

The Effect of Dental Hygienists' Emotional Labor and Level of Depression on their Job Satisfaction and Commitment to the Organization

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ABSTRACT

The study surveyed 350 dental hygienists in Seoul, Gyeonggi-do, and other regions to assess the correlation between their emotional labor and depression level and their impact on job satisfaction and commitment to the organization.

In order to find out the factors affecting job satisfaction, monthly income, place of work, and leisure activities were treated as variable numbers, emotional labor, depression, and organizational commitment were independent variables, and multiple regression analysis was conducted with job satisfaction as dependant variables, and organizational commitment and emotional labor were shown as factors affecting job satisfaction. To identify the factors affecting organizational commitment, monthly income, place of work, and leisure activities were treated as variable numbers, emotional labor, depression, and multi-recovery analysis using organizational commitment as independent variables, and the results showed that job satisfaction, emotional labor, and depression were the factors affecting organizational commitment.

In this study, dental hygienists have shown tendencies for commitment to the organization in the order of job satisfaction, emotional labor, and depression. The results have confirmed that emotional labor and depression experienced in the health care environment are closely linked to job satisfaction and commitment to the organization, which will help with other research to deal with and solve emotional labor and depression of dental hygienists.

1. Introduction

Because modern workers spend a significant portion of their active time at the workplace during the day, their duties account for the largest portion of their lives, and their personal feelings about their jobs can have a wide impact on not only their duties but also their overall lives and even on physical illnesses (Ryu, 2017). Dental hygienists are professionals who strive to improve people's oral health, including oral health education, preventive treatment, dental care support, and administrative support for local residents (Ryu, 2017).

Dental hygienists who work at dental clinics are mostly women and experience loss of motivation and depression due to job stress from emotional labor. This depression of dental hygienists can have a harmful effect on the organization with extreme behaviors including changing jobs due not only to personal health problems but also to poor productivity and work efficiency (Choi et al., 2017). Emotional labor is the adjustment of emotions to the job or organizational needs, which means that labor is provided through workers expressing only specific feelings to the customer (Choi et al., 2017).

The servitization of health care and its expansion into the industry are forcing kindness and smile and increasing the number of emotional workers rapidly. In particular, the role of dental hygienists, the provider of medical services, as technology advances and living standards improve, has also had an important impact on determining hospital productivity and quality of service beyond the dimension of performing dental service. It is not easy for a dental hygienist to manage his or her own emotions to perform the work. Patients are more likely to be in an uncomfortable state and less relaxed than usual when visiting dental clinics, making it easy to complain if they are not treated properly. As such, the intensity of emotional labor experienced by dental hygienists is thought to be high enough to affect their work (Choi et al., 2017).

Job satisfaction is a concept that appears in relation to work productivity. Job motivation is determined by the level of job satisfaction, and the determined job motivation has a correlation with the efficiency of job performance (Park, 2008).

commitment to the organization refers to the degree to which the members identify themselves in relation with the organization and want to actively engage in organizational issues, and it has a significant impact on the achievement of organizational goals and the satisfaction of the members' work lives, making it a prerequisite for satisfying the needs of individuals within an organization (Shim, Kim, & Yoon, 2008; Park, 2003).

Therefore, this research aims to identify the degree of job stress and job satisfaction experienced by dental hygienists in clinical practice and their correlation to identify the factors that affect them, increase the job satisfaction of dental hygienists to provide quality medical services, and contribute to the development of dental hygienists as professionals.

2. Research method

2.1 Research subjects

This study randomly selected 350 dental hygienists in Seoul, Gyeonggi-do, and other regions, and conducted a study on those who understood the purpose of the study and signed the written consent. The research period was April and May 2018, and data were collected using the self-report method. The final 320 questionnaires were used for the final analysis, excluding 30 questionnaires that were insufficient due to the omission of entries, etc.

