Psychological Determinants of Graduate Employability: A Comparative Study of Business and Agriculture Students Across Pakistan

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Abstract

Determinants of graduate employability is a point of major concern for academician, practitioners, and Governments across the globe as more than 80 percent (74 percent in Pakistan) university graduates intend to choose employment as a career right after completion of their studies. In this regard, the role of psychological resources like the Psychological Capital (PsyCap) in academic settings has been regarded as relevant and important contributor towards graduates' outcomes but this phenomenon has received very little attention of empirical studies. This paper aims to investigate the level of PsyCap and self-perceived employability (SEP) of business and agriculture students and investigate the link between PsyCap and SEP. The data were collected from 339 graduates enrolled in bachelor, masters and PhD degree programs of agriculture and business departments of three universities of Islamabad, Punjab and Sindh. Means were compared using independent sample t-test and ANOVA, whereas, for hypothesis testing, structural equation modelling was applied using AMOS. Results indicate that no significant difference was found between business and agriculture students with regard to psychological capital and self-perceived employability as these are equally important for business and agriculture graduates. However, the graduates differed on the basis of the degree program they were enrolled in such that students of the master's degree program scored higher on the means of PsyCap and SEP. Structural equation modeling (SEM) indicated that hope, optimism, and self-efficacy were positively and significantly related to SEP whereas, resilience was not found significant with SEP. Main implication for this study is the need for the development of students' PsyCap during academic life to enhance employability perceptions of graduates.

Keywords: *Graduate employability; psychological capital; agriculture graduates; business graduates; Pakistan.*

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1. Introduction

Human capital is considered to be an important asset for the development of the organizations and serves as a competitive advantage. The universities are the major source of development of high quality human capital through extended access to higher education (Bakari, Hunjra, & Saman, 2017; Qenani, MacDougall, & Sexton, 2014) and prepare the graduates to meet the challenges faced by the industry (Martin, Milne-Home, Barrett, Spalding, & Jones, 2000). Business schools are assigned top responsibility to build up human capital through equipping the graduates with requisite skills, knowledge and, competencies for their ultimate success in workplace and serve as an agent of competitive advantage (Luthans, Luthans, & Jensen, 2012). The Pakistani economy though observing improvement in industrial development, still heavily depends upon the agriculture. Therefore, agriculture education has been of great interest of the Pakistani youth for employment as well as entrepreneurial ventures. To fulfill the rising demand of agricultural employment, agricultural education programs needs to be dynamic in nature to cater for the emerging challenges posed by advances in technology in foods, agriculture extension, fertilizers, water technologies and natural resources industry (Zarafshani, Knobloch, & Aghahi, 2008).

This decade has witnessed a rising interest of scholars and academicians in measuring employability perception of graduates of higher education institutes to guide the policy makers to make graduates' transition from education to work meaningful. A recent report on entrepreneurial intentions of graduates across the 50 countries reveals that about 80.3 percent (74 percent in Pakistan) university graduates intend to choose employment as a career right after completion of their studies (Samo & Mahar, 2016; Sieger, Fueglistaller, & Zellweger, 2016). A recent article by Luthans, Luthans, and Palmer (2016) employing 95 undergraduates of an American business school tested the role of students' psychological resources, that is, psychological capital (PsyCap; hope, self-efficacy, resilience, and optimism) in enhancement of students' grades measured through grade point average (GPA). The results shown a positive link of academic PsyCap with GPA. Authors suggested replication of study in other contexts with larger sample and test the role PsyCap may have in the development of SEP.

The purpose of this study is twofold: firstly, to measure the level of PsyCap and SEP of business and agriculture students and compare mean scores obtained by both groups. Secondly, to test the impact of PsyCap on SEP through SEM. In the first section of this article, we will compare means of PsyCap and SEP of business and agriculture students and in the next section we will propose and test a conceptual model that measures the impact of PsyCap on self-perceived employability.

2. Literature Review

2.1 Psychological capital

Psychological capital, conceived by Luthans and colleagues, is rooted in the positive organizational behavior (POB). Psychological capital "PsyCap" is defined as: An individual's positive psychological state of development that is characterized by (1) having confidence (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, 2015).

Hope, having roots in goal-setting theory is defined as a positive motivational state of mind through which a person sets the goals and plans to achieve those goals (Snyder, Irving, & Anderson, 1991). The hope has two components: first is goal-directed energy (agency) and the second is planning to achieve it (pathways). Optimism on the other hand refers to 'generalized expectancy that good things will happen' (Scheier & Carver, 1985). It is an expectancy that in the most situations he / she will attain the objectives and any negativity in this regard is temporary (Fibel & Hale, 1978; Seligman, 1998). Self-efficacy is one's confidence in his / her abilities to meet some challenges, mobilize all available resources, capabilities and energies in a given context to achieve the goal (Bandura, 1986; Stajkovic & Luthans, 1998). Resilience is an ability of a person to regain his strength after failure or even in the event of high success. It means nothing can stop a person from progressing either it may be a failure or achievement of goal. Resilience is defined as "the capacity to rebound or bounce back from adversity, conflict, failure, or even positive events, progress, and increased responsibility" (Luthans, 2002, p. 702).

Research suggests that the psychological capital is positively and significantly related to an organizationally desirable job outcomes and behaviours such as Job satisfaction and organizational commitment and negatively related to undesirable organizational outcomes such as turnover intention, cynicism and deviance (Avey, Reichard, Luthans, & Mhatre, 2011; Youssef & Luthans, 2012). PsyCap has been proved to be a second-order factor comprised of four inter-related latent constructs of hope, optimism, resilience and efficacy (Dawkins, Martin, Scott, & Sanderson, 2013). All these four constructs form a valid second-order measure and their relationship is grounded in theory and verified conceptually and empirically (Avey et al., 2011).

2.2 Self-perceived employability

Graduate employability though has witnessed a rising interest of scholars recently,

yet lacks universally accepted definitions with empirical support (Pool & Qualter, 2013). A very important definition offered by Yorke (2006) is widely used by scholars, that is, '[a] set of achievements—skills, understandings, and personal attributes—that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy' (p. 8). Some other authors also emphasized on the graduate attributes necessary for the inclusion of graduates into the workforce. Such attributes consist of sets of knowledge, skills, qualities, understandings, and personal attributes that students develop during their stay at educational institutes. These help students attain, secure and retain employment, leading them to remain satisfied and contribute towards society (Bowden, Hart, King, Trigwell, & Watts, 2000; Pool & Sewell, 2007).

