships between PsyCap and academic performance, regression analyses were computed to test the null hypothesis that overall PsyCap is not a statistically significant predictor of academic performance after controlling for predicted GPA. Predicted GPA was controlled in each regression analysis because of the strong relationship with the freshmen year academic performance variables (fall GPA, spring GPA). As Table 1 shows, overall PsyCap was not a significant predictor of fall GPA (Δp = .079) when controlling for predicted GPA and explained very little of the variance in fall GPA (ΔAdjusted R^2 = .004). The associated unstandardized beta coefficient shown in Table 3 indicates that a 1 point increase in overall PsyCap related to a .102 increase in fall GPA.

TABLE 2
STEPWISE REGRESSION MODEL SUMMARY
(ALL FRESHMEN; DEPENDENT VARIABLE: FALL GRADE POINT AVERAGE)

Model	R	R^2	Adjusted R^2	ΔF	df1	df2	Δp
Predictor: Predicted GPA	.625	.391	.389	227.267	1	354	.000
Predictors: Predicted GPA; Overall PsyCap	.630	.396	.393	3.095	1	353	.079

TABLE 3
TABLE OF COEFFICIENTS
(ALL FRESHMEN; DEPENDENT VARIABLE: FALL GRADE POINT AVERAGE)

Model	Unstandardized Coefficients		t	P
	B	SE		
Constant	-.034	.290	-.116	.908
Predicted GPA	.897	.060	14.855	.000
Overall PsyCap	.102	.058	1.759	.079

The regression analysis predicting spring GPA indicated a statistically significant contribution of PsyCap to spring GPA. As Table 4 shows, overall PsyCap was a significant predictor of spring GPA (Δp = .009) when controlling for predicted GPA and it explained 1% of the variance in spring GPA (ΔAdjusted R^2 = .010). The associated unstandardized beta coefficient shown in Table 5 indicates that a 1 point increase in overall PsyCap related to a .147 increase in spring GPA.

TABLE 4
STEPWISE REGRESSION MODEL SUMMARY
(ALL FRESHMEN; DEPENDENT VARIABLE: SPRING GRADE POINT AVERAGE)

Model	R	R^2	Adjusted R^2	ΔF	df1	df2	Δp
Predictor: Predicted GPA	.635	.403	.402	231.212	1	342	.000
Predictors: Predicted GPA; Overall PsyCap	.644	.415	.412	6.991	1	341	.009

TABLE 5
TABLE OF COEFFICIENTS
(ALL FRESHMEN; DEPENDENT VARIABLE: SPRING GRADE POINT AVERAGE)

Model	Unstandardized Coefficients		T	p
	B	SE		
Constant	-.198	.277	-.715	.475
Predicted GPA	.872	.059	14.873	.000
Overall PsyCap	.147	.056	2.644	.009

These analyses suggest mixed results regarding the role of overall PsyCap in predicting freshmen GPA after controlling for predicted GPA – overall PsyCap was significant in one analysis (Δp = .009) yet was not significant in another (Δp = .079). Thus, the null hypothesis that overall PsyCap is not a statistically significant predictor of academic performance is not rejected. In sum, there were statistically significant relationships between the PsyCap scales, overall PsyCap, and academic performance among this sample of college freshmen. Upon further examination, overall PsyCap was revealed to be a significant predictor of spring GPA after controlling for predicted GPA but not fall GPA.

Examining the Role of Gender in Psychological Capital and Academic Performance

Exploratory descriptive analyses showed gender differences in both academic performance and PsyCap. When these differences were tested inferentially, statistically significant gender differences were revealed (the results are displayed below). Female freshmen had higher predicted, fall, and spring GPAs compared to their male counterparts – these differences were statistically significant (p = .000). Conversely, male students reported higher self-efficacy, hope, resiliency, optimism, and overall PsyCap

than the female students. The differences were statistically significant for self-efficacy and overall PsyCap (p = .047; p = .043, respectively). Thus, the null hypothesis of no gender differences in academic performance or PsyCap was rejected.

