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What You Teach Impacts on How You Feel: A Study on Teachers` Emotionality across Disciplines

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Abstract

The growing attention to teachers' emotion has been in line with the new necessities of modern life and has been considered as a leading exponent of fast-changing educational settings through the clarification of the new personal accountabilities. This unique study endeavored to compare levels of anxiety, depression, life satisfaction, job satisfaction and life pleasure between teachers in humanities, formal sciences and natural sciences. More than 720 teachers across 14 different academic disciplines were compared and contrasted based upon the result of the following standard psychological tests: Snaith-Hamilton Pleasure Scale, Beck Anxiety Inventory, Diener's Satisfaction with Life Scale, Brayfield-Rothe Index of Job Satisfaction and Goldberg Depression Scale. The results were enlightening as the humanist teachers' psychological well-being was conspicuously superior to their counterparts in natural and formal sciences. Being that said, the result can broaden the horizon of educational researchers whose work revolves around emotionality of teachers as well as educational planners and programmers to consider the implications in their teacher training programs.

Keywords: Teacher Emotion; Teacher Psychology; Teacher Education; Teacher Training



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Introduction

Teaching has always been an emotional job, but the nature of instruction is changing in pace with the new managerial systems that "rely upon fear, embarrassment and teacher guilt to gain improved student performance as demonstrated by rising standardized student test scores" (Bullough, 2009). Consequently, teaching is becoming even more stressful, intense, less personal and the curriculum more rigid and focused on disciplining the teachers (Valli & Buese, 2007). It is understood now that in the new school environments, teaching profession imposes many different emotional experiences on teachers. Some reports state that about half of teachers entering the career leave within the first 5 years (Alliance for Excellent Education 2004; Ingersoll 2001; Shutz & Zembylass, 2009). One reason for this leaving the profession so early has been attributed to the emotional aspect of teaching (Sutton & Wheatley, 2003).

It has been suggested that teachers may undergo emotional labor that consequently results in job dissatisfaction and burnout (Jackson, Schwab & Schuler, 1986; Maslach, 1982). Emotional labor consists of the effort, planning, and mastery teachers need to word emotions during interpersonal interactions (Morris & Feldman, 1996). Many educational researchers have essayed to identify the main factors that negatively affect teachers' psychological well-being (e.g., Evans, 2001; Kelchtermans, 1996; Zembylass, 2005). Defined psychologically and sociologically, well-being is "a dynamic state, in which the individual is able to develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community" (Foresight Mental Capital and Wellbeing Project, 2008, p. 10). There is plenty of evidence that teacher emotional labor and poor psychological well-being may lead to lowered morale and increased psychophysiological vulnerability (Dinham & Scott 2000; Guardian, 2003; Kelchtermans 1996). Study of teachers' psychological well-being cannot be conducted and assessed in isolation, as understanding teachers' emotional attributes is a relational process (Hargreaves, 2005). According to Day and Gu (2007), "at the heart of this is the dynamic interaction between the circumstances and activities in which teachers are engaged and their psychological, cognitive and emotional resources" (p. 18). Evidently, the psychological wellbeing of individuals is directly affected by the place wherein they work and live plus type of work they do (Zembylas, 2005). Moreover, whether or not what people do is their point of interest may also leave decisive impact on the quality of their work and/or its continuation.

Recently, researchers, (e.g., Hargreaves 2005; Loeb, Sarling-Hammond & Luczak, 2005), have landed into investigating teachers' emotions across different contexts (work and identity) or the influences of teachers' emotions on their personal lives (e.g., Liston & Garrison 2004; Zembylas 2005). There are hosts of academic disciplines for teaching ranging from emotionally tantalizing 'literature' to mentally diligent 'mathematics'. If the nature of what people do influences their psychological state, what is the implication for the teaching profession then?