2.2 Research tool

The survey was organized by modifying and supplementing the purpose of this study by referring to the preceding studies of Park (2003) and Bae (2014). Based on the results of the questionnaire survey, emotional labor and depression levels referred to the relevance of job satisfaction and commitment to the organization, consisting of 8 questions for general characteristics, 10 for emotional labor, 10 for depression, 10 for job satisfaction, and 10 for commitment to the organization of dental hygienists. The measurement standard is based on a five-point Likert scale, where emotional labor and depression levels are '1=Strongly disagree,' '2=Disagree,' '3=Average,' '4=Agree,' '5=Strongly agree.' The higher the scores of each item, the higher the level of emotional labor and depression, and the higher the job satisfaction and organization commitment, the higher the satisfaction with one's work, with '1=Strongly disagree,' '2=Disagree,' '3=Average,' '4=Agree,' '5=Strongly agree.'

2.3 Analysis method

The collected data were analyzed using IBM SPSS statistics 20.0, and the significance level of statistical verification was $\alpha = 0.05$. The measured variables produced technical statistics, and t-test and ANOVA analysis were performed for emotional labor, depression levels, job satisfaction, and commitment to the organization with different general characteristics. Correlation analysis was conducted to identify the correlation among emotional labor, depression level, job satisfaction, and commitment to the organization, and multiple regression analysis was conducted to identify factors affecting job satisfaction and commitment to the organization.

3. Research results

3.1 Characteristics of the research subjects

Looking at the general characteristics of the subjects, 37.5% are the age 25 to 29 years old, 24.1% are married, 50.3% earn 2 to 3 million won per month, and 56.9% work in Gyeonggi-do. 36.6% have worked for six years or more, 72.2% graduated from a three-year college, 96.3% work

at dental clinics, and 37.8% enjoy leisure activities twice a week (see Table 1).

Table 1. Characteristics of the research subjects

| Characteristics | Description | N | % |
|------------------|--|-----|-------|
| Age | 24 years or younger | 87 | 27.2 |
| | 25-29 years | 120 | 37.5 |
| | 30-34 years | 59 | 18.4 |
| | 34 years or older | 54 | 16.9 |
| Marital status | Married | 77 | 24.1 |
| | Not married | 243 | 75.9 |
| Monthly income | Less than 2 million won | 140 | 43.8 |
| | 2-3 million won | 161 | 50.3 |
| | 3 million won or more | 19 | 5.9 |
| Work location | Seoul | 114 | 35.6 |
| | Gyeonggi-do | 182 | 56.9 |
| | Other | 24 | 7.5 |
| Work period | 1 year or less | 84 | 26.3 |
| | 2-3 years | 66 | 20.6 |
| | 4-5 years | 53 | 16.6 |
| | 6 years or longer | 117 | 36.6 |
| Education | 3 year college | 231 | 72.2 |
| | 4 year college | 89 | 27.8 |
| Workplace | Dental clinic | 308 | 96.3 |
| | Dental department of a university hospital | 12 | 3.7 |
| Leisure activity | Once a week | 113 | 35.3 |
| | Twice a week | 121 | 37.8 |
| | Three times a week | 53 | 16.6 |
| | None | 33 | 10.3 |
| Total | | 320 | 100.0 |

3.2 The degree of emotional labor and depression by the general characteristics of dental hygienists

Emotional labor levels were 2.73 ± 0.87 for those aged 30-34 years, 2.61 ± 0.73 for married people, 2.72 ± 0.76 for a monthly income of 2-3 million won, and 2.72 ± 0.76 for Gyeonggi-do. The level of emotional labor for work period was 2.70 ± 0.75 for 4-5 years, and dental clinics showed a higher figure with 2.65 ± 0.74 than the dental department of a university hospital of 2.44 ± 0.87 .

The level of depression was high at 2.54 ± 0.79 for those under 24 years of age, 2.44 ± 0.74 for unmarried people, 2.54 ± 0.82 for those under one year of the work period, and 2.53 ± 0.71 for 4-year college graduates, and 2.42 ± 0.74 for those who at dental clinics (see Table 2).