2.3 Impact of psychological capital on self-perceived employability

PsyCap has been tested mainly in employment contexts, however recently more research has emerged in measurement and development of PsyCap in academic contexts (Luthans et al., 2016). Riolli, Savicki, and Richards (2012) have found psychological capital as a 'buffer' to students' stress. Analyzing responses from 141 business graduates of an American University, authors suggested that PsyCap is a tool to strengthen mental capability of students to cope with the stress caused due to variety of reasons and it is also a source of students' well-being. Another study by Luthans et al. (2012) also found positive link of PsyCap with students' academic performance. Luthans et al. (2016) in a study of 323 Midwestern business students found positive link of PsyCap with students' engagement. Authors also suggested to develop interventions to strengthen PsyCap in students as well as to check the potential role of PsyCap in enhancement of graduate employability.

Pool (2017) developed a CareerEDGE model in which he argued that for the graduates to be employable and successful in their careers ahead, it is necessary that they may be exposed to internships and work experience, relevant degree qualification of relevant field and some generic skills. Besides this, an important contributor that author found is emotional intelligence, self-efficacy, self-esteem and self-confidence. Author argues that these psychological resources are important contributors to self-perceived employability and supersede traditional conceptualization that emphasize more on a set of generic skills. They stressed the need to empirically test the impact of such psychological resources on graduate employability. This study may not replicate and empirically test full CareerEDGE model, rather uses psychological capital which also incorporates elements of this model and tests its impact on self-perceived employability. Thus, this study infers the following hypotheses:

Hypothesis 1: Students' Optimism will be positively related to their self-perceived employability.

Hypothesis 2: Students' Resilience will be positively related to their self-perceived employability.

Hypothesis 3: Students' Self-efficacy will be positively related to their self-perceived employability.

Hypothesis 4: Students' Hope will be positively related to their self - perceived employability.
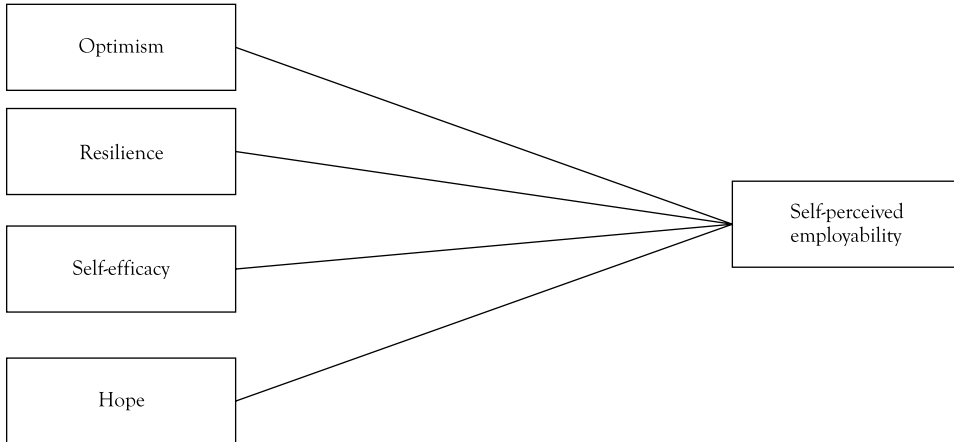
Figure 1: Conceptual Framework

3. Methodology

Following positivist philosophy, this study applied deductive approach and collected cross-sectional data from the business and agriculture students through structured survey using the convenience sampling method. Data were collected from bachelors, masters and doctoral students from management sciences department of a military university (Mil Uni), an agriculture university (Agri Uni) and a general university (Gen Uni) based in Islamabad, Rawalpindi and Jamshoro respectively. Total 500 questionnaires were distributed both online and manually, and out of them, 339 responses were received yielding response rate of 68%. The responses on study variables were on a five-point Likert scale where 1 represented strongly disagree and 5 represented strongly agree.

3.1 Measures

Psychological capital (PsyCap) was measured using a 24-item scale of PsyCap developed and validated by Luthans, Avolio, Avey, and Norman (2007)[3]. This scale

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3 *Permission was sought for the use of the scales from the copyright owners through procedure envisaged at www.mindgarden.com.*

consists of four dimensions comprising six items each. As the sample included students with a minimum bachelor degree; therefore, an English version of the questionnaire was used. Sample items include 'I have a strong will to achieve my goals' (hope), 'I am always optimistic about my future' (optimism), 'I enjoy dealing with new and unusual events' (resilience), 'I enjoy a great deal of self-confidence' (Self-efficacy).

Second variable is self-perceived employability which refers to students' perception of themselves being employable based on their perception of the field of study, university, economy and self-belief. To measure self-perceived employability, a 16-item scale developed by Rothwell, Herbert, and Rothwell (2008) was used. Two sample items include: 'I am generally confident of success in job Interviews and selection events' and 'I can easily find out about opportunities in my chosen field'.

4. Results

This section elaborates the results and analysis strategy. In the first section, descriptive and inferential statistics are used to compare means and test the difference of means among various groups of data using independent sample t-test and analysis of variance (ANOVA) techniques. In second section, structural equation modeling is used to test hypothesis.

4.1. Descriptive statistics

This analysis is done in two sections. First section deals with the frequency distribution of data and descriptive statistics with regards to demographic variables. Second section presents the frequency tables and descriptive statistics of study variables.

Table 1: Gender-wise Frequency Distribution (n = 339)

Gender	Number	Percent
Male	195	58%
Female	144	42%
Total	339	100 (%)

