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Graduate Student Stress and Coping Strategies in Distance versus Traditional Education

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ABSTRACT :

The purpose of this study was to explore the differences in perceived stress and coping styles among nontraditional graduate students in both brick-and-mortar and distance-learning institutions. This study used a quantitative causal-comparative design that involved collecting survey data. The sample for this research study were 36 nontraditional graduate students that were enrolled in distance learning classes as well as 36 nontraditional students that attend traditional on-campus courses in a graduate campus. *t* test and multiple linear regression analysis was conducted to simultaneously assess the effects of group membership and all demographic variables on each of the dependent variables (stress and each coping style). An alpha level of .05 was used to establish statistical significance. Overall, we concluded that there is no significant difference between the coping styles and the perceived stress levels of graduate nontraditional students enrolled in distance-learning and in brick-and-mortar institutions.

1. INTRODUCTION :

Research has shown that college students, including nontraditional graduate and distance learning students, are prone to stress (D'Zurilla & Sheedy, 1991). Students entering graduate school programs must adjust to time management demands and higher academic expectations than they dealt with during their undergraduate studies.

Furthermore, nontraditional students are often faced with additional stresses such as raising a family and working a fulltime job, which can increase stress levels. Although these stressors do not cause anxiety and stress by themselves, stress results from direct interaction with stressors and individual perceptions (Romano, 1992). Thus, in order to create effective intervention programs, stressors of nontraditional graduate students in distance-learning programs, nontraditional graduate students in brick-and-mortar schools were explored..The four research questions were as follows.

1) Is there a significant difference in the perceived stress levels of nontraditional graduate students in distance learning versus those nontraditional graduate students in brick-and-mortar schools ?

2) Is there a significant difference in the coping styles of nontraditional graduate students in distance-learning versus those nontraditional graduate students in brick-and-mortar schools ?

3) Is there a significant relationship between demographics (e.g., variables of age, gender, marital status, employment) and the perceived stress in nontraditional graduate students ? and

4) Is there a significant relationship between demographics (e.g., variables of age, gender, marital status, employment) and the perceived coping styles in nontraditional graduate students ?

2. METHODS :

The population of interest for this research was graduate students enrolled in distance-learning and brick-and-mortar institutions. The sample consisted of 36 nontraditional students enrolled in distance-learning classes as well as 36 nontraditional students enrolled in traditional on-campus courses. A total of 72 participants were recruited from two Midwestern Universities. For this study, nontraditional students were defined as students 25 years or older, enrolled in part or full time and maintaining further responsibilities such as family, employment and other responsibilities associated with adult life. For this matter, this study only sampled students who meet the nontraditional student criteria. This study used a quantitative causal-comparative design that involved collecting survey data.

Distance learner students participants were recruited via a web posting posted in their online learning platform. Before the study took place, distance-learning instructors were contacted by the researcher and were asked for permission to post the web posting in their online learning platform. Because this study employed convenience sampling, interested students who meet the inclusion criteria were allowed to participate. A link to the survey web site was included in the recruitment web posting. For those students who were enrolled in brick and mortar, the researcher established contact with the graduate school instructors and asked permission to make an announcement before or after each class. The announcement consisted of outlining the study and asked interested students to stay after class for additional study information.

The first scale used in this study was the Perceived Stress Scale-14 (PSS), which measures student's individual perception of stress. The PSS-14 is a paper and pencil questionnaire consisting of fourteen questions. Each item is designed to identify how unpredictable, uncontrollable or overloaded the respondent has found his or her life to be within the last month. Responses are assessed on a five-point scale with 0 = never, and 4 = very often (Cohen, Kamarack & Mermeistein, 1983).

The second instrument that was used in this study was the Moos Coping Responses Inventory (CRI-Adult). This instrument uses a 48-item self report measure of coping responses. The CRI is a 48-item self report measure of coping responses. It appraises items on a 4-point scale, ranging from definitely no to definitely yes. Furthermore, it assessed whether respondents have enough time to prepare for the focal stressor, whether they viewed it as a threat, and whether they viewed it as a challenge. The CRI is measured by summing response to the logical analysis and guidance/support seeking subscales and divided them by the sum of the problem solving and positive reappraisal subscales.