Table 2. The degree of emotional labor and depression by the general characteristics of dental hygienists

| Characteristics | Emotional labor | | | Depression level | | |
|--|-----------------|--------|-------|------------------|--------|-------|
| | Mean±SD | t/F | P* | Mean±SD | t/F | P* |
| Age | | | | | | |
| 24 years or younger | 2.59±0.71 | 0.695 | 0.556 | 2.54±0.79 | 1.515 | 0.210 |
| 25-29 years | 2.70±0.74 | | | 2.37±0.72 | | |
| 30-34 years | 2.73±0.87 | | | 2.43±0.76 | | |
| 34 years or older | 2.58±0.70 | | | 2.29±0.64 | | |
| Marital status | | | | | | |
| Married | 2.61±0.73 | -0.592 | 0.554 | 2.32±0.73 | -1.255 | 0.210 |
| Not married | 2.67±0.76 | | | 2.44±0.74 | | |
| Monthly income | | | | | | |
| Less than 2 million won | 2.62±0.72 | 2.117 | 0.122 | 2.47±0.74 | 3.660 | 0.027 |
| 2-3 million won | 2.72±0.76 | | | 2.42±0.73 | | |
| 3 million or more | 2.37±0.82 | | | 1.98±0.68 | | |
| Work location | | | | | | |
| Seoul | 2.57±0.73 | 1.669 | 0.190 | 2.26±0.65 | 4.045 | 0.018 |
| Gyeonggi-do | 2.72±0.76 | | | 2.50±0.78 | | |
| Other | 2.56±0.76 | | | 2.52±0.72 | | |
| Work period | | | | | | |
| 1 year or less | 2.61±0.71 | 0.144 | 0.934 | 2.54±0.82 | 1.180 | 0.318 |
| 2-3 years | 2.65±0.78 | | | 2.41±0.69 | | |
| 4-5 years | 2.70±0.75 | | | 2.34±0.66 | | |
| 6 years or longer | 2.67±0.77 | | | 2.36±0.73 | | |
| Education | | | | | | |
| 3 year college | 2.6±0.73 | -2.623 | 0.009 | -2.39±0.75 | -1.451 | 0.148 |
| 4 year college | 2.85±0.08 | | | 2.53±0.71 | | |
| Workplace | | | | | | |
| Dental clinic | 2.65±0.74 | 0.843 | 0.40 | 2.42±0.74 | 1.015 | 0.311 |
| Dental department of a university hospital | 2.44±0.87 | | | 2.16±0.8 | | |
| Leisure activity | | | | | | |
| Once a week | 2.63±0.74 | 5.672 | 0.001 | 2.36±0.73 | 3.989 | 0.008 |
| Twice a week | 2.64±0.72 | | | 2.44±0.73 | | |
| Three times a week | 2.45±0.76 | | | 2.24±0.61 | | |
| None | 3.11±0.72 | | | 2.78±0.86 | | |

3.3 The degree of job satisfaction and commitment to the organization by the general characteristics of dental hygienists

Job satisfaction was high at 3.30±0.54 for those under 24 years of age, 3.24 ±0.55 for those who are unmarried, 3.37±0.69 for those who work in other regions, 3.33±0.55 for those who have

worked for 2-3 years. For education, 3-year college graduates were high with 3.24 ± 0.52 .

For commitment to the organization, those aged 34 years or older were high with 3.57 ± 0.56 , 3.50 ± 0.59 for married people, 3.80 ± 0.64 for a monthly income of 3 million won or more, 3.57 ± 0.58 for other work locations, 3.49 ± 0.54 for a work period of 6 years or more, 3.47 ± 0.52 for 3-year college graduates, and 3.77 ± 0.88 for the dental department of university hospitals (see Table 3).

Table 3. The degree of job satisfaction and commitment to the organization by the general characteristics of dental hygienists