Source: Primary data based on this study

Table 1 divides the data in terms of male and female respondents. Former is higher in percentage than that of latter. Results reveal that 42 percent females (144 respondents) participated in this study, whereas, participation of male students was 58 percent (195 respondents). Ratio of female respondents is slightly less than their counter parts because females' enrolment is lesser than males, moreover, due to cultural limitations less follow ups were made to female respondents (Bakari, Hunjra, & Niazi, 2017).
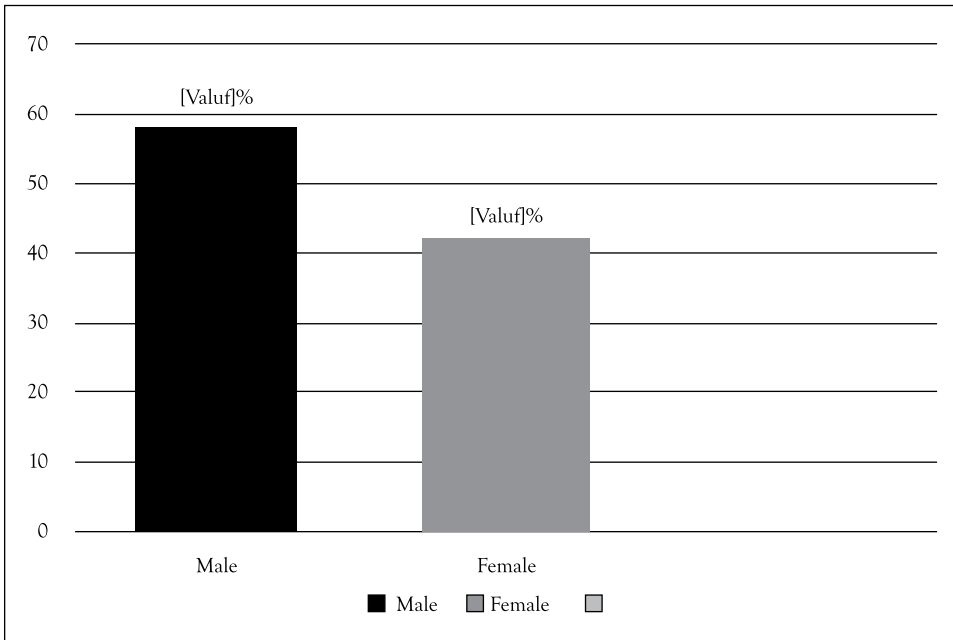
Figure 2: Gender-wise Distribution of Sample (n = 339)
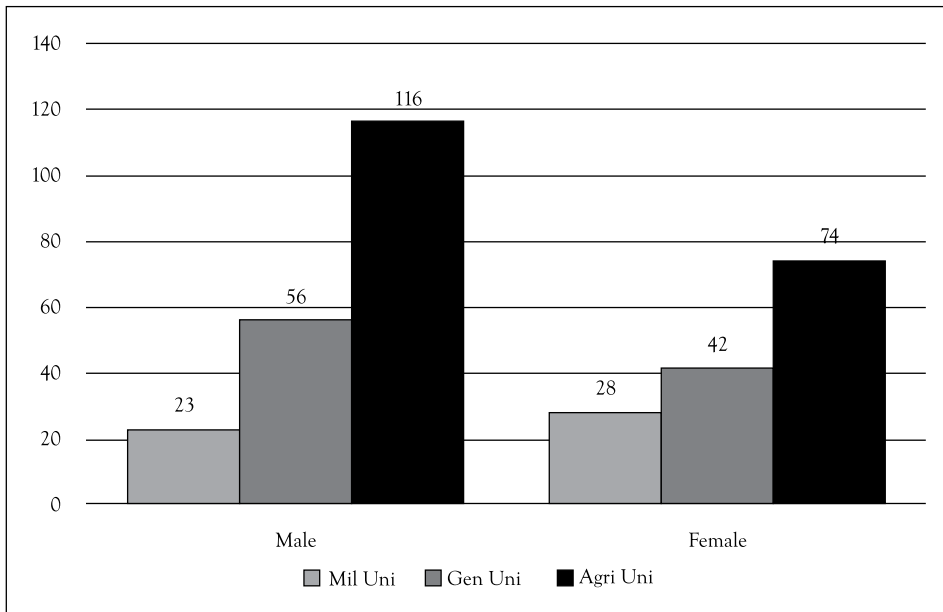
Figure 3: Institution-wise Distribution of Sample (N = 339)

Figure 3 summarizes the respondents from different universities. These universities are listed as per order they were contacted. The results indicate that 190 students belong to an agriculture university because the students from both groups, that is, the

business and agriculture participated from this university. The number of students from the business department of a large general university and a military university was 98 and 51 respectively.

Table 2: Age-wise Frequency Distribution (n = 339)

Age group	Number	Percent (%)
less than 17	6	1.8
18-25	245	72.3
26-30	70	20.6
31-35	18	5.3
Above 35	0	0
Total	339	100.0

Source: Primary data based on this study
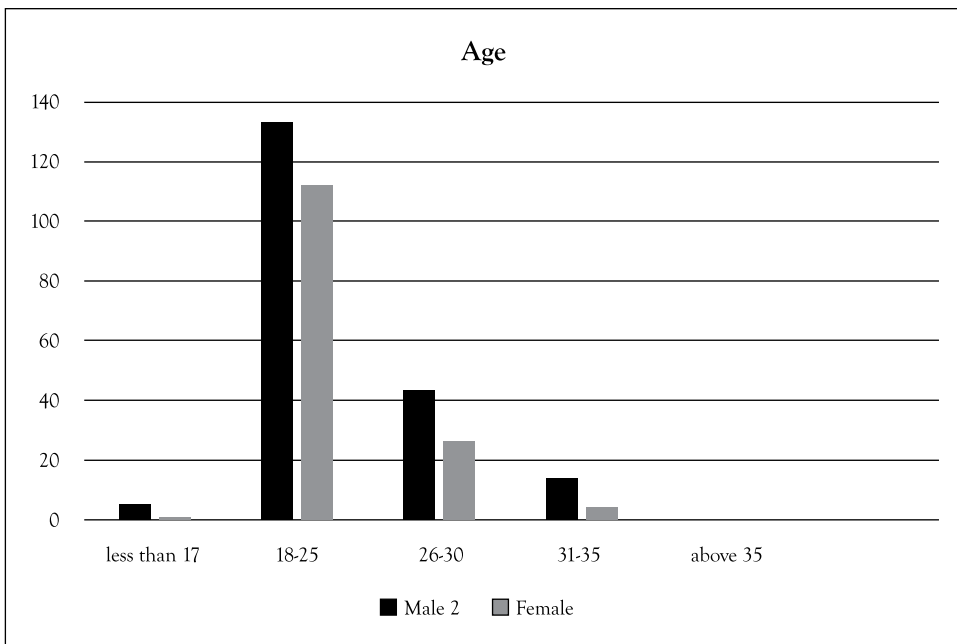
Figure 4: Age-wise Frequency Distribution (n = 339)

Table 2 shows the age distribution of the sample. Sample was overwhelmed by the youth of age bracket 18 to 25 years (245 respondents: 72.3 percent) followed by 70 students of 26 to 30 years age (28.7 percent), whereas, 18 respondents reported to be of the age of 31 – 35 years (5.3 Percent). There was no any participant above age 35.

