Factors Affecting Stress among Faculty Members of Public Universities in the Philippines: A Multiple Regression Analysis

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Abstract
This study focused on particular demographic and education-related factors that contribute to the stress levels of public university faculty members in the Philippines. Participants in this study were part-time or full-time faculty members of Philippine public universities and were teaching at least a class during the First Semester of Academic Year 2016-2017. Participants were tasked to answer a survey, online or paper format, consisting of 3 instruments and other questions. Responses from 100 participants were then analyzed with multiple regression as the main statistical analysis. Results showed part-time/full-time status, age, job satisfaction and negative religious coping as significant predictors of faculty stress. Other performed analyses also revealed significant negative correlations between job satisfaction and stressors related to reward and recognition and departmental influence. In addition, though faculty members preferred positive religious coping as a coping strategy over negative religious coping, a significant positive correlation was noted between the 2 types. Recommendations were made for future studies related to stress among public university faculty members in the Philippines.

Keywords: faculty stress, public university faculty members, positive religious coping, negative religious coping, multiple regression analysis

1. Introduction

1.1 Faculty Stress

In the field of industrial-organizational psychology, work stress is considered as a reaction to stimuli in a job that leads to negative consequences to the people who are exposed to them (Muchinsky, 2007). Much of the research on work stress has focused on the teaching profession in a university. Gmelch, Wilke, and Lovrich (1986) defined faculty stress as the faculty member’s anticipation of his/her inability to respond sufficiently to a perceived demand, accompanied by the expectancy of negative consequence/s due to the insufficient response to work demand/s. Stress is a common phenomenon for all university faculty across all disciplines (Gmelch et al., 1986). The academic functions of university faculty are comprehensive, which include teaching and mentoring students, preparing papers and presentations for both class lectures and research conferences, attending to the needs of one’s college or department/institute and so on. They also have to deal with functions outside the academic setting: their family life, social life and other commitments. Given the numerous roles and responsibilities, the intense demands and the high expectations set to them, many university faculty experience significant levels of stress and have shown particular responses to stress, such as increased turnover intent, decreased job performance, decreased job satisfaction, increased anxiety and increased depression (Reevy & Deason, 2014; Winefield & Jarrett, 2001; Blix, Cruise, Mitchell, & Blix, 1994; Veena, Pushpalatha, & Mallaih, 2016; Khan, Aqeel, & Riaz, 2014).

1.2 Factors of Faculty Stress

Researches indicate several factors that affect the stress levels of university faculty members. These include work overload (Thorsen, 1996; Abbas & Roger, 2013; Gupta, Rao, & Mukherjee, 2015), work-life imbalance, (Slišković & Maslić Seršić, 2011; Kinman & Jones, 2008; Rafeeq & Harish, 2015), decreased job satisfaction (Brewer & McMahan-Landers, 2013; Reevy & Deason, 2014; Chung, 2011), increased number of students to teach (Easthope C. & Easthope G., 2000; Jamison & Enrera, 2015; Gartia & Sharma, 2013), lack of university funding, resources and recognition (Gillespie, Walsh, Winefield, Dua, & Stough, 2001; Reevy & Deason, 2014; Gupta et al., 2015) and lack of administrative and colleague support (Slišković & Maslić Seršić, 2011; Kavitha,
1.3 Religious Coping

recognized the practical importance of spirituality in decreasing their work stress based on in-depth interviews. The study of Dela Peña (2011) studied the relationship of spirituality level and work stress among education professionals in Cagayan De Oro City. No significant relationships were found between work stress and the variables of academic units. Colacion-Quiros and Gemora (2016) revealed a significant difference in variation in job satisfaction using stepwise regression. With a sample of 55 faculty members of West Visayas State University-Janiuay Campus, the study of Colacion-Quiros and Gemora (2016) revealed a significant difference in the stress level for academic rank but no significant differences for the variables age, sex, civil status and number of academic units. De Cadiz and Sonon (2012) noted the stress levels of 30 faculty members of Eastern Visayas State University-Carigara Campus. Their conclusions included no significant differences in all interested variables, including age, sex, academic rank, length of service and field of specialization, due to their normal levels of stress, high levels of confidence and high levels of stress tolerance. However, they also concluded that the mastery of their fields of specialization was the best predictor in assessing their stress levels. Betonio (2015) reported moderate levels of stress related to Economic-related and School’s Policies and Management Practices stresses but low levels of stress for Work and Peer-related and Family-related stresses among faculty members of La Salle University in Ozamiz City, Misamis Occidental. Examining data collected among faculty members from 12 Colleges of Pharmacy in Metro Manila, Loquias and Sana (2013) found that stress had a significant negative correlation with job satisfaction and was one of the two variables that significantly explained 33.7% of the variation in job satisfaction using stepwise regression. With a sample of 55 faculty members of West Visayas State University-Janiuay Campus, the study of Colacion-Quiros and Gemora (2016) revealed a significant difference in the stress level for academic rank but no significant differences for the variables age, sex, civil status and number of academic units. Dela Peña (2011) studied the relationship of spirituality level and work stress among education professors in Cagayan De Oro City. No significant relationships were found between work stress and the variables age, gender, educational attainment, length of teaching experience and spirituality. However, the author recognized the practical importance of spirituality in decreasing their work stress based on in-depth interviews.