Furthermore, the CRI-Adult is designed to measure eight different types of coping responses to stressful life circumstances. These responses are measured by eight subscales – Logical Analysis (LA), Seeking Guidance and Support (SG), Positive Reappraisal (PR), Problem solving (PS), Cognitive Avoidance (CA), Seeking Alternative Rewards (SR), Acceptance or Resignation (AR) and Emotional Discharge (ED). The first four scales measure approach coping and the second four set of scales measure avoidance coping (Moos, 1997).

3. RESULTS :

The sample frame for the study was selected using a convenience sampling method which consisted of 36 samples enrolled in distance learning and 36 samples from the brick and mortar institutions as determined by the power analysis.

As seen in Table 1 below, only 35.8% of the respondents were female. Most of the respondents were in the younger generation with their ages in the range of 25-30 years at 38.3% of the sampled population and 47.5% of the students are working on a full-time basis with approximately 40 hours or above a week. On the other hand, 43.3% of the students were white, and overall there were 31.7% who were married.

Table 1 : Student Characteristics (n=72)

Characteristic		Number	Percentage
Gender	Female	43	35.8
	Male	29	24.2
Age	25-30	46	38.3
	31-35	8	6.7
	36-40	10	8.3
	41-45	4	3.3
	46-50	3	2.5
	Older	1	0.8
Ethnicity	AA	9	7.5
	African	1	0.8
	Asian	7	5.8
	Hispanic	2	1.7
	Other	1	0.8
	White	52	43.3
Marital Status	Divorced	5	4.2
	Married	38	31.7
	Other	2	1.7
	Separate	1	0.8
	Single	26	21.7
Employment	Full-time	57	47.5
	Unemployed	4	3.3
	Part-time	11	9.2

Table 2 : Statistics of Study Variables (n=72)

Variable	Minimum	Maximum	Mean	Std Dev
LA	8.00	24.00	18.0083	3.11280
SG	6.00	24.00	18.1361	3.77670
PR	10.00	22.00	15.9972	2.78234
PS	10.00	52.00	19.2917	4.81031
CA	7.00	23.00	14.8028	3.52144
SR	6.00	21.00	13.4056	3.41743
AR	6.00	24.00	14.6194	3.57758
ED	7.00	22.00	13.2444	3.04024
PSS	27.00	55.00	39.9583	6.78324

Table 2 presents the descriptive statistics of the study variables for the stress and coping styles of students engaged in the two programs. The abbreviations are: Logical Analysis (LA), Seeking Guidance and Support (SG), Positive Reappraisal (PR), Problem solving (PS), Cognitive Avoidance (CA), Seeking Alternative Rewards (SR), Acceptance or Resignation (AR), Emotional Discharge (ED) and Perceived Stress Scale (PSS). The mean values for the first four variables which represent the measure of coping are above a score of 15 while the avoidance to cope scores is generally lower than a score of 15. The mean PSS Score is at 39.9583.

Table 3 : Hypotheses tested using the One-Sample Kolmogorov-Smirnov Test

	Null Hypothesis	sig
1	distribution of LA is normal with mean 18.008 and sd 3.113.	0.124
2	distribution of SG is normal with mean 18.136 and sd 2.782.	0.214
3	distribution of PR is normal with mean 15.997 and sd 4.81.	0.490
4	distribution of PS is normal with mean 19.292 and sd 4.81.	0.001
5	distribution of CA is normal with mean 14.803 and sd 3.521.	0.258
6	distribution of SR is normal with mean 13.406 and sd 3.417.	0.526
7	distribution of AR is normal with mean 14.619 and sd 3.578.	0.205
8	distribution of ED is normal with mean 13.244 and sd 3.04.	0.277
9	distribution of PSS is normal with mean 39.958 and sd 6.783.	0.330

significance level 0.05

Prior to conducting tests to determine the differences of means between the scores of the respondents, it is essential to perform the Kolmogorov-Smirnov test to determine whether the sample data is normally distributed. Table 3 presents the hypothesis test summary of the tests conducted. This shows that all except PS are normally distributed. Thus, the independent sample t-test could be run to determine whether there are differences between the means of the coping and stress styles.

On the other hand, for the PS score, since this is not normally distributed, an ANOVA table will be generated to test whether there is a significant difference between the two groups. This would be employed since this type of statistical test does not require the samples to be normal. The above analyses suggest that:

- The difference between the perceived stress of graduate students enrolled in distance learning and in brick and mortar institutions was statistically insignificant.
- The difference between the coping styles of students on the eight subscales was insignificant except for Emotional Discharge. Graduate students from brick and mortar institutions had higher scores for this subscale.
- Generally, the demographics had no relationship with the perceived stress and coping styles of graduate students from these two groups.