Table 3: Marital Status Wise Frequency Distribution (n = 339)

Marital Status	Number	Percent (%)
Single	310	91.4
Married	29	8.6
Total	339	100.0

Source: Primary data based on this study
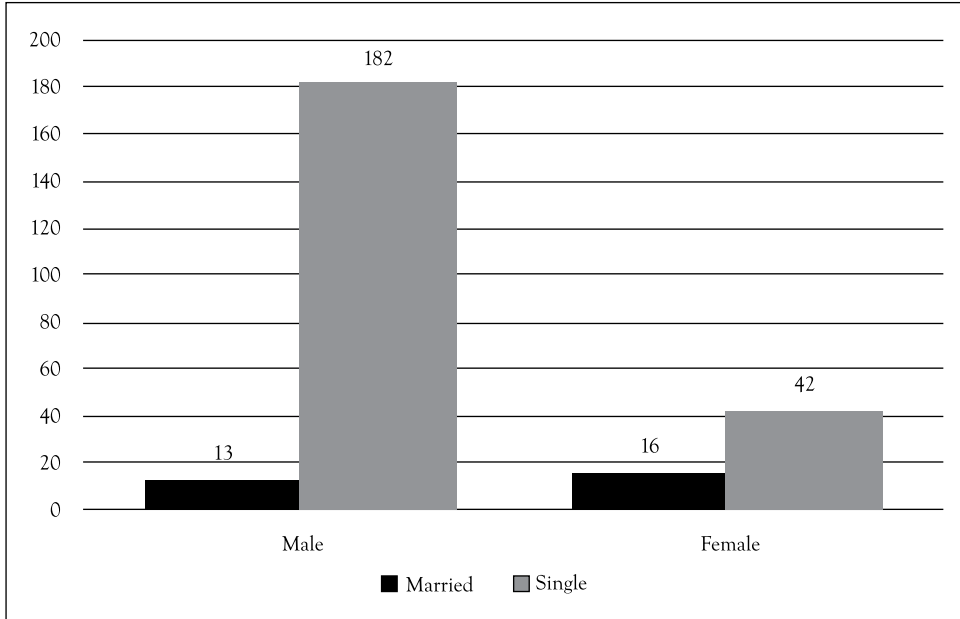
Figure 5: Marital Status Wise Frequency Distribution (n = 339).

Table 3 demonstrates the marital status of the respondents. Results reveal that 91.4 percent were single or unmarried. Only 29 students reported that they were married at the time of data collection.

Table 4: Field of Study Wise Frequency Distribution

	Male	Female	Total	Percent
Business	109	106	215	63.5
Agriculture	68	32	100	29.5
Other	18	6	24	7
Total	195	144	339	100

Source: Primary data based on this study
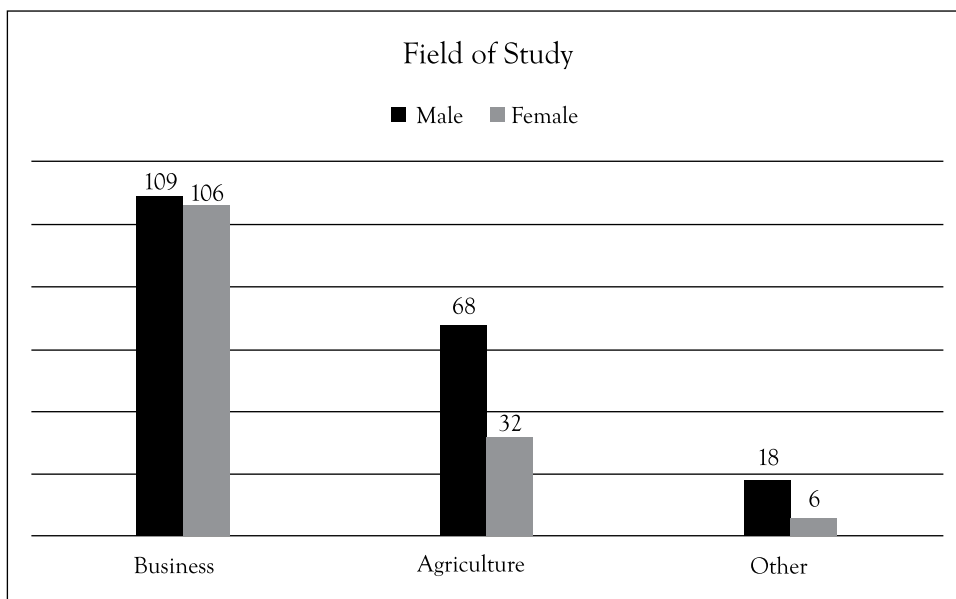
Figure 6: Field of Study Wise Frequency Distribution

Table 4 reveals that the ratio of business graduates was greater than that of agriculture students (63.5 percent and 29.5 percent respectively). More girls were in the business field than in agriculture (49 percent and 32 percent respectively). A small number of students from other departments also participated in this study. Lower participation from the agriculture students is because only one agriculture university participated in this study. These responses were collected through paying personal visits by researchers. A request through email was sent to the concerned persons of other three agriculture universities of Pakistan based at Sindh, Punjab and KPK but no any reply from those official emails received to date. It was not possible for researchers to visit those universities personally, therefore only responses of a single agriculture university are included in this study.

Table 5: Level of Studies Wise Frequency Distribution (n = 339)

Education	Male	Female	Total	Percent
Bachelor	71	46	117	35
Master	75	72	147	43
M.Phil / PhD	49	26	75	22
Total	195	144	339	100

Source: Primary data based on this study
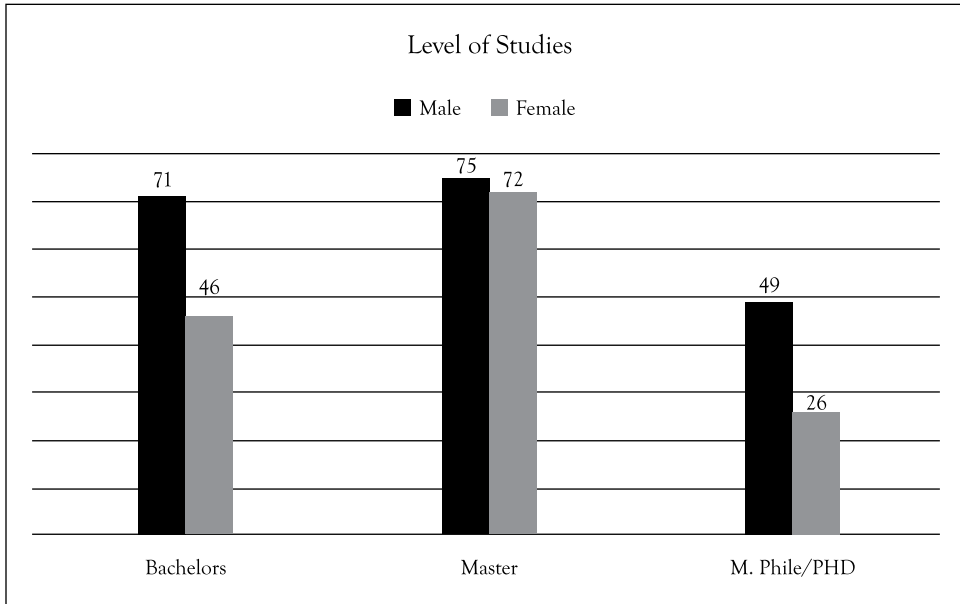
Figure 7: Level of Study Wise Frequency Distribution

Students were asked about the level of studies they were in. Responses reveal that more students who participated in the study were enrolled in the Master degree programs, that is, 16 years of education, whereas, students' enrollment in doctoral programs were 75 in which more boys (49) than girls (26) were enrolled. Number of bachelors students was 117 out of them there were 71 boys and 46 girls. Overall master degree students outnumbered where the ratio of girls and boys was almost equal.