| Characteristics | Job satisfaction | | | commitment to the organization | | |
|--|------------------|--------|-------|--------------------------------|--------|-------|
| | Mean±SD | t/F | P* | Mean±SD | t/F | P* |
| Age | | | | | | |
| 24 years or younger | 3.30±0.54 | 1.031 | 0.379 | 3.49±0.49 | 1.302 | 0.274 |
| 25-29 years | 3.21±0.56 | | | 3.42±0.58 | | |
| 30-34 years | 3.15±0.55 | | | 3.38±0.56 | | |
| 34 years or older | 3.28±0.56 | | | 3.57±0.56 | | |
| Marital status | | | | | | |
| Married | 3.22±0.57 | -0.201 | 0.841 | 3.50±0.59 | 0.680 | 0.497 |
| Not married | 3.24±0.55 | | | 3.45±0.54 | | |
| Monthly income | | | | | | |
| Less than 200 million won | 3.24±0.52 | 4.006 | 0.019 | 3.43±0.49 | 3.900 | 0.021 |
| 2-3 million won | 3.19±0.57 | | | 3.44±0.58 | | |
| 3 million or more | 3.57±0.57 | | | 3.80±0.63 | | |
| Work location | | | | | | |
| Seoul | 3.27±0.56 | 1.571 | 0.209 | 3.46±0.58 | 0.555 | 0.575 |
| Gyeonggi-do | 3.19±0.53 | | | 3.44±0.53 | | |
| Other | 3.37±0.69 | | | 3.57±0.58 | | |
| Work period | | | | | | |
| 1 year or less | 3.25±0.54 | 1.013 | 0.387 | 3.44±0.50 | 0.250 | 0.861 |
| 2-3 years | 3.33±0.55 | | | 3.44±0.60 | | |
| 4-5 years | 3.19±0.55 | | | 3.43±0.60 | | |
| 6 years or longer | 3.19±0.57 | | | 3.49±0.54 | | |
| Education | | | | | | |
| 3 year college | 3.24±0.52 | 0.964 | 0.337 | 3.47±0.52 | 1.689 | 0.092 |
| 4 year college | 3.16±0.61 | | | 3.35±0.58 | | |
| Workplace | | | | | | |
| Dental clinic | 3.22±0.55 | -2.664 | 0.008 | 3.45±0.54 | -1.734 | 0.084 |
| Dental department of a university hospital | 3.72±0.65 | | | 3.77±0.88 | | |
| Leisure activity | | | | | | |
| Once a week | 3.17±0.55 | 4.828 | 0.003 | 3.43±0.51 | 3.473 | 0.016 |
| Twice a week | 3.30±0.54 | | | 3.51±0.52 | | |
| Three times a week | 3.37±0.50 | | | 3.57±0.62 | | |
| None | 2.96±0.62 | | | 3.21±0.63 | | |

3.4 Correlation among emotional labor, depression level, job satisfaction, commitment to the organization

There was a strong positive correlation between emotional labor and depression levels ($r=0.691$, $p<0.01$). The higher the emotional labor, the higher the level of depression. There was a strong negative correlation between emotional labor and job satisfaction ($r=-0.610$, $p<0.01$). The higher the emotional labor, the lower the job satisfaction. There was a strong negative correlation between emotional labor and commitment to the organization ($r=-0.578$, $p<0.01$). The higher the emotional labor, the lower the commitment to the organization. There is a strong negative correlation between depression level and job satisfaction ($r=-0.436$, $p<0.01$). The higher the level of depression, the lower the job satisfaction. There was a strong negative correlation between depression level and commitment to the organization ($r=-0.484$, $p<0.01$). The higher the level of depression, the lower commitment to the organization. There is a very strong positive correlation between job satisfaction and commitment to the organization ($r=0.714$, $p<0.01$). The higher the job satisfaction, the higher the commitment to the organization (see Table 4).

Table 4. Correlation among emotional labor, depression level, job satisfaction, commitment to the organization

| | Emotional labor average | Depression average | Job satisfaction average | commitment to the organization average |
|--|-------------------------|--------------------|--------------------------|--|
| Emotional labor average | 1 | | | |
| Depression average | 0.691** | 1 | | |
| Job satisfaction average | -0.610** | -0.436** | 1 | |
| commitment to the organization average | -0.578** | -0.484** | 0.714** | 1 |

3.5 Factors affecting job satisfaction

To find out the factors affecting job satisfaction, the monthly income, workplace, and leisure activities that showed significant results in the multivariate analysis were set as variables, and multiple regression analyses were conducted with emotional labor, depression, and commitment to the organization as independent variables and job satisfaction as a dependent variable. The results are as follows (see Table 5). The regression model was significant ($F=47.867$, $p<0.000$), and the model's explanatory power was 56.9%. The factors affecting job satisfaction were commitment to the organization ($p<0.000$) and emotional labor ($p<0.000$).