1.4 Research Objectives and Questions

Considering the teaching profession as one of the most stressful professions (Wiggins, 2015) and the lack of financial resources allocated to around 700 public universities and colleges/higher education institutions in the Philippines (Note 1; Conchada & Zamudio, 2013; Ngohayon & Nangphuhan, 2016; Commission on Higher Education [CHED], n.d.), the study’s objectives were to assess the stress levels of public university faculty members in the Philippines and to identify significant predictors of their stress using multiple regression analysis. This study, in particular, included positive and negative religious coping as possible predictors of faculty stress. According to a 2015 report by WIN/Gallup International, 86% of Filipinos interviewed consider themselves as religious (Akkoc, 2015). As such, the researcher was also interested to see if faculty members also apply religiosity as a source of strength and comfort in their way of coping with stress. Besides the two types of religious coping, the following variables were also featured: age, gender, part-time/full-time status, job satisfaction, years of teaching experience in a public and/or private university, number of students being taught/handled for all classes for the current semester (Note 2), number of different subjects being taught/handled for the current semester and number of teaching/class hours per week for all classes for the current semester. These variables were chosen based on findings from previous researches and suggestions from few faculty members the researcher was able to ask. The following questions were of interest for this study:
• Is faculty stress related to each of the predictors? (Are these explanatory variables significant predictors of faculty stress?)

• Is an increase in stressors associated to time constraints and/or student interaction related to a decrease in job satisfaction? (Do time constraints and/or student interaction subscale/s have significant negative correlations with job satisfaction?)

• Is faculty stress decreased for faculty members who report using positive religious coping and vice-versa?

2. Method

2.1 Design

For this study, a correlational research design (with the survey method as the tool) was used in order to determine the degree of relationship between variables. With the aim of identifying significant predictors of faculty stress, the study’s independent variables/predictors included the two types of religious coping and the aforementioned demographic and education-related factors, while the dependent variable was faculty stress.

2.2 Sample

In order to participate in this study, participants must be (1) a part-time or full-time faculty member of a public university in the Philippines during the First Semester of AY 2016-2017 and (2) teaching at least a class (ex. lecture, laboratory, physical education) in a public university in the Philippines during the First Semester of AY 2016-2017. A total of 106 faculty members participated in this study. However, six responses were not included in all analyses as much of the questions were not answered. After checking the distribution (skewness) of each variable, it is worth noting that during the semester majority of the participants had a full-time status, taught two to four subjects and did not employ negative religious coping at all (i.e., received the lowest possible score for negative religious coping in the Brief RCOPE). Descriptive statistics of each variable are featured in Table 1 and Table 2.

Table 1. Descriptive statistics of variables I

<table>
<thead>
<tr>
<th>Variable</th>
<th>Quantity/Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>39</td>
</tr>
<tr>
<td>Female</td>
<td>61</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>48</td>
</tr>
<tr>
<td>Married</td>
<td>47</td>
</tr>
<tr>
<td>Separated</td>
<td>3</td>
</tr>
<tr>
<td>Widowed</td>
<td>2</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
</tr>
<tr>
<td>Roman Catholic</td>
<td>70</td>
</tr>
<tr>
<td>Born-Again Christian</td>
<td>7</td>
</tr>
<tr>
<td>Baptist</td>
<td>4</td>
</tr>
<tr>
<td>Protestant-UCCP</td>
<td>3</td>
</tr>
<tr>
<td>Agnostic</td>
<td>3</td>
</tr>
<tr>
<td>Others</td>
<td>13</td>
</tr>
<tr>
<td>Highest Educational Attainment</td>
<td></td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>38</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>47</td>
</tr>
<tr>
<td>Doctorate Degree</td>
<td>12</td>
</tr>
<tr>
<td>Professional Degree</td>
<td>3</td>
</tr>
</tbody>
</table>
Current Academic Position

- Lecturer: 21
- Instructor: 35
- Assistant Professor: 29
- Associate Professor: 12
- Professor: 3

Part-time/Full-time Status*

- Part-time: 21
- Full-time: 79

Public University

- University of the Philippines Diliman: 34
- Bataan Peninsula State University: 26
- University of the Philippines Manila: 14
- Bicol State College of Applied Sciences and Technology: 14
- Quezon City Polytechnic University: 7
- Others: 5

Taught Previously in an Educational Institution

- Yes: 46
- No: 54

Note. *Lecturers are considered working part-time, while the remaining positions are considered working full-time.