Categorization of academic disciplines is not an easy task since the nature of sciences is constantly changing and there are many overlaps among areas of their coverage. Traditionally, academic disciplines have been fallen into two broad categories of humanities and natural sciences. Humanities, as the name explains itself, is the critical or speculative study of how humans process and analyze the human experience (Harpham, 2005). On the other hand, natural sciences are defined as disciplines that deal only with natural phenomena using empirical methods (Fraley, 1997). Humanities normally include studies in linguistics, literature,

philosophy, religion, music, arts and theatre whereas natural sciences category includes astronomy, biology, chemistry, physics and Earth sciences. This categorization is not free from uncertainty, as both interdisciplinarity and/or multidisciplinarity are apparent between, for instance, 'humanities' and 'social science'. Social sciences are mainly concerned with examination of society and how individuals interact and develop as a culture within the society (Kuper & Kuper, 1985).

Fields of anthropology, economics, political science, psychology and sociology are among social sciences. On the other pole of the continuum are 'formal sciences' which are areas of study that use formal systems to produce knowledge and understanding of the world (Bunge, 1998). Mathematics, logic, statistics, information theory, and computer science are among formal sciences. The boundaries between some disciplines are somehow blurry. For example, economics usually falls under the category of social science while economists deal with plenty of mathematical concepts. To avoid such complications, this study mainly focused on academic disciplines that their attribution to any specific category is as much transparent and agreed-upon as possible. Teachers instructing the disciplines of arts, English language, history, philosophy, literature, theology, psychology and sociology are considered under the umbrella term of humanities in this research as social sciences involve the study of human behavior and are normally deemed as a subcategory of humanities. Since there is a lack of consensus on the categorization of formal sciences and natural sciences and that there are many overlaps between these two broad categories, both are labeled as non-humanities in this research. Non-humanities academic areas are mathematics, physics, biology, chemistry, statistics, geometry and geology. Scales of Job Satisfaction, Life Satisfaction, Life Pleasure, Depression and Anxiety were administered to compare and contrast the status of psychological and emotional well-being of teachers across different academic disciplines. This study has tried to fill the gap in the literature by investigating the potential associations between majors teachers teach and their psychological well-being.

Methodology

Participants

Participants of the study were 726 Iranian teachers from different academic disciplines. Their age ranged between 39 and 53. All the participants had at least three years of teaching experience. They were all high school teachers from cities of Tehran, Kerman, Ahwaz, Mashhad and Zanjan. They were categorized into two broad categories: 375 individuals working in humanities sciences and 351 in non-humanities. There was a fair gender mix and 53.3 % of participants of this study were humanist teachers while 46.7 % were non-humanist teachers.

Instruments

The Persian modified version of Snaith-Hamilton Pleasure Scale (1995) was administered to gauge pleasure scale. The Cronbach alpha for the consistency of the scale was elsewhere calculated to be 0.81 (Foroushani, Yazdkhasti & Arizi, 2013).

The Persian version of Beck Anxiety Inventory was administered to examine the overall anxiety level of the teachers. The Cronbach alpha for the inventory was calculated to be 0.82 (Fathi-Ashtiani, Ejei, Khodapanahi& Tarkhorani, 2007).

Short Persian version of Diener's Satisfaction with Life Scale (Diener, 1988) was administered to measure life satisfaction construct. According to Bayani (2007), the Cronbach alpha for the scale is 0.83 based on his pilot study on 371 Iranian adult students.

The standard Brayfield and Rothe (1951) index of Job Satisfaction was used to tap how teaching satisfies teachers as a job. To measure the internal consistency, a pilot study was conducted on 47 participants who were chosen randomly. The Alpha cronbach of 0.74 was obtained.

The 18-item Persian version of Goldberg (2007) Depression Scale was also administered. The pilot study on 47 of the randomly selected participant resulted in the Cronbach alpha of 0.76 as the internal consistency coefficient

Results

One-way Analysis of Variance (ANOVA)

One-way Analysis of Variance (ANOVA) was conducted to compare the effects of academic discipline on several psychological constructs including life satisfaction, job satisfaction, life pleasure, anxiety and depression. The following test was considered:

 H_0 : there is no effect of academic discipline on psychological characteristics of teachers.