Table 6: Experience Wise Frequency Distribution (n = 339)

	Gender			University			Total
	Male	**Female**	**Total**	**NDU**	**Arid**	**UoS**	
less than 1 year	110	92	202	26	110	66	202
2 - 5 year	48	37	85	18	54	13	85
more than 5 years	37	15	52	7	26	19	52
Total	195	144	339	51	190	98	339

Source: Primary data based on this study

Table 6 distributes sample in terms of any work experience they may have. It is evident that majority of students reported having no experience or less than one year work experience. Students who reported having experience of 2-5 year and more than five years were 85 and 52 respectively. More boys reported having any work experience than girls.
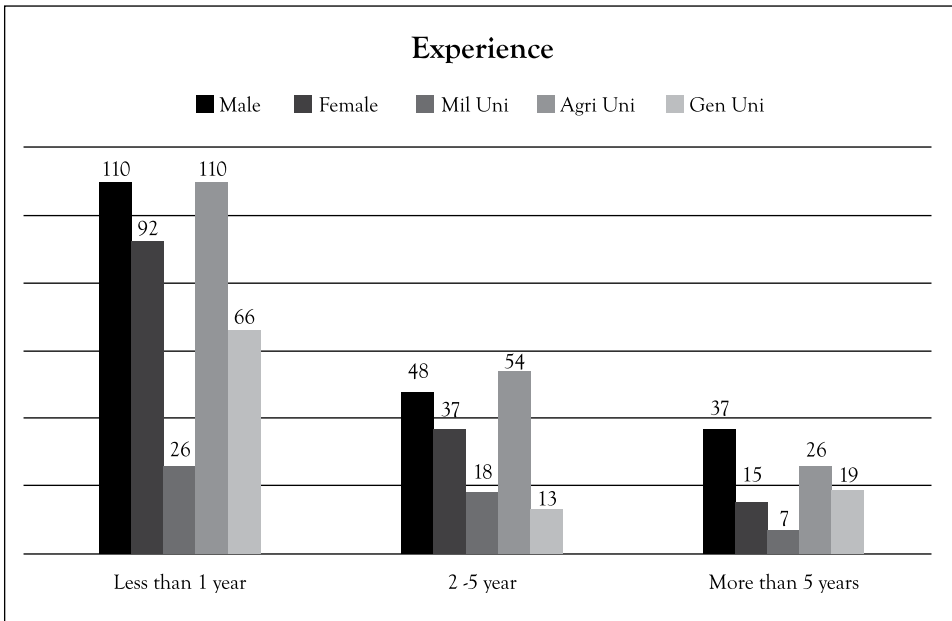
Note: Mil Uni = military university, Agri Uni = Agriculture University, Gen Uni = General University

Figure 8: Experience Wise Frequency Distribution

4.2 Inferential statistics

4.2.1 Independent sample t-test

As previous sections reported frequency of responses as to how many respondents agreed or disagreed with a particular item in the scale and what were the means and standard deviations. These descriptive statistics fail to report how individual identities in sample differ on these responses. Those identities might be gender, age, organization and so on. For the analysis of data of these individual groups, independent simple t-test and ANOVA are used. How respondents differ from each other and how much this difference is significant is the base for this analysis. In other ways, study variables are analyzed with regard to difference among demographic variables. Independent sample t-test is used to compare means between two unrelated groups, that is, Gender in this study.

Table 7 shows that there is no significant difference across the male and female respondents with regard to the psychological capital and self-perceived employability. Findings reveal that both the variables are equally important for both genders.

Table 7: The Difference Among Study Variables with Regard to Gender (n = 339)

Variable	Gender	N	Mean	Std. Deviation	Std. Error Mean	F	Sig.
Hope	Male	195	3.8564	.98305	.07040	.064	.800
	Female	144	3.7257	.71712	.05976		
Optimism	Male	195	3.8564	.73054	.05231	.008	.930
	Female	144	3.8310	.72688	.06057		
Self-perceived employability	Male	195	3.6542	.55737	.03991	3.044	.082
	Female	144	3.6450	.46880	.03907		
Self-Efficacy	Male	195	3.8709	.58671	.04201	3.131	.078
	Female	144	3.8102	.66684	.05557		
Resilience	Male	195	3.8709	.58671	.04201	3.131	.078
	Female	144	3.8102	.66684	.05557		

Source: Primary data based on this study

4.3 ANOVA

Independent sample t- test discussed in the previous section fails to report when there are more than two options in the demographic variable. Gender had two groups, whereas, age, education, level of studies, filed of study, years of experience and type of university have more than two groups. Therefore, in such case ANOVA test is applied to compare means to test the differences with regard to these demographic variables.

Table 8 summarizes the results of the descriptive statistics, Test of Homogeneity of Variances and ANOVA which were applied to find the difference of significance level of self-perceived employability and PsyCap with respect to field of studies. The results indicate that mean score for business graduates (M = 3.6541, SD = .495, n = 215) is slightly higher than that of the agriculture graduates (M = 3.5719, SD = .551, n = 100), it means that the business graduates in comparison to agriculture graduates perceive themselves more employable than what agriculture graduates may perceive for themselves. Interestingly, mean score for other graduates (M = 3.9427, SD = .524, n = 24) is highest of all. This reveals that students of other departments surveyed in this study felt themselves more employable than the business and agriculture students. Before we go for ANOVA, results of the test of Homogeneity of Variance for self-perceived employability are analyzed. The results indicate that the p-value for Levine's test is greater than 0.05 (p=.271) and shows that the test of homogeneity is tenable. ANOVA table indicates that F and p -value for self-perceived employability are 5.039 (>3) and .007 (<0.05) respectively which indicate that there is a significant difference between groups of students based on their field of study with regard to

Table 8: Analysis of Variance (ANOVA) with Regard to 'Field of Study' of Respondents