Table 2. Descriptive statistics of variables II

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>37.96</td>
<td>11.53</td>
<td>21-63</td>
</tr>
<tr>
<td>Years of Teaching Experience</td>
<td>11.57</td>
<td>10.33</td>
<td>.17 (2 months)-39</td>
</tr>
<tr>
<td>Number of Students</td>
<td>139.55</td>
<td>104.64</td>
<td>12-450</td>
</tr>
<tr>
<td>Number of Different Subjects*</td>
<td>3.24</td>
<td>1.67</td>
<td>1-11</td>
</tr>
<tr>
<td>Number of Teaching/Class Hours</td>
<td>16.85</td>
<td>9.80</td>
<td>3-45</td>
</tr>
</tbody>
</table>

Note. *For example, if a faculty member is currently teaching two classes of Psych 101, a class of Psych 102 and two classes of Psych 103, then he/she is teaching three different subjects (Psych 101, Psych 102 and Psych 103).

2.3 Materials

A total of three instruments were included in the content of the survey. The Faculty Stress Index (FSI; Gmelch, Wilke, & Lovrich, 1984) originally consists of 45 items designed to identify kinds of situations faculty members report as stressful and to assist in the development of strategies in order to aid faculty members in their coping with stress (Gmelch, 1993). The 45 items are divided into five subscales representing the type of stressor:

- The reward and recognition subscale refers to “inadequate rewards, insufficient recognition, and unclear expectations” (Gmelch, 1993, p. 26) in teaching, research and service.
- The time constraints subscale includes insufficient time to prepare for class lessons, attending meetings, heavy workload and others.
- The departmental influence subscale refers to activities involving the department chair, including influencing the chair’s decisions, resolving difference with the chair and understanding how the chair evaluates the performance of the faculty.
- The professional identity subscale relates to building faculty reputation and having high self-expectations.
The student interaction subscale refers to the interaction between the faculty and the students in teaching, evaluating and advising.

The index was finalized after pilot testing for content validity and clarity with a group of faculty members. Item reliability assessment yielded a 2-week test-retest reliability value of .83 (Gmelch et al., 1984). For this study, only 31 items (Note 3) were included in the survey as these items (with their high loadings of at least .40) served as the basis in determining the subscales of the said index. These items were rated in a 5-point Likert scale from “very slight pressure” to “excessive pressure” with an option for “not applicable” if participants did not feel that the particular item contributed to their stress. The total faculty stress score was determined by getting the sum of ratings to all 31 items. A high score in the total faculty stress score is indicative of a high degree of faculty stress.

The Teacher Satisfaction Scale (TSS; Ho & Au, 2006) measures the overall satisfaction of teachers in their profession. This consists of five statements in a 5-point Likert scale from “strongly disagree” to “strongly agree”. The total faculty (job) satisfaction score was determined by getting the sum of ratings to all five statements. A high score in the total faculty satisfaction score suggests a high degree of faculty satisfaction. Ho and Au (2006) found a Cronbach’s alpha of .77 and a 2-week test-retest reliability value of .76 for their sample of teachers. They also reported favorable convergent, criterion and incremental validities. For this study, the word “faculty” was added in the phrasing of all five statements as it is mostly used when pertaining to university faculty members.

The Brief RCOPE (Pargament et al., 2011) measures both positive and negative religious coping with major life stressors. Developed based on Pargament’s (1997) theory on religious coping, it has helped increased the knowledge as to how religion plays a crucial role in an individual’s situation of crisis and trauma. It consists of 14 items (seven for each subscale/type of religious coping) in a 4-point Likert scale from “not at all” to “a great deal”. The total score for each subscale was determined by getting the sum of ratings to that subscale. The higher the subscale score, the more a person uses that type of religious coping. Based on several studies featuring diverse samples, Pargament et al. (2011) reported good internal consistency for the instrument with median Cronbach’s alphas of .92 and .81 for the positive religious coping subscale and the negative religious coping subscale respectively. The authors also found some support for concurrent and incremental validities and initial evidence for predictive validity, sensitivity to change and validity among different cultural and religious groups.