 H_{I} : there are effects of academic discipline on psychological characteristics of teachers.

In all the cases, as the table 2 suggests, sig<0.001 which implies the rejection of null hypothesis. Consequently, academic discipline must have had significant effect on the aforementioned psychological constructs.

		Sum of Squares	df	Mean Square	F
Life Satisfaction	Between Groups	11855.655	1	11855.655	584.287
	Within Groups	14690.534	724	20.291	
	Total	26546.189	725		
Job Satisfaction	Between Groups	177747.835	1	177747.835	1438.476
	Within Groups	89462.363	724	123.567	
	Total	267210.198	725		
Pleasure	Between Groups	8265.873	1	8265.873	719.509
	Within Groups	8317.473	724	11.488	
	Total	16583.346	725		
Depression	Between Groups	26037.569	1	26037.569	1201.182
	Within Groups	15693.872	724	21.677	
	Total	41731.441	725		
Anxiety	Between Groups	15917.917	1	15917.917	2620.230
	Within Groups	4398.306	724	6.075	
	Total	20316.222	725		

Table 1. The results of ANOVA test

As to the within-group analysis of humanist teachers the result are presented in table 3 as follows:

	Sum of Squares	df	Mean Square	F	
Between Groups	16539.096	4	4134.774	27.943	
Within Groups	5179.038	35	147.973		
Total	21718.134	39			

 Table 2. Within-group analysis for humanist teachers

As the p-value<0.001, the null hypothesis, which assumes equality of means, is rejected.

A post hoc analysis was conducted to reach a multiple comparison between the levels of psychological constructs` score within the group of humanist teachers:

	_	Mean Difference			95% Confide	nce Interval
(I) factor	(J) factor	(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Life	job	-38.55698^{*}	6.13028	.000	-51.0021	-26.1119
satisfaction	satisfaction					
	pleasure	48056	5.91083	.936	-12.4802	11.5191
	depression	18.87569^{*}	5.91083	.003	6.8761	30.8753
	anxiety	20.37444^{*}	5.91083	.001	8.3748	32.3741
job	life	38.55698*	6.13028	.000	26.1119	51.0021
satisfaction	satisfaction					
	pleasure	38.07643 [*]	6.29567	.000	25.2955	50.8573
	depression	57.43268 [*]	6.29567	.000	44.6518	70.2136
	anxiety	58.93143 [*]	6.29567	.000	46.1505	71.7123
pleasure	life	.48056	5.91083	.936	-11.5191	12.4802
	satisfaction					
	job	-38.07643*	6.29567	.000	-50.8573	-25.2955
	satisfaction	*				
	depression	19.35625*	6.08220	.003	7.0087	31.7038
	anxiety	20.85500*	6.08220	.002	8.5075	33.2025
depression	life	-18.87569^*	5.91083	.003	-30.8753	-6.8761
	satisfaction	*				
	job	-57.43268*	6.29567	.000	-70.2136	-44.6518
	satisfaction	10.05.05*	6 0 0 0 0 0	002	21 5020	7 0007
	pleasure	-19.35625*	6.08220	.003	-31.7038	-7.0087
<u> </u>	anxiety	1.49875	6.08220	.807	-10.8488	13.8463
anxiety	life	-20.37444*	5.91083	.001	-32.3741	-8.3748
	satisfaction					
	job	-58.93143*	6.29567	.000	-71.7123	-46.1505
	satisfaction	*		_		
	pleasure	-20.85500*	6.08220	.002	-33.2025	-8.5075
	depression	-1.49875	6.08220	.807	-13.8463	10.8488

 Table 3. Post hoc multiple comparison within the humanist teachers` group

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

The post hoc multiple comparison analysis revealed that only the variable of job satisfaction has a significant mean difference compared to other variables. It means that humanist teachers enjoyed higher margins of satisfaction with reference to their job satisfaction scale scores.