In order to examine the differences between the perceived stress levels of non-traditional graduate students in distance learning and in brick and mortar institutions, a t-test for independent samples was run.

As seen in Table 4, the Levene's test for equality of variance is at 0.376 which is greater than 0.05. This makes it safe to assume that the samples have equal variances. Moreover, the two-tailed significance is at 0.524 which means that there is no significant evidence to reject the null hypothesis that the means are equal. Thus, the difference between the perceived stress levels of students in these two groups could be left to chance since it is not statistically significant.

Table 4 : Independent t-test for Equality of Mean Scores of Perceived Stress Level

	Levene's Test								
	F	Sig.	t	df	sig. 2-tailed	mean dif	s. e. dif	95% lower	95% upper
PSS	0.795	0.376	0.64	70	0.524	1.02778	1.60551	-2.1743	4.22987

significance level 0.05

Table 5 : Independent t-test for Equality of Mean Scores of Other Variables

	Levene's Test F	Sig.	t	df	sig. 2-tailed	mean dif	s. e. dif	95% lower	95% upper
LA	0.387	0.536	-0.278	70	0.782	-0.20556	0.73851	-1.67846	1.26735
SG	0.885	0.35	1.767	70	0.082	1.55	0.87716	-0.19944	3.29944
PR	3.2	0.078	1.355	70	0.18	0.88333	0.65198	-0.417	2.18366
CA	0.085	0.772	-1.079	70	0.284	-0.89444	0.82906	-2.54794	0.75905
SR	1.456	0.232	-0.715	70	0.477	-0.57778	0.80828	-2.18985	1.0343
AR	5.876	0.018	-1.102	70	0.274	-0.92778	0.84197	-2.60704	0.75149
ED	0.182	0.671	2.129	70	0.037	1.48889	0.69941	0.09396	2.88381

significance level 0.05

Likewise, in order to compare the difference of means between the groups in terms of their coping styles, an independent samples t-test for equality of means was run. For all the coping styles subscales as seen in Table 5, it could be observed that the Levene's test provided a significance of greater than 0.05 which means that the samples have equal variances. However, the significance level for the two-tailed test was deemed to be significance for Emotional Discharge (ED). This means that among all the coping styles, the difference is only significant for this subscale at 0.037. Thus, students in brick and mortar institutions have higher ED scores than those enrolled in distance learning by a mean difference of 1.48889.

On the other hand, the Problem Solving Score (PS) is run through an ANOVA table. It could be seen in Table 6 that the significance is at 0.827 between groups. This means that there is no significant difference between the PS scores of students enrolled in Distance Learning and Brick and Mortar Institutions.

Further, to test whether there is a relationship between the demographics and the study variables, a Multiple Regression Analysis was conducted. The responses of respondents were translated to numerical format to run the regression analysis. This made use of the ranks for each demographics to determine the numerical value. For example, the age of 25-30 is 1, 31-35 is 2 and so on.

Shown in Table 7 is the Regression Table which lists the significance levels of the relationships between the demographic variables and the stress and coping styles of respondents. The dependent variable LA is related to the ethnicity of the respondent with a p-value of 0.025. On the other hand, the age of the respondents could predict its score on PR. Moreover, the PSS level is significantly related to the demographic variables such as graduate program enrolled to, the ethnicity and employment. The regression model for this is significant at 0.002 as seen in Table 8 which means that this model could predict the score of respondents on the perceived stress level.

Table 6 : ANOVA Table of PS Score between Distance Learning and Brick-and-Mortar

		sum sqs	df	mean sq	F	Sig.
PSS Grad Program	between groups	1	1.125	.048	.827	4.22987
	within groups	70	23.454			
	Total	71				

significance level 0.05

Table 7 : Multiple Regression Analysis for Stress Level and Coping Styles vs. Demographics