Demographic questions like age, gender and marital status and education-related questions such as number of students being taught/handled and number of teaching/class hours per week were also included in the survey.

2.4 Procedure

Considering the researcher’s limitations in contacting faculty members at different Philippine public universities, participant recruitment was performed by giving the survey to individuals (mostly faculty members known by the researcher) who then provided the survey to faculty members from among their acquaintances. This was also done to ensure that the sample was not limited to faculty members of the researcher’s home university. Participants were given the option to answer the survey in either online or paper format depending on which was more convenient for them. Whether it was an online or paper format, the survey contained in its first portion a consent form. Participants were provided with a brief description of the study, were assured about confidentiality of the information provided and were informed of their right to withdraw from the study. Before proceeding to the main portion of the survey, participants first answered two screening questions to ensure that they met the study’s participant requirements. In the last portion of the survey, participants were given an option to provide their emails if they were interested to receive a summary of the results. Participants’ responses were not included in all analyses if they (1) did not meet the study’s participant requirements (i.e., answered a “no” in any of the two screening questions) or (2) did not answer much of the questions in the survey (ex. a page for many demographic and education-related questions was left unanswered).

Survey administration and collection took place from October 6, 2016 to November 18, 2016.

2.5 Data Analysis

All statistical analyses were performed using the software SPSS Statistics.

The main statistical analysis for this study was multiple regression in order to identify significant predictors of faculty stress considering the 10 variables of interest. Multiple regression analysis was also used to determine if the FSI subscales were significant predictors of job satisfaction. Other statistical analyses such as Pearson correlation analyses and independent-measures t-tests (ex. if there was a significant difference between male and female faculty members in faculty stress) were used to help answer the questions of interest and to supplement the findings of the study.
3. Results

3.1 Faculty Stress Index

For the reward and recognition subscale, receiving inadequate salary to meet the financial needs was the area in which participants felt the most pressured with a mean of 2.91. This was followed by the lack of congruency in institutional, departmental and personal goals with a mean of 2.55. The area where participants reported the least pressure was not having clear criteria for evaluation of research and publication activities with a mean of 2.07.

Having job demands which interfere with other personal activities was the most pressured area for the time constraints subscale with a mean of 2.95. This was followed by attending meetings which take up too much time with a mean of 2.87. Being interrupted frequently by telephone calls and drop-in visitors was the area with the least amount of pressure by participants with a mean of 1.56.

Not knowing how their chair evaluates their performance and lacking personal impact on departmental/institutional decision-making were the two most pressured areas for the departmental influence subscale with means of 2.19 and 2.16 respectively. Resolving differences with their chair, on the other hand, was the least pressured area with a mean of 1.71.

For the professional identity subscale, the area where participants reported the most pressure was imposing excessively high self-expectations with a mean of 2.96. Next to this was preparing a manuscript for publication with a mean of 2.91. However, securing financial support for their research was the least pressured area with a mean of 1.97.

Evaluating the performance of students was the most pressured area for the student interaction subscale with a mean of 2.61. This was followed by teaching/advising inadequately prepared students with a mean of 2.59. Participants reported the least pressure in resolving differences with students with a mean of 2.01.

Overall, imposing excessively high self-expectations (M = 2.96) and having job demands which interfere with other personal activities (M = 2.95) were the top two most pressured areas by faculty members who participated in this study. Total faculty stress scores ranged from 18 to 141 out of a possible 155. With a mean of 74.19 (SD = 24.55), faculty members, in general, felt slight to moderate pressure when dealing with these stressors. Descriptive statistics, including reliability analysis (Cronbach’s alpha), of each FSI subscale are featured in Table 3.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Number of Items</th>
<th>Total Possible Score</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
<th>Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reward and Recognition</td>
<td>8</td>
<td>40</td>
<td>18.67</td>
<td>9.27</td>
<td>0-38</td>
<td>.90</td>
</tr>
<tr>
<td>Time Constraints</td>
<td>10</td>
<td>50</td>
<td>25.28</td>
<td>9.13</td>
<td>5-48</td>
<td>.86</td>
</tr>
<tr>
<td>Departmental Influence</td>
<td>4</td>
<td>20</td>
<td>8.02</td>
<td>5.05</td>
<td>0-19</td>
<td>.87</td>
</tr>
<tr>
<td>Professional Identity</td>
<td>4</td>
<td>20</td>
<td>10.65</td>
<td>4.23</td>
<td>0-19</td>
<td>.61</td>
</tr>
<tr>
<td>Student Interaction</td>
<td>5</td>
<td>25</td>
<td>11.57</td>
<td>4.44</td>
<td>4-22</td>
<td>.79</td>
</tr>
<tr>
<td>Total Faculty Stress Score</td>
<td>31</td>
<td>155</td>
<td>74.19</td>
<td>24.55</td>
<td>18-141</td>
<td>.92</td>
</tr>
</tbody>
</table>