Figure 1. Within-group comparison of means for Humanists teachers

As the figure 1 shows, the means for job satisfaction has a significant difference compared to other variables. Yet, life satisfaction and life pleasure have close means. The case is also true for anxiety and depression variables. After all, the results show that teachers in humanities enjoy higher levels of job satisfaction, life satisfaction and life pleasure.

An Analysis of Variance was also conducted to analyze within group results of non-humanist teachers

Table 4. Mean Differences for non-humanist teachers

	Sum of Squares	df	Mean Square	F
Between Groups	2330.697	4	582.674	37.781
Within Groups	462.676	30	15.423	
Total	2793.373	34		

As the p-value<0.001, the null hypothesis, which assumes equality of means, is rejected. The results of post hoc analysis for within group multiple comparisons are as follows:

Table 5. Post hoc multiple comparison within non-humanist teachers	
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		Mean Difference			95% Confidence Interval		
(I) factor	(J) factor	(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound	
	Job satisfaction	-23.85857*	2.09915	.000	-28.1456	-19.5715	
Life	Pleasure	-9.04714^{*}	2.09915	.000	-13.3342	-4.7601	
satisfaction	depression	-7.08714^{*}	2.09915	.002	-11.3742	-2.8001	
	Anxiety	-3.72286	2.09915	.086	-8.0099	.5642	

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Job	Life	23.85857*	2.09915	.000	19.5715	28.1456
satisfaction	satisfaction					
	Pleasure	14.81143^{*}	2.09915	.000	10.5244	19.0985
	depression	16.77143^{*}	2.09915	.000	12.4844	21.0585
	Anxiety	20.13571^{*}	2.09915	.000	15.8487	24.4228
Pleasure	Life	9.04714*	2.09915	.000	4.7601	13.3342
	satisfaction					
	Job	-14.81143*	2.09915	.000	-19.0985	-10.5244
	satisfaction					
	depression	1.96000	2.09915	.358	-2.3270	6.2470
	Anxiety	5.32429^{*}	2.09915	.017	1.0372	9.6113
depression	Life	7.08714^{*}	2.09915	.002	2.8001	11.3742
	satisfaction					
	Job	-16.77143*	2.09915	.000	-21.0585	-12.4844
	satisfaction					
	Pleasure	-1.96000	2.09915	.358	-6.2470	2.3270
	Anxiety	3.36429	2.09915	.119	9228	7.6513
Anxiety	Life	3.72286	2.09915	.086	5642	8.0099
	satisfaction					
	Job	-20.13571^{*}	2.09915	.000	-24.4228	-15.8487
	satisfaction					
	Pleasure	-5.32429^{*}	2.09915	.017	-9.6113	-1.0372
	depression	-3.36429	2.09915	.119	-7.6513	.9228

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

Interestingly, again the job satisfaction variable has a significant difference with other variables. The result is also depicted in figure 2:



Figure 2. Within-group comparison of means for non-humanists teachers

As the figure 2 indicates, variables of depression and anxiety have very close means. It is also evident that the academic discipline had a significant effect on life satisfaction and life pleasure indices. Finally, life satisfaction index had the least mean difference.

T-test

For testing the hypothesis of means equality with reference to the psychological constructs, an independent sample t-test was also run. The test is as follows:

$$\begin{cases} H_0: \ \mu_1 = \mu_2 \\ H_1: \ \mu_1 \neq \mu_2 \end{cases}$$

As in the Levene's Test, sig<0.001, so the hypothesis for variance equality is rejected. Levene's test (Levene 1960) is used to test if the samples have equal variances. Equal variances across samples is called homogeneity of variance. Some statistical tests, for example the analysis of variance, assume that variances are equal across groups or samples. The Levene test can be used to verify that assumption. Furthermore, after t-test for Equality, sig<0.001, the means equality is also rejected.