Construct	Group	Descriptive				Test of Homogeneity of Variances				ANOVA	
		N	Mean	SD	SE	Levene Statistic	df1	df2	Sig.	F	Sig.
Optimism	Business	215	3.7504	.61625	.0420	.257	2	336	.773	6.05	.003
	Agriculture	100	3.6800	.64209	.0642						
	Other	24	4.1667	.52475	.10711						
	Total	339	3.7591	.62740	.03408						
Hope	Business	215	3.9171	.80350	.05480	1.174	2	336	.310	2.911	.056
	Agriculture	100	3.7000	.67628	.06763						
	Other	24	3.9236	.64076	.13080						
	Total	339	3.8535	.76193	.04138						
Self-efficacy	Business	215	3.8264	.66751	.04552	3.706	2	336	.026	.517	.597
	Agriculture	100	3.8583	.53096	.05310						
	Other	24	3.9583	.55222	.11272						
	Total	339	3.9583	.55222	.11272						

		N	Mean	Std. Deviation	Std. Error		df1	df2	Sig.	F	Sig.
Resilience	Business	215	3.7326	.67435	.04599	1.919	2	336	.148	2.163	.117
	Agriculture	100	3.8117	.60704	.06070						
	Other	24	4.0069	.55273	.11282						
	Total	339	3.7753	.64962	.03528						
SEP	Business	215	3.6541	.49555	.03380	1.310	2	336	.271	5.039	.007
	Agriculture	100	3.5719	.55180	.05518						
	Other	24	3.9427	.52483	.10713						
	Total	339	3.6503	.52087	.02829						
PsyCap	Business	215	3.8681	.54608	.03724	.670	2	336	.512	1.953	.143
	Agriculture	100	3.7929	.50635	.05064						
	Other	24	4.0238	.50712	.10352						
	Total	339	3.8569	.53355	.02898						

Source: Primary data based on this study

self-perceived employability.

Significance value less than 0.05 in ANOVA table indicates significant difference among groups of sample but fails to indicate exactly where the difference lies. This is done by post-hoc test such as Tukey honestly significant difference (HSD) test (Abdi & Williams, 2010). In the column of mean difference mark of asterisk '*' indicates that the two groups being tested are statistically significantly different from each other at the level of 0.05. For self-perceived employability table of multiple comparisons indicates that only other students are different from business and agriculture students on self-perceived employability. No difference was found between self-perceived employability of business and agriculture students.

For PsyCap, no significant difference was found among students of business administration, agriculture and others. Analysis of descriptive statistics reveals that the mean score for business graduates (M = 3.8681, SD = .546, n = 215) is slightly higher than that of the agriculture graduates (M = 3. 7929, SD = . 506, n = 100), It means that business graduates in comparison to agriculture graduates are higher on PsyCap than what the agriculture graduates may perceive for themselves. Interestingly, the mean score for other graduates (M = 4.0238, SD = .504, n = 24) is highest of all.

As regards dimensions of PsyCap, no difference was found among groups with regard to self – efficacy and resilience (p>0.05), whereas, for hope (p=0.056) and optimism (p=0.003) there was significant difference among students of agriculture, business and others. Levene's test being insignificant also indicates that test of homogeneity is tenable. Table of multiple comparisons indicates that no difference was found between business and agriculture students on the level of optimism, whereas, significant difference was found between the two on the level of hope. Mean score of hope for business graduates (M = 3.9171, SD = .803, n = 215) is slightly higher than that of agriculture graduates (M = 3.7000, SD = . 676, n = 100), It means that the business graduates in comparison to agriculture graduates are more hopeful than what the agriculture graduates may perceive for themselves. Interestingly, mean score for other graduates (M = 3.9236, SD = .640, n = 24) is highest of all. Almost the same situation lies in the mean score of optimism where business graduates are ahead of agriculture students with a higher mean score and score of other students remains greatest of the three.

Table 10 enlists values of means and standard deviations, test of homogeneity of variance and ANOVA for PsyCap. The table reveals that the students of master degree class bear overall highest mean score for self-efficacy (M = 3.9512, SD = .601, n = 147), resilience (M = 3.8968, SD = .583, n = 147), hope (M = 3.9762, SD = .646, n = 147), optimism (M = 3.8787, SD = .594, n = 147), self-perceived employability (M

Table 9: Multiple Comparison with Regard to 'Field of Study' of Respondents

Dependent Variable	(I) Field	(J) Field	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Optimism	Business	Agriculture	.07039	.07483	.615	-.1058	.2466
		Other	-.41628*	.13305	.005	-.7295	-.1031
	Agriculture	Business	-.07039	.07483	.615	-.2466	.1058
		Other	-.48667*	.14052	.002	-.8175	-.1559
	Other	Business	.41628*	.13305	.005	.1031	.7295
		Agriculture	.48667*	.14052	.002	.1559	.8175
Hope	Business	Agriculture	.21705*	.09171	.048	.0012	.4330
		Other	-.00656	.16306	.999	-.3904	.3773
	Agriculture	Business	-.21705*	.09171	.048	-.4330	-.0012
		Other	-.22361	.17222	.397	-.6290	.1818
	Other	Business	.00656	.16306	.999	-.3773	.3904
		Agriculture	.22361	.17222	.397	-.1818	.6290
MEMP	Business	Agriculture	.08219	.06231	.385	-.0645	.2289
		Other	-.28864*	.11078	.026	-.5494	-.0278
	Agriculture	Business	-.08219	.06231	.385	-.2289	.0645
		Other	-.37083*	.11701	.005	-.6463	-.0954
	Other	Business	.28864*	.11078	.026	.0278	.5494
		Agriculture	.37083*	.11701	.005	.0954	.6463

*. The mean difference is significant at the 0.05 level.

Source: Primary data based on this study

= 3.7823, SD = .491, n = 147) and overall PsyCap (M = 3.9810, SD = .477, n = 147). This shows that graduates of the master degree programs perceive themselves more hopeful, optimistic, efficient, resilient and employable than the graduates of bachelor and doctoral degree programs. This may be due to the fact that most of the jobs in Pakistan are preferentially offered to graduates of master degrees. Interestingly similar mean scores are reported for the graduates enrolled in bachelor and PhD degree pro-

Table 10: Analysis of Variance (ANOVA) With Regard to 'Level of Studies' of Respondents