Table 5. Factors affecting job satisfaction

| Variables | B | SE | β | t | p^* |
|---|--------|-------|---------|--------|-------|
| (Constant) | 1.781 | 0.288 | | 6.182 | 0.000 |
| Monthly income (less than 2 mil. won vs 3 mil. won or more) | -0.034 | 0.105 | -0.030 | -0.322 | 0.747 |
| Monthly income (2-3 mil. won vs 3 mil. won or more) | -0.068 | 0.102 | -0.061 | -0.664 | 0.507 |
| Workplace (dental clinic vs university hospital) | 0.137 | 0.095 | 0.062 | 1.448 | 0.149 |
| Leisure activity (once/w vs none) | 0.016 | 0.076 | 0.014 | 0.216 | 0.829 |
| Leisure activity (twice/w vs none) | 0.101 | 0.075 | 0.087 | 1.343 | 0.180 |
| Leisure activity (3 times or more/w vs none) | 0.097 | 0.085 | 0.064 | 1.144 | 0.253 |
| Emotional labor | -0.247 | 0.041 | -0.334 | -5.961 | 0.000 |
| Depression | 0.044 | 0.039 | 0.059 | 1.130 | 0.259 |
| commitment to the organization | 0.535 | 0.047 | 0.531 | 11.484 | 0.000 |
| $R^2=0.582$, adj $R^2=0.569$, $F=47.867$. $p<0.000$ | | | | | |

3.6 Factors affecting commitment to the organization

To find out the factors affecting commitment to the organization, the monthly income, workplace, and leisure activities that showed significant results in the multivariate analysis were set as variables, and multiple regression analyses were conducted with emotional labor, depression, and job satisfaction as independent variables and commitment to the organization as a dependent variable. The results are as follows (see Table 6). The regression model was significant ($F=43.171$, $p<0.000$), and the model's explanatory power was 54.3%. The factors affecting commitment to the organization were job satisfaction ($p<0.000$), emotional labor ($p<0.000$), and depression ($p<0.000$).

Table 6. Factors affecting commitment to the organization

| Variables | B | SE | β | t | p^* |
|---|--------|-------|---------|--------|-------|
| (Constant) | 2.222 | 0.256 | | 8.695 | 0.000 |
| Monthly income (less than 2 mil. won vs 3 mil. won or more) | -0.116 | 0.094 | -0.103 | -1.226 | 0.221 |
| Monthly income (2-3 mil. won vs 3 mil. won or more) | -0.068 | 0.093 | -0.062 | -0.734 | 0.463 |
| Leisure activity (once/w vs none) | 0.022 | 0.076 | 0.019 | 0.282 | 0.778 |
| Leisure activity (twice/w vs none) | 0.040 | 0.076 | 0.035 | 0.529 | 0.597 |
| Leisure activity (3 times or more/w vs none) | 0.018 | 0.086 | 0.012 | 0.213 | 0.831 |
| Emotional labor | -0.101 | 0.044 | -0.137 | -2.278 | 0.023 |
| Depression | -0.101 | 0.040 | -0.135 | -2.542 | 0.012 |
| Job satisfaction | 0.560 | 0.048 | 0.564 | 11.601 | 0.000 |
| $R^2=0.556$, adj $R^2=0.545$, $F=43.170$. $p<0.000$ | | | | | |

4. Summary and thoughts

Recently, workers, including dental hygienists, spend most of their day at the workplace, and their jobs become the largest part of their lives (Ryu, 2017). Dental hygienists experience loss of motivation and depression due to job stress such as emotional labor while working at the dental clinics and departments, which can lead to other problems harmful to the organization (Choi et al., 2017). Therefore, this study examined the correlation among emotional labor, depression level, job satisfaction, and commitment to the organization by general characteristics of dental hygienists and analyzed the degree of emotional labor and depression, and found that the level of emotional labor based on educational background tended to be higher with 4-year college graduates than with 3-year college graduates. It is believed that the higher the level of education, the higher the level of medical knowledge and the higher the ability to cope with work or face-to-face interactions with patients, thereby reducing unnecessary stress among doctors, patients, and colleagues in the clinic.

The level of depression at the workplace tends to be higher in dental clinics than in university dental hospitals. It is thought to be that this comes from the fact that the salary from a dental clinic is lower than that of a university dental hospital.

According to the number of leisure activities, the level of emotional labor and depression tends to be lower for dental hygienists who do leisure activities more often. This is thought to be that depression and stress at the workplace are decreasing as dental hygienists relieve them through hobbies and leisure activities.