	Lev	vene's Test for Equalit of Variances	y	t-test for Eq	uality of Means
		F		t	df
Life Satisfaction	Equal variances assumed	241.724		24.172	724
	Equal variances not assumed			25.221	591.861
Job Satisfaction	Equal variances assumed	918.528		37.927	724
	Equal variances not assumed			40.546	420.562
Pleasure	Equal variances assumed	31.696		26.824	724
	Equal variances not assumed			27.435	702.100
Depression	Equal variances assumed	70.312		-34.658	724
	Equal variances not assumed			-33.680	564.919
Anxiety	Equal variances assumed	65.174	.000	-51.188	724
	Equal variances not assumed			-50.354	637.419

Table 6. The result of t-test

As the table 7 shows, there are significant mean differences between the scores of psychological measures across two groups. The overall result for each individual variable can be depicted succinctly in the following figures:



Figure 3. Life Satisfaction measure comparison between humanist and non-humanist teachers



Figure 4. Job Satisfaction measure comparison between humanist and non-humanist teachers



Figure 5. Life Pleasure measure comparison between humanist and non-humanist teachers



Figure 6. Depression measure comparison between humanist and non-humanist teachers



Figure 7. Anxiety measure comparison between humanist and non-humanist teachers

Discussion and Conclusion

Despite years of reform endeavors in teacher education, teacher attrition rates are alarmingly high for the novice educators, and keep to be an issue among more experienced teachers (Ingersoll, 2003).

Many countries have been coping with the shortage of dedicated well-qualified teachers. (Ingersoll, 2001; Loeb, Darling-Hammond, & Luczak, 2005; Zembylas, & Papanastasiou, 2004). The growing rate of teacher attrition, i.e. the departure of teachers from their teaching jobs, has become a persistent problem for educational administers in both developed and developing countries. For instance, 25 percent of novice teachers in the US

leave teaching before their third year, and almost 40 percent leave the profession within the first five years (Chang, 2009).

In recent years, interest to probe the role of emotions in all aspects of life has flourished. Emotions are multi-level psychological processes that are either behavioral or experiential (Gross & Feldman, 2011). Teachers, while doing their job, have to manage and control not only the emotions that prevail around them at school but also those that exist in their daily lives. Based on Damasio (2004), there are three emotional "tiers" or "settings" that are key to teachers' work: (1) background emotions (not moods), (2) primary emotions and (3) social emotions. Damasio further adds that, "If you are really good, you can do the diagnostic job without a single word being uttered" (p. 43). Major emotions are apprehension, panic, anxiety, anger, disgust, surprise, sadness and joy. Any of these emotions may affect teachers' performance quality, especially if negative side of the emotions keeps lasting; teachers` psychological well-being is in jeopardy. Social emotions are more context-based than major emotions. Social emotions are "sympathy, embarrassment, shame, guilt, pride, jealousy, envy, gratitude, admiration, indignation and contempt" (Damasio 2004, p. 45).

Anxiety is a general term for several disorders that cause nervousness, turmoil, fear, apprehension, panic, and worrying (Bouras & Hult, 2007). Anxiety can be as a positive sign of psychological well-being if it is a selective response to specific circumstances, which facilitates thinking skills to find solutions for potential conundrums (Myers, 2004). When anxiety turns pathological, it develops into anxiety disorder, which might disrupt the routine course of daily lives. The evidence obviously indicate that teacher anxiety influences pupils achievement and motivation and the influence is normally debilitative (Sinclaire & Ryan, 1987).

Everyone may experience bouts of sorrow, grief, skepticism and pessimism over specific periods in their lives. These feelings are normally fleeting and due to some specific experiences. However, if these feelings stand at their extreme for a while they are symptoms of depression disorder. Depression cripples both intrapersonal and interpersonal relationships.