Variable	Degree	Descriptive				Test of Homogeneity of Variances				ANOVA	
		N	Mean	SD	SE	Levene Statistic	df1	df2	Sig.	F	Sig.
Self-efficacy	Bachelor	117	3.7037	.66347	.06134	.850	2	336	.428	5.315	.005
	Master	147	3.9512	.60194	.04965						
	PhD	75	3.8578	.55392	.06396						
	Total	339	3.8451	.62178	.03377						
Resilience	Bachelor	117	3.6225	.68976	.06377	.347	2	336	.707	5.980	.003
	Master	147	3.8968	.58336	.04811						
	PhD	75	3.7756	.66638	.07695						
	Total	339	3.7753	.64962	.03528						
Hope	Bachelor	117	3.8134	.88467	.08179	.635	2	336	.531	4.191	.016
	Master	147	3.9762	.64609	.05329						
	PhD	75	3.6756	.73260	.08459						
	Total	339	3.8535	.76193	.04138						
Optimism	Bachelor	117	3.6667	.61002	.05640	.101	2	336	.904	4.822	.009
	Master	147	3.8787	.59442	.04903						
	PhD	75	3.6689	.68362	.07894						
	Total	339	3.7591	.62740	.03408						

		N	Mean	Std. Dev	Std. Error	Levene	df1	df2	Sig.	F	Sig.
SEP	Bachelor	117	3.5497	.47906	.04429	1.834	2	336	.161	8.723	.000
	Master	147	3.7823	.49117	.04051						
	PhD	75	3.5483	.58509	.06756						
	Total	339	3.6503	.52087	.02829						
PsyCap	Bachelor	117	3.7521	.56169	.05193	.538	2	336	.584	7.338	.001
	Master	147	3.9810	.47743	.03938						
	PhD	75	3.7771	.54915	.06341						
	Total	339	3.8569	.53355	.02898						

Source: Primary data based on this study

grams. Significance values of the test of homogeneity of variance for all variables are greater than 0.05 thus indicate that there is no violation of homogeneity of variance. Therefore, next we analyze the table of ANOVA which indicates that all the F values are greater than 3 and p values are less than 0.05. These statistics indicate that there is significant difference among groups of students based on their degree programs.

In order to locate the exact difference among groups we look at the table of multiple comparisons. Table 11 indicates that with regards to self-efficacy, resilience and optimism; the group of graduates of the master degree program (M=3.9512, M = 3.8968 and M = 3.8787 respectively) is significantly different from the group of graduates of bachelor degree program (M=3.7037, M = 3.6225 and M = 3.6667 respectively) with a mean difference of .24754, .27432 and .21202 respectively with a p value of .004, .002 and .017 respectively. The group of students of PhD degree programs was not found different from other two groups, that is, bachelor and master. For Hope, only difference is spotted between master and PhD groups (M = 3.8134 and M = 3.6756 respectively) with a mean difference of .30063 and p value .015.

With regards to self-perceived employability, it is observed that the group of PhD graduates is not different from bachelors group, whereas the masters group is significantly different from the bachelors (Mean difference = .23263; p = .001) and PhD (Mean difference = .23398; p = .004) and for PsyCap too, no significant difference among PhD and bachelor groups was identified. The masters group is significantly different from the bachelors (Mean difference = .22891; p = .001) and PhD (Mean difference =. 20391; p = .018).

Table 11: Multiple Comparison with Regards to 'Level of Studies' 0f Respondents

Dependent Variable	(I) year	(J) year	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Self-efficacy	Bachelor	Master	-.24754*	.07607	.004	-.4266	-.0685
		PhD	-.15407	.09082	.208	-.3679	.0597
	Master	Bachelor	.24754*	.07607	.004	.0685	.4266
		PhD	.09347	.08713	.532	-.1116	.2986
	PhD	Bachelor	.15407	.09082	.208	-.0597	.3679
		Master	-.09347	.08713	.532	-.2986	.1116

Resilience	Bachelor	Master	-.27432*	.07932	.002	-.4611	-.0876
		PhD	-.15305	.09471	.240	-.3760	.0699
	Master	Bachelor	.27432*	.07932	.002	.0876	.4611
		PhD	.12127	.09085	.377	-.0926	.3352
	PhD	Bachelor	.15305	.09471	.240	-.0699	.3760
		Master	-.12127	.09085	.377	-.3352	.0926
Hope	Bachelor	Master	-.16280	.09352	.192	-.3830	.0574
		PhD	.13783	.11166	.434	-.1250	.4007
	Master	Bachelor	.16280	.09352	.192	-.0574	.3830
		PhD	.30063*	.10711	.015	.0485	.5528
	PhD	Bachelor	-.13783	.11166	.434	-.4007	.1250
		Master	-.30063*	.10711	.015	-.5528	-.0485
Optimism	Bachelor	Master	-.21202*	.07687	.017	-.3930	-.0311
		PhD	-.00222	.09177	1.000	-.2183	.2138
	Master	Bachelor	.21202*	.07687	.017	.0311	.3930
		PhD	.20980*	.08804	.047	.0025	.4171
	PhD	Bachelor	.00222	.09177	1.000	-.2138	.2183
		Master	-.20980*	.08804	.047	-.4171	-.0025
Self-per-ceived employ-ability	Bachelor	Master	-.23263*	.06311	.001	-.3812	-.0841
		PhD	.00135	.07535	1.000	-.1760	.1787
	Master	Bachelor	.23263*	.06311	.001	.0841	.3812
		PhD	.23398*	.07228	.004	.0638	.4041
	PhD	Bachelor	-.00135	.07535	1.000	-.1787	.1760
		Master	-.23398*	.07228	.004	-.4041	-.0638
PsyCap	Bachelor	Master	-.22891*	.06490	.001	-.3817	-.0761
		PhD	-.02501	.07748	.944	-.2074	.1574
	Master	Bachelor	.22891*	.06490	.001	.0761	.3817
		PhD	.20391*	.07433	.018	.0289	.3789
	PhD	Bachelor	.02501	.07748	.944	-.1574	.2074
		Master	-.20391*	.07433	.018	-.3789	-.0289

*. The mean difference is significant at the 0.05 level.