TABLE 6
MEAN DIFFERENCES BETWEEN FEMALE AND MALE FRESHMEN

Measure	Female (n=235)	Male (n=153)	t (df)	p
Predicted GPA	2.95	2.62	6.236 (359)	.000
Fall GPA	3.02	2.73	3.673 (380)	.000
Spring GPA	2.99	2.71	3.632 (367)	.000
Self-efficacy	4.47	4.61	-1.989 (386)	.047
Hope	4.67	4.74	-1.006 (386)	n.s.
Resiliency	4.22	4.35	-1.779 (386)	n.s.
Optimism	3.87	3.99	-1.665 (386)	n.s.
Overall PsyCap	4.31	4.42	-2.034 (386)	.043

TABLE 7
MEANS, STANDARD DEVIATIONS, CRONBACH'S ALPHAS, AND CORRELATION COEFFICIENTS OF STUDY VARIABLES (FEMALE FRESHMEN)

Female Freshmen (n = 235)	Mean (sd)	Cronbach's Alpha	Predicted GPA	Fall GPA	Spring GPA
Predicted GPA	2.95 (.51)	---	---	---	---
Fall GPA	3.02 (.73)	---	+.682**	---	---
Spring GPA	2.99 (.70)	---	+.695**	+.904**	---
Self-efficacy	4.47 (.67)	.720	+.032	+.025	+.090
Hope	4.67 (.59)	.774	+.110	+.096	+.088
Resilience	4.22 (.67)	.756	+.136*	+.086	+.130
Optimism	3.87 (.68)	.715	+.106	+.123	+.141*
Overall PsyCap	4.31 (.51)	.877	+.123	+.106	+.146*

**p≤.01 *p≤.05

For female freshmen, the bi-variate correlation coefficients between PsyCap and fall GPA were positive but not strong enough to be statistically significant. This finding is also true for the relationships between self-efficacy, hope, resilience and spring GPA. However, the correlations between optimism and spring GPA (r = +.141) and overall PsyCap and spring GPA (r = +.146) were both statistically significant ($p \leq .05$). Because of the absence of statistically significant relationships between PsyCap and fall GPA and only two statistically significant relationships between PsyCap and spring GPA, the null hypothesis is not rejected. Regression analyses showed that among female freshmen overall PsyCap was not a significant predictor of academic performance (fall GPA: $\Delta p = .519$; spring GPA: $\Delta p = .289$) after controlling for predicted GPA. The unstandardized beta coefficients indicate that a 1 point increase in overall PsyCap was associated with a .045 increase in fall GPA and .072 increase in spring GPA.

TABLE 8
STEPWISE REGRESSION MODEL SUMMARY
(FEMALE FRESHMEN; DEPENDENT VARIABLE: FALL GRADE POINT AVERAGE)

Model	R	R^2	Adjusted R^2	ΔF	df1	df2	Δp
Predictor: Predicted GPA	.682	.465	.463	186.042	1	214	.000
Predictors: Predicted GPA; Overall PsyCap	.683	.466	.461	.417	1	213	.519

TABLE 9
TABLE OF COEFFICIENTS
(FEMALE FRESHMEN; DEPENDENT VARIABLE: FALL GRADE POINT AVERAGE)

	Unstandardized Coefficients			
Model	B	SE	t	P
Constant	.042	.348	.120	.905
Predicted GPA	.956	.071	13.436	.000
Overall PsyCap	.045	.070	.646	.519

TABLE 10
STEPWISE REGRESSION MODEL SUMMARY
(FEMALE FRESHMEN; DEPENDENT VARIABLE: SPRING GRADE POINT AVERAGE)

Model	R	R^2	Adjusted R^2	ΔF	df1	df2	Δp
Predictor: Predicted GPA	.695	.483	.480	194.226	1	208	.000
Predictors: Predicted GPA; Overall PsyCap	.697	.486	.481	1.128	1	207	.289

TABLE 11
TABLE OF COEFFICIENTS
(FEMALE FRESHMEN; DEPENDENT VARIABLE: SPRING GRADE POINT AVERAGE)

	Unstandardized Coefficients			
Model	B	SE	t	P
Constant	-.091	.333	-.272	.786
Predicted GPA	.950	.070	13.607	.000
Overall PsyCap	.072	.068	1.062	.289

Means, Standard Deviations, Cronbach's Alphas, and Correlation Coefficients of Study Variables (male freshmen)

Male Freshmen (n = 153)	Mean (sd)	Cronbach's Alpha	Predicted GPA	Fall GPA	Spring GPA
Predicted GPA	2.62 (.47)	---	---	---	---
Fall GPA	2.73 (.79)	---	+.491**	---	---
Spring GPA	2.71 (.72)	---	+.490**	+.898**	---
Self-efficacy	4.61 (.76)	.816	+.161	+.224**	+.243**
Hope	4.74 (.70)	.805	+.185*	+.194*	+.280**
Resilience	4.35 (.67)	.732	+.159	+.194*	+.226**
Optimism	3.99 (.68)	.658	+.060	+.111	+.159
Overall PsyCap	4.42 (.58)	.902	+.173*	+.218**	+.274**

**p≤.01 *p≤.05

For male freshmen, self-efficacy, hope, resilience, and overall PsyCap were significantly correlated with fall grade point average ($r = +.224$, $p \leq .01$; $r = + .194$, $p \leq .05$; $r = +.194$, $p \leq .05$; $r = +.218$, $p \leq .01$ respectively). The same pattern holds for spring grade point average, with stronger correlation coefficients ($r = +.243$, $p \leq .01$; $r = + .280$, $p \leq .01$; $r = +.226$, $p \leq .01$; $r = +.274$, $p \leq .01$ respectively). These findings led to the rejection of the null hypothesis regarding the relationships between PsyCap and academic performance for male freshmen.