The result of the present study shows that teachers who are involved in the instruction of formal and natural sciences are universally more anxious and show greater signs of depression than their humanist counterparts show. This result is revealing as the nature of the course instructed by the teacher has significant effect on teachers' level of anxiety and depression. Another interesting finding was the closeness of means for depression and anxiety after multiple within group analysis for both groups. This finding is in line with findings of other within the framework of emotion theories (Feldman, 2012; Izard, 1977; Meyer, 2004). According to theories of emotion, there has to be a fair degree of similarity between the emotions involved in anxiety and depression. Ergo, while the emotional patterns are not identical, there are fear elements in depression and sadness elements in fear (anxiety), although this "sharing" of features may be more tangible in depression, where there is a larger fear share than vice versa (Fox, 2008; Gross, & Feldman, 2011;Izard, 1977;Scherer, 2005; Yana, 2011).

There is no consensus among researcher for definition of teacher job satisfaction; however, several theories have been provided in the literature, such as Farrugia's three factors: extrinsic, interjacent, and intrinsic (1986), Evans' re-conceptualization with job comfort and job fulfillment terms (1997). Teacher job satisfaction has been attributed to both internal and external sources. Internal factors such as achievement and motivation are related to teachers' perceptions of self-worth (Hargreaves 1997). External sources include

income, workload, working environment and espousing of employer (Zembylas & Papanastasiou, 2006). Teacher job satisfaction is closely associated with teacher absenteeism and attrition (e.g., Sargent & Hannum, 2005; Wriqi, 2008; Zembylas & Papanastasiou, 2004).

According to Nias (1996), the main claim for the emotional aspect of teaching is the constant personal transaction and emotional management that affects teaching practice and shapes students' progress. Positive emotions for teaching are reflected in enthusiasm and emotional energy towards quality instruction plus commitment to students and their satisfaction (Day, 2004). The results of the present study showed that the job satisfaction is the most noticeable distinguishing index between the two groups and this is totally pertinent to the theoretical stimulants of the study which seek to find the effect of participants' academic discipline on their job which is teaching. The related studies literature also indicates that teachers are more likely to report that they are satisfied with their job when (Borman & Dowling, 2008; Buchanan, 2010;Hong, 2010; Johnson, 2004; Muhammad , Uli & Parasuraman, 2009; Perie & Baker, 1997; Sargent & Hannum, 2005):

- The administration is caring and encouraging
- Principals commonly discuss instructional practices with teachers
- There is a plenty of cooperative effort among staff
- Teachers participate in making major school decisions
- Desired materials are available for teachers
- The level of student misbehavior in their school does not disrupt teaching
- Pupil apathy is not a problem
- Parents appreciate teachers' efforts

The teachers' needs are is in line with Adams' (1963) equity theory. Adams' Equity Theory calls for a fair balance to be struck between employees' inputs (e.g., workload, skill levels and motivation) and employees' outputs (e.g., salary, benefits) (Messick & Cook, 1983). According to the equity theory, a fair balance serves to establish a strong and productive relationship with the employees, with the ultimate result being satisfied, thus motivated employees (Messick & Cook, 1983).

Life satisfaction can also be a benchmark for psychological health and it immediately influences peoples` behavior in social transactions, work, and pleasure. People, who are more satisfied with their life, find their life purposeful and they are more in control of their metacognitive capabilities. Humanist teachers participating in this study were more satisfied with their jobs and life than their formalist and natural scientist colleagues considering the fact that the margin of difference was wide and the degree of life pleasure was also noticeably higher for humanist teachers.

Research into teachers' emotionality has become very crucial due to several reasons. First, the number of teachers giving up their job owing to emotional problems is exponentially increasing. Second, emotionally disturbed educators engender poor instruction that has negative effects on the quality of student learning in particular and school curriculum in general. Some studies have also identified statistically significant correlations between teacher commitment and pupil attainment (e.g., Day & Gu, 2007). The results of the present study can open new windows for further thorough probes into the nature of the relationship between

what teachers teach and how they feel. If further large-scale studies prove the findings of this research, teacher trainer programmers might need reconsideration on their training planning and schedules.

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