Source: Primary data based on this study

4.4 Hypothesis testing

This section deals with testing of hypothesized paths though structural equation modeling (SEM) (Nizar & Chagani, 2016). The conceptual framework is converted into a structural model in AMOS and hypotheses testing is carried out using path analysis.
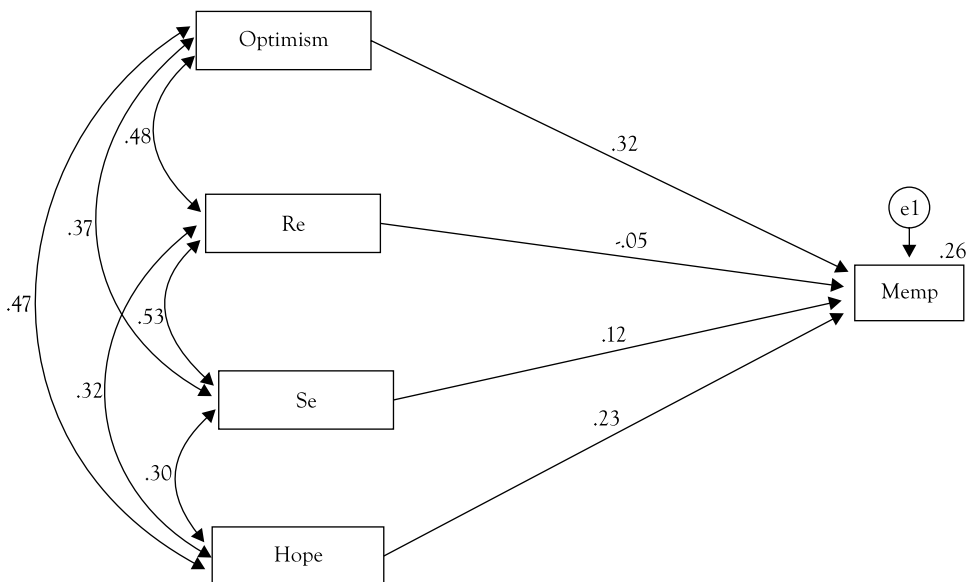
Figure 9: Direct Effects of PsyCap Dimensions on Self-Perceived Employability
Note: RE = Resilience; SE = Self-efficacy; MEMP = Self-perceived employability

Hypothesis testing was carried through path analysis in AMOS 18.0. The first hypothesis was concerned about the impact of optimism on self-perceived employability. Results indicate that optimism is positively and significantly related to self-perceived employability (β = .323; p < .001) of graduates of this sample, thus hypothesis 1 is accepted. Hypothesis 2 was related to a positive relationship between resilience and self-perceived employability. The path between resilience and self-perceived employability was insignificant. Thus, hypothesis 2 is not accepted. The hypothesis 3 assumed positive relationship between self-efficacy and self-perceived employability. Results indicate that there is positive and significant relationship between self-efficacy and self-perceived employability (β = .117; p < .05). hypothesis 3 assumed positive a relationship between hope and self-perceived employability. Results confirm the hypothesis (β = .235; p < .001). In sum, three out of four hypotheses are supported.

5. Discussion

This study formulated a model to test the impact of psychological capital on the graduates of business and agriculture. The first section of this study is related

Table 12: Regression Estimates of PsyCap Dimensions on Self-perceived Employability.

Variables			Estimate	P-Value	Hypothesis Support
Self-perceived employability	<~	Optimism	.323	***	H1 supported
Self-perceived employability	<~	Resilience	-.046	.442	H2 Not supported
Self-perceived employability	<~	Self-efficacy	.117	.038	H3 supported
Self-perceived employability	<~	Hope	.235	***	H4 supported

Source: Primary data based on this study

to the comparison of graduates of business, agriculture and others with regard to self-perceived employability and psychological capital. Results indicate that there was a significant difference between business and agriculture students only on the hope dimension of PsyCap. No significant difference was found between business and agriculture students' PsyCap and Self-Perceived Employability. Results also indicate that some other students (n=24) included in this study who belonged to international relations department, government and public policy, English literature and information technology were found significantly different from business and agriculture students with regards to self-perceived employability and PsyCap.

Second section was related to test hypotheses concerning the impact of PsyCap on self-perceived employability. Results indicate that optimism, self-efficacy and hope are positively and significantly related to self-perceived employability. Luthans et al. (2016) in their study of 323 business graduates of two Midwestern universities found positive link of academic PsyCap with students' engagement with their studies. Authors also argued that the PsyCap may be important predictor of other student related constructs such as self-perceived employability. This study fills this gap by incorporating responses of 339 business and agriculture students of various level from bachelor to PhD to test the impact of PsyCap on employability of perception of graduates. Datu, King, and Valdez (2016) found PsyCap relevant to academic setting. In their causal and longitudinal studies they found positive link of PsyCap with autonomous motivation, academic achievement and engagement. Authors also suggested that as there is dearth of studies with regard to test impact of PsyCap in academic outcomes therefore, there is need of empirical studies to fill this gap. Another study from Srilankan Universities found positive impact of Psycap with change related outcomes such as affective and normative commitment to change (Naotunna, 2015). This study may

be a significant addition to the body of knowledge by providing empirical evidence of testing impact of PsyCap on self-perceived employability of graduates from three universities of Pakistan.

5.1 Theoretical and practical implications

The conversation of resources theory posits that psychological resources are important indicators of work tasks as well as perceptions and behaviours (Hobfoll, 1989). Psychological capital has received greater attention in the literature and has been tested as predictor of behaviours and perceptions. Although no study found that may have tested PsyCap with self-perceived employability; evidence is present that it is related to variety of employee attitudes, behaviours and performance (Avey et al., 2011). Hogan, Chamorro-Premuzic, and Kaiser (2013) proposed a model of psychological determinants of employability through a literature review. Authors argue that cognitive abilities and personality factors such as ambition may serve as an important predictor of career success. This study adds to this stream of research by suggesting that psychological capital may form a greater resource which when coupled with other social resources will be an important indicator of graduate employability (Hobfoll, 1989; Hsu & Chen, 2017).

The important implication of this study for theory and practice is that the policy makers of higher education institutions must take into account the development of student psychological resources like psychological capital so that they perceive themselves as important contributor to the economy and labour market.

5.2 Limitation and future recommendation

This study is not exempted from possible limitations. Major limitation to this study is its causal design which may preclude the determination of causal effects. This study also lacks important possible mediators between the link of PsyCap and employability such as students' academic performance. Therefore, there is need to test this model in a longitudinal study by incorporating some important mediators and moderators.

Important future avenue for research in graduate employability may be to undertake a longitudinal study. It will be pertinent to inquire whether graduates' perception of employability actually contributes to their employment on completion of the degree?[1] This study proposes a longitudinal study which may record students' perceptions before they join the University, during their study programs and tracking their employment progress after the completion of degree. Research suggests that graduate employability perceptions coupled with career management skills have an economic impact (Bridgstock, 2009, p. 38). A review of 40 studies investigating economic benefits

of students' guidance revealed that graduates' selection of suitable courses, retention of those courses and learning outcome may translate economic benefits in terms of decreased time for searching new jobs, decrease in unemployment, improvement in productivity and reduced turnover (Hughes, Bosley, Bowes, & Bysshe, 2002).

6. Conclusion

The role of psychological resources in the development of organizationally and personally relevant outcomes is well-thought. This study contributes in the literature by identifying the equal importance of PsyCap and self-perceived employability for the business and agriculture students as well as this study has found positive link of the dimensions of PsyCap with self-perceived employability This study may serve as a first step toward the development of model of psychological determinants of graduate employability.

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