Regression analyses showed that among male freshmen overall PsyCap was not a significant predictor of academic performance (fall GPA: $\Delta p = .067$) after controlling for predicted GPA. The unstandardized beta coefficients indicate that a 1 point increase in overall PsyCap was associated with a .185 increase in fall GPA. For spring GPA, overall PsyCap was a significant predictor of academic performance ($\Delta p = .008$) after controlling for predicted GPA. The unstandardized beta coefficients indicate that a 1 point increase in overall PsyCap was associated with a .259 increase in spring GPA. These analyses suggest mixed results regarding the role of overall PsyCap in predicting male freshmen GPA after controlling for predicted GPA. Overall PsyCap was significant in one analysis ($\Delta p = .008$), yet was not significant in another ($\Delta p = .067$). Thus, the null hypothesis that overall PsyCap is not a statistically significant predictor of academic performance is not rejected.

TABLE 12
MEANS, STANDARD DEVIATIONS, CRONBACH'S ALPHAS, AND CORRELATION COEFFICIENTS OF STUDY VARIABLES (MALE FRESHMEN)

Male Freshmen (n = 153)	Mean (sd)	Cronbach's Alpha	Predicted GPA	Fall GPA	Spring GPA
Predicted GPA	2.62 (.47)	---	---	---	---
Fall GPA	2.73 (.79)	---	+.491**	---	---
Spring GPA	2.71 (.72)	---	+.490**	+.898**	---
Self-efficacy	4.61 (.76)	.816	+.161	+.224**	+.243**
Hope	4.74 (.70)	.805	+.185*	+.194*	+.280**
Resilience	4.35 (.67)	.732	+.159	+.194*	+.226**
Optimism	3.99 (.68)	.658	+.060	+.111	+.159
Overall PsyCap	4.42 (.58)	.902	+.173*	+.218**	+.274**

**p≤.01 *p≤.05

TABLE 13
STEPWISE REGRESSION MODEL SUMMARY
(MALE FRESHMEN; DEPENDENT VARIABLE: FALL GRADE POINT AVERAGE)

Model	R	R^2	Adjusted R^2	ΔF	df1	df2	Δp
Predictor: Predicted GPA	.491	.241	.236	43.912	1	138	.000
Predictors: Predicted GPA; Overall PsyCap	.510	.260	.249	3.397	1	137	.067

TABLE 14
TABLE OF COEFFICIENTS
(MALE FRESHMEN; DEPENDENT VARIABLE: FALL GRADE POINT AVERAGE)

	Unstandardized Coefficients			
Model	B	SE	t	P
Constant	-.075	.503	-.149	.882
Predicted GPA	.768	.123	6.254	.000
Overall PsyCap	.185	.100	1.843	.067

TABLE 15
STEPWISE REGRESSION MODEL SUMMARY
(MALE FRESHMEN; DEPENDENT VARIABLE: SPRING GRADE POINT AVERAGE)

Model	R	R^2	Adjusted R^2	ΔF	df1	df2	Δp
Predictor: Predicted GPA	.490	.240	.234	41.741	1	132	.000
Predictors: Predicted GPA; Overall PsyCap	.530	.281	.270	7.375	1	131	.008

TABLE 16
TABLE OF COEFFICIENTS
(MALE FRESHMEN; DEPENDENT VARIABLE: SPRING GRADE POINT AVERAGE)

	Unstandardized Coefficients			
Model	B	SE	t	P
Constant	-.261	.477	-.547	.585
Predicted GPA	.698	.116	6.003	.000
Overall PsyCap	.259	.095	2.716	.008

DISCUSSION

PsyCap plays an integral role in the success of freshmen students. Each PsyCap construct - hope, self-efficacy, resilience, and optimism - is statically and positively significant to academic performance.

PsyCap, resilience and hope significantly and positively related to fall GPA. PsyCap, and all four psychological constructs – hope, self-efficacy, resilience, and optimism - significantly and positively predict spring GPA, with hope and resilience having the strongest prediction of the four psychological constructs. The hope and resilience of incoming freshmen is important to academic performance, and should be considered when designing new student orientation and freshmen transition programs.