According to an analysis of job satisfaction and commitment to the organization by general characteristics of dental hygienists, the monthly income of more than 3 million won was the highest in job satisfaction, and 2 to 3 million won was the lowest. In terms of commitment to the organization, the monthly income of more than 3 million won was the highest, and less than 2 million won was the lowest. In other words, the higher the monthly income, the more freedom of life and mind, the higher the love of the job, the higher the job satisfaction and commitment to the organization. Job satisfaction was high at university dental hospitals, and dental clinics were low. In other words, there are many cases of patients, so they could access a wide range of treatments, and patients often visit university dental hospitals to receive higher-quality services than dental clinics, so job satisfaction is high. In job satisfaction and commitment to the organization, more than three times a week of leisure time were the highest, and none was the lowest. In other words, in addition to the six-day workweek and fixed working hours, there is more time to focus on personal life to reduce stress received at the workplace, and there is a high level of job satisfaction as it can provide psychological stability.

In the case of the correlation among emotional labor, depression level, job satisfaction, and commitment to the organization, there was a strong positive correlation between emotional labor and depression level, and there was a very strong positive correlation between job satisfaction and commitment to the organization. In other words, it is thought that there is a correlation between emotional labor and depression level because dental hygienists often become sensitive and anxious due to stress and fail to express their actual feelings at the workplace.

Multiple regression analyses were conducted with monthly income, workplace, leisure activities, emotional labor, depression, and commitment to the organization as independent variables to identify factors affecting job satisfaction, and it showed that emotional labor, depression, and commitment to the organization had a statistically significant effect on job satisfaction, which is a dependent variable. This can be seen as a result of identifying factors affecting job satisfaction in the order of commitment to the organization and emotional labor. Multiple regression analyses were conducted with monthly income, workplace, leisure activities, emotional labor, depression, and job satisfaction as independent variables to identify factors affecting job satisfaction, and it showed that emotional labor, depression, and job satisfaction had a statistically significant effect on commitment to the organization, which is a dependent variable. This can be seen as a result of identifying factors affecting commitment to the organization in the order of job satisfaction, emotional labor, and depression. Dental hygienists provide medical services to patients based on face-to-face interaction and practice with a variety of people, while also acting as a mediator to focus the efforts of doctors, fellow dental hygienists, and staff (Bae, 2014), so a certain level of emotional labor is necessary. However, due to the negative aspects of emotional labor, their job satisfaction is decreasing (Kim et al., 2018), so it is thought to be that efforts to improve the results of this study should be made.

This study confirmed the effect of emotional labor and depression level of dental hygienists on their job satisfaction and commitment to the organization. This study was conducted on dental hygienists working in Seoul, Gyeonggi-do, and other areas, so it is difficult to generalize it nationwide. Therefore, an in-depth study of various social and psychological factors regarding dental hygienists may be needed in the future.

5. Conclusion

In order to assess the correlation of effects among emotional labor, depression level, job satisfaction, and commitment to the organization of dental hygienists, this study conducted a survey of 350 dental hygienists in Seoul, Gyeonggi-do, and other regions and analyzed the final 320 questionnaires and concluded that:

1. In the case of the correlation among emotional labor, depression level, job satisfaction, and commitment to the organization, there was a strong positive correlation between emotional labor and depression level. There was a strong negative correlation between emotional labor and job satisfaction, and there was a strong negative correlation between emotional labor and commitment to the organization. There was a strong negative correlation between depression level and job satisfaction, and there was a strong negative correlation between depression level and commitment to the organization. It has been shown that there is a very strong correlation between job satisfaction and commitment to the organization.

2. In order to find out the factors affecting job satisfaction, monthly income, workplace, and leisure activities were set as variables, and emotional labor, depression, and commitment to the organization were set as independent variables. Multiple regression analyses were conducted with

job satisfaction as a dependent variable, and commitment to the organization and emotional labor, in that order, were found to be factors affecting job satisfaction.

3. In order to find out the factors affecting commitment to the organization, monthly income, workplace, and leisure activities were set as variables, and emotional labor, depression, and job satisfaction were set as independent variables. Multiple regression analyses were conducted with commitment to the organization as a dependent variable, and job satisfaction, emotional labor, depression, in that order, were found to be factors affecting commitment to the organization.

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