LA	coef	s. e.	t	p-value	95% lower	95% upper
Intercept	15.789	2.865	5.512	0.000	10.068	21.510
Grad Program	0.197	0.746	0.265	0.792	-1.292	1.686
Age	0.348	0.303	1.147	0.255	-0.258	0.953
Gender	-0.137	0.753	-0.182	0.856	-1.642	1.367
Ethnicity	0.611	0.266	2.294	0.025	0.079	1.142
Marital Status	0.173	0.445	0.388	0.700	-0.717	1.062
Employment	-0.539	0.646	-0.834	0.408	-1.829	0.752
SG	coef	s. e.	t	p-value	95% lower	95% upper
Intercept	16.062	3.547	4.529	0.000	8.977	23.147
Grad Program	-1.696	0.919	-1.845	0.070	-3.533	0.141
Age	0.433	0.375	1.155	0.252	-0.316	1.181
Gender	-0.045	0.930	-0.048	0.962	-1.903	1.814
Ethnicity	0.400	0.328	1.219	0.227	-0.256	1.056
Marital Status	0.766	0.551	1.389	0.170	-0.335	1.866
Employment	0.263	0.803	0.327	0.745	-1.342	1.868
PR	coef	s. e.	t	p-value	95% lower	95% upper
Intercept	14.712	2.535	5.803	0.000	9.647	19.777
Grad Program	-0.711	0.657	-1.082	0.284	-2.024	0.602
Age	0.647	0.268	2.417	0.019	0.112	1.182
Gender	0.443	0.665	0.665	0.508	-0.886	1.771
Ethnicity	-0.062	0.235	-0.264	0.793	-0.531	0.407
Marital Status	-0.635	0.394	-1.612	0.112	-1.422	0.152
Employment	0.681	0.574	1.186	0.240	-0.466	1.829
PS	coef	s. e.	t	p-value	95% lower	95% upper
Intercept	15.902	2.710	5.868	0.000	10.488	21.315
Grad Program	0.533	0.702	0.759	0.451	-0.870	1.937
Age	-0.092	0.286	-0.321	0.749	-0.664	0.480
Gender	-0.096	0.711	-0.135	0.893	-1.516	1.324
Ethnicity	0.269	0.251	1.072	0.288	-0.232	0.770
Marital Status	0.666	0.421	1.581	0.119	-0.176	1.507
Employment	0.047	0.614	0.077	0.939	-1.179	1.273
CA	coef	s. e.	t	p-value	95% lower	95% upper
Intercept	13.998	3.322	4.214	0.000	7.361	20.635
Grad Program	0.730	0.861	0.847	0.400	-0.991	2.450
Age	0.021	0.351	0.060	0.953	-0.680	0.722
Gender	-0.103	0.871	-0.119	0.906	-1.844	1.638
Ethnicity	-0.228	0.308	-0.741	0.462	-0.842	0.387
Marital Status	0.720	0.516	1.395	0.168	-0.311	1.752
Employment	-0.139	0.753	-0.185	0.854	-1.642	1.365

significance level 0.05

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SR	coef	s. e.	t	p-value	95% lower	95% upper
Intercept	9.301	3.317	2.804	0.007	2.675	15.926
Grad Program	0.614	0.860	0.714	0.478	-1.104	2.331
Age	-0.033	0.350	-0.095	0.925	-0.733	0.667
Gender	1.377	0.870	1.583	0.118	-0.361	3.115
Ethnicity	-0.055	0.307	-0.180	0.858	-0.669	0.558
Marital Status	-0.283	0.515	-0.549	0.585	-1.312	0.747
Employment	0.674	0.751	0.897	0.373	-0.827	2.175
AR	coef	s. e.	t	p-value	95% lower	95% upper
Intercept	14.936	3.423	4.363	0.000	8.097	21.774
Grad Program	0.550	0.887	0.620	0.537	-1.222	2.323
Age	-0.012	0.362	-0.034	0.973	-0.735	0.710
Gender	-1.158	0.898	-1.289	0.202	-2.952	0.636
Ethnicity	-0.234	0.317	-0.738	0.463	-0.867	0.399
Marital Status	0.275	0.532	0.517	0.607	-0.787	1.338
Employment	0.476	0.776	0.614	0.541	-1.073	2.026
ED	coef	s. e.	t	p-value	95% lower	95% upper
Intercept	18.310	2.818	6.499	0.000	12.681	23.939
Grad Program	-1.456	0.730	-1.993	0.051	-2.915	0.004
Age	-0.503	0.298	-1.690	0.096	-1.097	0.092
Gender	-0.011	0.739	-0.015	0.988	-1.488	1.465
Ethnicity	-0.225	0.261	-0.861	0.392	-0.746	0.296
Marital Status	-0.282	0.438	-0.644	0.522	-1.156	0.593
Employment	-0.158	0.638	-0.248	0.805	-1.434	1.117
PSS	coef	s. e.	t	p-value	95% lower	95% upper
Intercept	36.148	4.382	8.250	0.000	27.395	44.902
Grad Program	-2.315	1.136	-2.038	0.046	-4.585	-0.046
Age	0.746	0.463	1.611	0.112	-0.179	1.670
Gender	0.781	1.149	0.679	0.500	-1.516	3.077
Ethnicity	1.509	0.406	3.718	0.000	0.698	2.319
Marital Status	-0.683	0.681	-1.003	0.319	-2.043	0.677
Employment	2.025	0.993	2.039	0.046	0.041	4.008