Academic institutions should consider PsyCap constructs – hope, self-efficacy, resilience, and optimism – of their students, with particular attention to resilience and hope.

Implications for Practice

The Psychological Capital Intervention (PCI) (Luthans, Avey Avolio, Norman & Comba, 2006) has shown increases of PsyCap of business students. As identified in the PCI, programs can be created that emphasize the following to increase PsyCap: "resilience - asset factors, risk factors and influence processes (Masten, 2001); hope - goal design, pathway generation and strategies to overcome obstacles (Snyder, 2000); optimism - reflect, diagnose, and identify self-defeating beliefs (Seligman, 1998); self-efficacy - mastery experiences, vicarious learning, social persuasion, and emotional and physiological arousal (Bandura, 1997)" (Luthans et al., 2006, p. 257).

Additionally, Martin and Marsh (2005) proposed a 5-C model of academic resilience - confidence (self-efficacy), coordination (planning), control, composure (low anxiety), and commitment (persistent). It should also be noted that there is a vast amount of literature that identifies mentoring as a significant impact on student success. "A strong support person or role model, involvement in the community, and positive self-concept positively predicted college academic performance (Tinto, 1987; Vroom, 1964)" (Ridpath, Kiger, Mak, Eagle & Letter, 2007). The amount of contact with a mentor increases GPA and decreases dropout rates (Campbell & Cambell, 1997). In an online learning environment, "teaching presence significantly relates to PsyCap and that PsyCap significantly relates to both social and cognitive presences within the Community of Inquiry (COI) framework" (Daspit et al., 2015, p. 1).

The following table synthesizes the discussion above into techniques that can be used by academic institutions to increase academic performance.

TABLE 17
TECHNIQUES TO INCREASE PSYCHOLOGICAL CAPITAL

Self-efficacy	Mastery experiences, vicarious learning, social persuasion, and emotional and physiological arousal (Bandura, 1997).
Hope	Focus on goal design, pathway generation and strategies to overcome obstacles (Snyder, 2000). Mentor
Resilience	Focus on asset factors, risk factors and influence processes (Masten, 2001) 5-C model of academic resilience - confident (self-efficacy), coordination (planning), control, composure (low anxiety), and commitment (persistent) (Martin and Marsh, 2005) Mentor
Optimism	Reflect, diagnose, and identify self-defeating beliefs (Seligman, 1998) Mentor

Note: Adapted from Luthans, F., Avey, J., Avolio, B., Norman, S., & Combs, G. (2006). Psychological capital development: Toward a micro-intervention. *Journal of Organizational Behavior, 27*(3), 387-393. Martin, A. & Marsh, H. (2006). Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychology in the Schools, 43*(3), 267-281.

High Risk Groups

Demographic data revealed that conditionally admitted students, females and members of the LGBTQ community have statistically significant negative relationships with overall PsyCap scores and self-efficacy. Student athletes had higher levels of self-efficacy, while honor students had higher levels of hope. Particular attention should be paid to these student groups.

Limitations

The data is subject to self-report bias as students completed surveys about their own feelings "at the present moment in time" and "in the last 30 days". The survey was completed on the second and last day of academic orientation. Students are experiencing a new environment which could have an impact on self-report bias, and on overall stress levels. The study is not generalizable as the study was completed at one small private liberal arts residential institution.

Suggestions for Future Research

The study should be replicated with future freshmen students at the same institution. Using socio-economic status as a demographic variable could offer greater insight. The same student sample should also be asked to take the survey each academic year to determine how PsyCap, hope, self-efficacy, resilience, and optimism may fluctuate. Longitudinal studies would offer stronger analyses.

Future research should explore freshmen within the context of public institutions, and with community colleges. Additionally, human resource management should explore and research PsyCap into training initiatives of new graduate students entering the workforce. Future research should also explore methods to enhance academic PsyCap in pre-test, post-test control group designs. Overall, it is encouraged for academic PsyCap to be explored with empirical and qualitative research in any effort to expand the academic literature.

CONCLUSION

Research on PsyCap has primarily been done within the context of for profit organizations. Only a few studies have explored the PsyCap of college students (Luthans et al., 2007; Luthans, et al., 2012; You, 2014; Jafri, 2013; Wongwanich et al., 2014; Daspit et al., 2015; You, 2016; Vanno et al., 2014). The findings of this study are significant to academic institutions, human resource professionals, training and development professionals, and educators. Each PsyCap construct - hope, self-efficacy, resilience, and optimism - is statically and positively significant to academic performance. The results enable institutions to better understand which PsyCap variables impact GPA. Focusing attention on PsyCap in our academic institutions not only positively helps our students and academic institutions, but it serves the public by producing stronger graduates who will be recruited into the workforce.

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