3.2 Teacher Satisfaction Scale

Total faculty (job) satisfaction scores ranged from 8 to 25 out of a possible 25. With a mean of 18.12 (SD = 3.67), it can be noted that faculty members, in general, were somewhat satisfied with their jobs. Highest rated statement was “I am satisfied with being a teacher/faculty” with a mean of 3.96, while the lowest rated statement was “My working conditions as a teacher/faculty are excellent” with a mean of 3.24. Using reliability analysis, the Cronbach’s alpha of the whole instrument was .76, which is close to the one provided by Ho and Au (2006).

3.3 Brief RCOPE

Total positive religious coping scores ranged from 7 to 28 out of a possible 28 (M = 20.03; SD = 5.87), while total negative religious coping scores ranged from 7 to 22 out of a possible 28 (M = 9.50; SD = 3.72). Using a paired-samples t-test, significant differences were found between positive and negative religious coping, t(99) = 16.86, p < .05. This concludes that faculty members in this study preferred positive religious coping as a strategy to decrease their stress over negative religious coping. Reliability analysis indicated a Cronbach’s alpha of .90 for the
positive religious coping subscale, .84 for the negative religious coping subscale and .86 for the whole instrument, all of which show high reliability.

3.4 Correlation and Other Analyses

Table 4 summarizes the correlation values of all interested variables after performing a two-tailed Pearson correlation analysis. To highlight particular correlations, faculty stress had significant positive correlations with part-time/full-time status, \( r = +.28, p < .01 \), and negative religious coping, \( r = +.24, p < .05 \). Having higher faculty stress was associated more with having a full-time job. In addition, the more a faculty member used negative religious coping, the more stress one experienced. Faculty stress had a significant negative correlation with job satisfaction, \( r = -.24, p < .05 \). The higher the job satisfaction, the lower the stress a faculty member experienced. When it comes to the correlations with religious coping, the negative type had a significant negative correlation with gender, \( r = -.29, p < .01 \), which means that negative religious coping was associated more to males than females. On the other hand, the positive type had significant positive correlations with number of students being taught/handled, \( r = .37, p < .01 \), number of teaching/class hours per week, \( r = .36, p < .01 \), and very interestingly negative religious coping, \( r = .21, p < .05 \).

Independent-measures t-test confirmed a significant difference between male and female faculty members in negative religious coping, \( t(98) = 3.01, p < .05 \), with males (\( M = 10.85, SD = 4.21 \)) having a higher score than females (\( M = 8.64, SD = 3.10 \)). No significant differences were reported for job satisfaction, \( t(98) = -1.68, p > .05 \), positive religious coping, \( t(98) = -1.09, p > .05 \), and faculty stress, \( t(98) = 1.22, p > .05 \). The test also confirmed a significant difference between part-time and full-time faculty members in faculty stress, \( t(98) = -2.87, p < .05 \), with part-time faculty members (\( M = 61.00, SD = 23.63 \)) having a lower stress score than full-time faculty members (\( M = 77.70, SD = 23.71 \)). No significant differences were reported for job satisfaction, \( t(98) = -1.97, p > .05 \), positive religious coping, \( t(98) = -1.29, p > .05 \), and negative religious coping, \( t(98) = .76, p > .05 \).

3.5 Multiple Regression Analyses

Results of the multiple regression analysis for faculty stress are presented here. Model 1, consisting of all demographic variables (gender, age, year and part-time/full-time status), showed significance. This means that the model was significantly better in predicting faculty stress differences than the mean. In this model, the variable part-time/full-time status was only significant. Model 2, consisting of all demographic variables, number of students, number of teaching/class hours per week, number of different subjects, and religious coping, showed significance. This means that the model was significantly better in predicting faculty stress differences than the mean. In this model, the variable religious coping was only significant.
students, number of different subjects, number of teaching/class hours and job satisfaction, also showed significance with part-time/full-time status, age and job satisfaction as significant predictors. Model 3, consisting of all interested predictors, also showed significance with part-time/full-time status, age, job satisfaction and negative religious coping as significant predictors. Participants who were working full-time experienced more stress than those who were working part-time by around 23 points in the stress score. As the age of the participants increased, the stress score decreased by around a point. The more satisfied they were with their job, the less stress they were by around a point in the stress score. Finally, the more they used negative religious coping, the greater the stress score by around 2 points. Model 3 had the highest adjusted $R^2$ out of all the indicated models. Statistics of each model and predictor are included in Table 5.