significance level 0.05

As a whole, the analysis of data has supported the null hypotheses of this study which states that there is no significant difference between the coping styles and the perceived stress levels of graduate students enrolled in distance learning and in brick and mortar institutions.

As for the expected findings, this analysis did not prove that there was any significant difference in perceived stress between the nontraditional female versus non-traditional male students; and that students who work part-time have less stress when compared to students who work full-time.

Moreover, the demographics do not affect the overall scores of respondents in terms of their coping styles and stress levels. Thus, being enrolled in either of the two graduate programs would yield the same coping style and perceive the same stress level.

Table 8 : ANOVA Table for the Regression Model of the Perceived Stress Level

	df	SS	MS	F	Signif F
Regression	6	515.52	85.92	4.00	0.001827
Residual	64	1373.58	21.46		
Total	70	1889.10			

significance level 0.05

4 CONCLUSIONS :

The findings of this study suggest that there are no perceived differences in stress and coping skills between nontraditional graduate students and distance learning students and that both types of students perceived high levels of stress and used approach coping strategies when coping with stressors. Thus, to help nontraditional graduate students cope with stress effectively, school administrators must do a better job brining to light the effects of stress on graduate school studies. There are numerous ways that school administrators can do this, for example, for brick-and-mortar students, they can implement stress and coping skills related classes during campus orientation. Often times, because nontraditional students work a full time job, they are forced to enroll in evening classes, thus missing out on orientation usually given during the day.

Distance-learning administrators could implement web seminars, pamphlets or mandatory reading material regarding proper coping techniques at the beginning of each semester. They should require students to read, sign and select a mentor that will assist them with graduate school stressors. Perhaps, a Perceived Stress Scale should be given at the beginning and middle of each semester to identify students with high levels of stress.

Furthermore, they must implement a stress inoculation program which advises students in advance of the difficulties they might face as nontraditional graduate students and help them develop appropriate coping strategies to combat stress. A study by Rosenblat & Christensen (1993) reported that graduate students had lower levels of anxiety when given a proper orientation. Thus, if an orientation is implemented by school administrators, this may help nontraditional graduate students be better equipped to cope effectively with graduate school stressors.

Not only must faculty and school administrators must create stress inoculation programs but furthermore, they must assist them in learning proper coping strategies, specifically approach coping. In their findings, Folkman & Lazarus (1985) suggest that students who used positive thinking were more satisfied when coping compared to those students who relied on withdrawal and wishful thinking coping strategies, otherwise known as avoidance coping response. According to Noh & Kaspar (2003) the most effective form of coping is the use of active approach coping techniques with avoidance coping being less effective. As demonstrated above, Logical Analyses, Positive Reappraisal, Seeking Guidance and Support and Problem Solving are more effective when students have control over a stressor.

Another recommendation to assist nontraditional graduate students deal and cope with stressors is by developing a mentoring program. Mentors should be selected from faculty or advisors who understand nontraditional student's stressors. However, it is extremely important that these mentors have appropriate training and understanding of perceived stress and appropriate coping strategies to better help nontraditional students. Appropriate training must be provided to these mentors before engaging in their roles. Moreover, nontraditional graduate students should be

advised to seek appropriate help when encountering stress. According to Gulgoz (2001), graduate students do not often ask professors for help when encountering stress. He postulates that graduate students assume that it is not appropriate to seek help from a faculty or staff. Thus, employing a mentoring program may indeed help reduce stress and assist non-traditional graduate students employ proper coping mechanism.

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