### Table 5. Predictors of faculty stress

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B, ß, 95% CI</td>
<td>B, ß, 95% CI</td>
<td>B, ß, 95% CI</td>
</tr>
<tr>
<td>Gender</td>
<td>-5.68, -.11 [-15.22, 3.85]</td>
<td>-5.27, -.10 [-14.75, 4.20]</td>
<td>-1.74, -.04 [-11.56, 8.07]</td>
</tr>
<tr>
<td>Age</td>
<td>-.65, -.31 [-1.39, 0.09]</td>
<td>-.76*, -.36 [-1.48, -.04]</td>
<td>-.79*, -.37 [-1.50, -.08]</td>
</tr>
<tr>
<td>Year</td>
<td>.34, .14 [-.51, 1.19]</td>
<td>.60, .25 [-2.4, 1.45]</td>
<td>.48, .20 [-3.3, 1.32]</td>
</tr>
<tr>
<td>Students</td>
<td>-</td>
<td>.04, .18 [-.01, .09]</td>
<td>.04, .19 [-.01, .09]</td>
</tr>
<tr>
<td>Subjects</td>
<td>-</td>
<td>-.28, -.02 [-3.22, 2.66]</td>
<td>.45, .03 [-2.48, 3.39]</td>
</tr>
<tr>
<td>Hours</td>
<td>-</td>
<td>-.33, -.13 [-.86, .20]</td>
<td>-.39, -.15 [-.92, .15]</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>-</td>
<td>-1.60*, -.24 [-2.93, -.28]</td>
<td>-1.32*, -.20 [-2.63, -.00]</td>
</tr>
<tr>
<td>Positive</td>
<td>-</td>
<td>-</td>
<td>-.03, -.01 [-.92, .86]</td>
</tr>
<tr>
<td>Negative</td>
<td>-</td>
<td>1.70*, .26 [3.4, 3.06]</td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>.13</td>
<td>.22</td>
<td>.27</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.09</td>
<td>.15</td>
<td>.19</td>
</tr>
<tr>
<td>F-ratio</td>
<td>3.58*,</td>
<td>3.21*</td>
<td>3.34*</td>
</tr>
</tbody>
</table>

**Note.** B = unstandardized coefficient; ß = standardized/beta coefficient; CI = confidence interval; Year = years of teaching experience; Part/Full-time = part-time/full-time status; Students = number of students; Subjects = number of different subjects; Hours = number of teaching/class hours; Satisfaction = job satisfaction; Positive = positive religious coping; Negative = negative religious coping.

Coding of gender: 0 = male and 1 = female; Coding of part/full-time: 0 = part-time and 1 = full-time.

*p < .05.

A stepwise regression analysis was also performed. Results confirmed that the model with part-time/full-time status ($B = 22.95, t = 4.00, p < .05$), age ($B = -.44, t = -2.12, p < .05$), job satisfaction ($B = -1.28, t = -2.04, p < .05$) and negative religious coping ($B = 1.67, t = 2.71, p < .05$) had a better predictor performance than Model 3 with just a .01 difference in the adjusted $R^2$ ($F = 7.08, p < .05$).

Another multiple regression analysis was performed with job satisfaction as the dependent variable and the FSI subscales as predictors. The overall model did not indicate any significance (adjusted $R^2 = .04, F = 1.89, p > .05$) with all subscales showing no significance. However, significant correlations (though low in effect size) were found between job satisfaction and both the reward and recognition subscale, $r = -.26, p < .05$, two-tails, and the departmental influence subscale, $r = -.23, p < .01$, two-tails. Statistics of each subscale are presented in Table 6.
Table 6. Predictors of job satisfaction

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>β</th>
<th>95% CI</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reward and Recognition</td>
<td>-.08</td>
<td>-.19</td>
<td>[-.21,.06]</td>
<td>.27</td>
</tr>
<tr>
<td>Time Constraints</td>
<td>.07</td>
<td>.17</td>
<td>[-.05,.19]</td>
<td>.27</td>
</tr>
<tr>
<td>Departmental Influence</td>
<td>-.08</td>
<td>-.10</td>
<td>[-.32,.17]</td>
<td>.54</td>
</tr>
<tr>
<td>Professional Identity</td>
<td>-.14</td>
<td>-.16</td>
<td>[-.36,.07]</td>
<td>.19</td>
</tr>
<tr>
<td>Student Interaction</td>
<td>-.06</td>
<td>-.07</td>
<td>[-.27,.16]</td>
<td>.61</td>
</tr>
</tbody>
</table>

*Note. B = unstandardized coefficient, β = standardized/beta coefficient, CI = confidence interval.

*p < .05.

4. Discussion

Based on the performed multiple regression analysis, four predictors were significant to faculty stress among the participants: part-time/full-time status, age, job satisfaction and negative religious coping. The following findings are made in relation to the four significant predictors. Starting off with the first two mentioned predictors, although correlation analysis revealed that part-time/full-time status and age were positively correlated with each other ($r = +.32$, $p < .01$, two-tails), multiple regression analysis revealed opposite effects for stress levels: full-time faculty members had higher stress levels than part-time faculty members, but stress levels decreased as faculty members got older. With opposing results from the two analyses, the researcher investigated on how age became a significant predictor of faculty stress. Table 7 presents two scenarios when certain variables were entered into the multiple regression analysis.

Table 7. Two scenarios (Unstandardized coefficients and significance values)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Scenario A</th>
<th>Scenario B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1A</td>
<td>Model 2A</td>
</tr>
<tr>
<td>Gender</td>
<td>-3.72 (.43)</td>
<td>-3.82 (.42)</td>
</tr>
<tr>
<td>Age</td>
<td>-.34 (.11)</td>
<td>-.74 (.04)*</td>
</tr>
<tr>
<td>Part/Full-time</td>
<td>21.08 (.00)*</td>
<td>19.14 (.00)*</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>-1.54 (.02)*</td>
<td>-1.72 (.01)*</td>
</tr>
<tr>
<td>Year</td>
<td>-</td>
<td>.57 (.18)</td>
</tr>
</tbody>
</table>

*Note. Significance values are in parenthesis. Part/Full-time = part-time/full-time status; Satisfaction = job satisfaction; Year = years of teaching experience.

Coding of gender: 0 = male and 1 = female, Coding of part/full-time: 0 = part-time and 1 = full-time.

For Scenario A, when the variables gender, age, part-time/full-time status and job satisfaction were entered into the analysis (Model 1A), both part-time/full-time status and job satisfaction were significant predictors of faculty stress. But when the variable years of teaching experience was added (Model 2A), age also became a significant predictor. This can be attributed to the very strong significant positive correlation between age and year, $r = +.84$, $p < .01$, two-tails. For Scenario B, when the variables gender, age, part-time/full-time status and year were entered into the analysis (Model 1B), the latter variable was the only one significant to predict faculty stress. However, when job satisfaction was added (Model 2B), age and job satisfaction also became significant predictors. This can be associated to the significant correlation between year and job satisfaction, $r = +.26$, $p < .01$, two-tails. Considering the two scenarios and the correlations of these variables, a possible contributor as to how age became a significant predictor of faculty stress is the age-year-job satisfaction relationship. The weak positive correlation between age and part-time/full-time status may be overwhelmed by both the very strong significant positive correlation between age and year and the significant positive correlation between year and job satisfaction. Age was not significant at first, but because of its connection with job satisfaction via year, its
strength to predict faculty stress increased. The said relationship was also confirmed based on the collinearity diagnostics. As the highest variance proportions for age, year and job satisfaction were associated with the same dimensions/variables, this indicated multicollinearity, or that the three variables were intercorrelated.

The result for part-time/full-time status is contrary to the results provided by Greene et al. (2008) and Gappa (1987) that part-time faculty members experience more stress than full-time faculty members, but in line with the findings provided by Gmelch (1993) and Drakich et al. (2012). The latter research reasoned that full-time faculty members are expected to spend more hours to teach to a great number of students (including having a class with the largest possible number of students) and to create outputs related to the areas of service and research. The result for age supports the findings of Lindholm and Szelényi (2009) and Gmelch et al. (1986) as younger faculty feel greater pressure to show their competencies in different aspects of their academic work, especially when competition for academic promotion is extremely intense. Furthermore, younger faculty feel more stress as they face the challenge of balancing their personal and professional commitments.

Stress levels of faculty members also increased as their satisfaction levels decreased. As reported earlier, though the subscales of the FSI were not significant predictors of job satisfaction, correlations were found for both reward and recognition and departmental influence subscales. Time constraints and student interaction subscales, as earlier hypothesized, did not show significant correlations with job satisfaction. Considering the current situation of the lack of financial resources allocated to Philippine public universities, this confirms the theory of Herzberg, Mausner, and Snyderman (1959) that recognition, whether intrinsic (ex. approval by peers and institution) or extrinsic (ex. salary, extra resources), is a crucial component that positively influences satisfaction in any job. Departmental influence is also crucial as it influences how a faculty member evaluates relationships with departmental/institutional decision-makers and thus job satisfaction (Drakich et al., 2012; Bentley, Coates, Dobson, Goedegebuure, & Meek, 2013).

When it comes to religious coping, faculty members preferred positive religious coping as a strategy to decrease their stress more than negative religious coping. In addition, negative religious coping increased the stress levels of faculty members based on multiple regression analysis. This shows that Filipino faculty members often use religiosity as a source of strength and comfort in their way of coping with stress. This also supports the findings of Pargament et al. (1998) and Ano and Vasconcelles (2005) that negative religious coping is associated to negative psychological adjustment to stress. Religiosity, therefore, is “an important personal factor influencing appraisal by enabling individuals to evaluate the event in a more positive and purposeful light” (Chun, Moos, & Cronkite, 2006, p. 39). An interesting result from the performed correlation analysis is that positive religious coping had a significant positive (though not strong) association with negative religious coping. This means that faculty members may use positive and negative religious coping concurrently. While a faculty member may regularly engage in positive religious coping, this does not rule out the possibility of facing religious struggle and doubt. This matter was earlier highlighted by Fitchett et al. (2004), “Positive religious coping is not the opposite of negative religious coping” (p. 191). In addition, faculty members may resort to negative religious coping as relying on God or the church solely may not be enough to cope in some of their academic-related stresses. Faculty members may also turn to other problem-focused and emotion-focused coping strategies, such as active coping, social support and positive interpretation (Carver, Scheir, & Weintraub, 1989).

5. Limitations and Directions for Future Research

Despite the results presented, a number of limitations were noted throughout the study. First, it only considered 10 factors as possible significant predictors of faculty stress given the generally small number of participants in this study. There are still many factors that may be significant. These include marital status, academic position (ex. instructor, associate professor), if the faculty member is still studying, number of different subjects usually required to teach/handle in a semester and number of teaching/class hours per week usually required in a semester. Future research should also study these factors as possible significant predictors of faculty stress.

Second, a faculty member’s stress and job satisfaction levels may not be constant all throughout the semester as they were evaluated on a particular day/period. For instance, a faculty member’s stress and job satisfaction levels during midterms week may be different from his/her stress and job satisfaction levels during a regular week. Future research should consider evaluating all participants on a particular day/period, most preferably during a week that is less stressful for them.

Third, the study sample may not best represent all public university faculty members in the Philippines since the sample size was generally small, and around 80% of the participants were faculty members from public universities located in Metro Manila. The small sample size can be attributed to the low response rate. Future
research should include a larger population, possibly getting participants from each region of the Philippines, to make it more representative.

Finally, it is important to consider that the university’s culture, though not examined in this study, can greatly affect the faculty members’ stress and job satisfaction levels. Additional research is required to examine aspects of the university’s culture that may impact their experiences of stress and coping.

This study can be useful in industrial-organizational psychology and school psychology. Psychologists from these fields can provide recommendations to university/department/institute leaders on possible ways to help decrease the stress levels of their faculty and improve their perceptions about their working environment. Clinical psychologists can also strategize psychotherapies and other clinical interventions (ex. workshops) that can decrease their stress levels and thus improve their psychological well-being. As the reward and recognition subscale of the FSI was significantly correlated with job satisfaction, this could also be addressed to CHED and other related government agencies in order to provide more support on the necessity of additional budget for public university faculty members.

6. Conclusion

The study’s aims were to assess the stress levels of public university faculty members in the Philippines and to identify significant predictors of faculty stress. In addition, this study explored any significant associations between the FSI scales and job satisfaction and significant associations between the two types of religious coping and faculty stress. Based on the responses of 100 participants, faculty members generally felt slight to moderate pressure when dealing with different stressors. Multiple regression analysis also revealed part-time/full-time status, age, job satisfaction and negative religious coping as significant predictors of faculty stress. Stressors related to reward and recognition and departmental influence showed significant negative correlations with job satisfaction. Finally, though faculty members preferred positive religious coping over negative religious coping, results suggested that faculty members may use positive and negative religious coping simultaneously.

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Notes

Note 1. Public universities and colleges/higher education institutions in the Philippines include state universities and colleges (SUCs), SUC’s satellite campuses, local colleges and universities and others.


Note 3. Researches such as Parveen (2013), Iqbal and Kokash (2011) and Jing (2008) also used the FSI as the instrument of choice but (1) did not use all 45 items, (2) included items that are not in the original FSI, or (3) categorized items into a different subscale/type of stressor.

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