

Effects of Personality Type on Oral Health Management

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ABSTRACT:- The purpose of this study was to find effective health management methods for oral health according to personality type. The personality types of college students were classified into extroversion, sincerity, and emotional anxiety types. Oral health beliefs were divided into sensitivity, severity, disability and advantage. The main findings of this study are as follows. The emotional anxiety had a positive and significant effect on oral health beliefs. Extroversion and sincerity did not show a significant effect on oral health belief. Sincerity and emotional anxiety influenced the oral health belief severity. The sincerity and emotional anxiety affected the oral health belief sensitivity. According to the personality type, the oral health beliefs were significantly influenced, and the oral health beliefs and the oral health behaviors would be required.

KEYWORDS:- Oral Health Management, Oral Health Beliefs, Personality Traits

I. INTRODUCTION

Health is a required condition for happiness. People consider health as the most important element in the life and people do not hesitate to invest money to improve health. In short, health becomes a hot topic. Under this atmosphere, oral health, which received relatively less attention, is drawing more attention and more people demand oral health care¹⁾. Oral health means to maintain oral tissues that enable comfortable relationship with others in the mental and social aspects. It is a prerequisite to have a healthy life. It is important to find oral health issues as soon as possible and prevent the recurrence of them by applying preventative measures persistently. Additionally, appropriate and correct fluoride application, tooth filling, dietary control, tooth brushing, and oral hygiene product should be used through regular visits in order to prevent potential oral issues²⁾. Moreover, correct dental care knowledge is essential to maintain healthy oral condition. Oral health-related behaviors are characterized by secondary psychosocial processes rather than biological processes. In the social psychological model, belief is considered as an important factor determining various oral health-related behaviors.³⁾ It has been reported that the probability of a person to take an action is decided by the health belief of an individual to make a move, which indicates the psychological readiness of an individual and the personal evaluation on behavior. Since the attitudes and beliefs of people are the prerequisites of action, it is important to change them to have healthy behaviors.

The oral health belief model takes a preventative action when an individual is susceptible due to various factors and it is aware of multiple factors associated with disease occurrence. The oral health belief model can be classified into sociodemographic modification variable, individual perception, and behavioral possibility. The sociodemographic modification variable indicates factors that can affect decision-making process to change behaviors and they include gender, age, race, social class, and understanding of the diseases. The individual perception shows behaviors after subjectively determining the perceived sensitivity related to oral diseases and the severity of oral diseases, where sensitivity means the ability to feel and accept the external stimuli and the severity is a seriousness of a condition. Behavioral possibility means an individual takes an action related to health after considering the cost and benefit of each type of behavior. It can be analyzed as the advantages and disadvantages of preventative measures. Advantages indicate beliefs regarding how good a behavior is and disadvantages include dent phobia, medical expenses, and inconvenience of facility use.⁴⁾ It is necessary to evaluate how oral health is managed and how people perceive oral health for finding effective measures and ways to improve behaviors.

Personality generally is a dynamic concept meaning the growth and development of the overall psychological system of an individual. It is defined as a relatively stable series of characteristics and tendencies determining the similarities and differences among people. Each individual shows distinctive characteristics because the characteristics of each person are not easily changed and persist, in other words, stable and consistent. In general, personality is the basic unit describing the characteristics of an individual and the consistent tendency of an individual to behave habitually. The current oral health education has tried to improve

the oral health knowledge and awareness level, quantitative efforts, so far. However, future oral health education should focus on the behavioral correction, which gives oral health management habits that can persist through the lifetime instead of temporal changes in oral health management, and various oral health educations to enhance qualitative effects.¹⁰⁾ Moreover, it will need to advocate the necessity of educating oral health belief and oral health behavior to college students. The purpose of this study was to find effective health management methods for oral health according to personality type.

II. METHOD

2.1 Research Subjects

This study selected South Korean college students by using convenience sampling method. The study was conducted by using a survey method 500 copies of online questionnaires and 204 copies of offline questionnaires were distributed.

2.2 Measurement Tools

The questionnaire used in this study consists of items related to personality traits (i.e., eight items about extroversion, eight items sincerity, and eight items about emotional anxiety) and items related to general traits (six items). It is composed of oral health beliefs (i.e., sensitivity, severity, disability, and significance), oral health behaviors, personality traits (extroversion, sincerity, and emotional anxiety), and general traits.³⁸⁾ Each variable was measured by using a 5-point Likert scale (i.e., very disagree, disagree, not agree or disagree, agree, and very agree).⁹⁾ It is composed of 24 items, which are eight items of personality traits measurement tool (extroversion), eight items of learner's characteristic traits (sincerity), and eight items of emotional anxiety.

1) Extroversion

Extroversion is often referred to as "social" and it means personal energy goes outward. It is an index to evaluate differences in SNS utilization according to personality traits.

2) Sincerity

Sincerity means honest, clear, and clean mind. It is an index to understand the utilization of SNS according to the difference of sincerity.

3) Emotional anxiety

Emotional anxiety means the tendency that the mind and body tend to fall into excessive tension or anxiety easily due to minor stimuli. It is an index to examine the use of SNS according to the difference of emotional anxiety.

2.3 Data Analysis

The present study excluded respondents showing careless responses among retrieved questionnaires from the statistical analysis. The empirical analysis methods used in this study are as follows.

First, frequency analysis was conducted to evaluate the general characteristics of study subjects.

Second, regression analysis was used to understand the effects of independent variables on dependent variables.

The significance of all statistical analyses was determined at $p < 0.05$ and all statistical analyses were conducted using SPSSWIN 22.0 program.

III. RESULTS

The study subjects were composed of 33.5% male and 66.5% female. They were majoring in health science (37.8%), humanities (21.9%), and engineering (14.2%). Moreover, Students lived in parents' house (55.7%), rent (24.9%), and dormitory (17.5%). The GPA of subjects mostly ranged between 3.1 and 4.0 (63%). The economic income was from parents (76.6%) and own (21.3%).

<Table 1> General Characteristics of the Research Subjects

Categories		N	%
Gender	Male	236	33.5
	Female	468	66.5
Field	Health science	266	37.8
	Humanities	154	21.9
	Science	62	8.8
	Arts	77	10.9
	Engineering	100	14.2
	Etc	45	6.4
Residential Type	Home	392	55.7
	Boarding House(Dorm)	123	17.5
	rent	175	24.9
	Living with relatives	7	1.0
	Etc	7	1.0
Grades	2.0 or under	22	3.1
	2.0~3.0 or under	130	18.5
	3.1~3.5 or under	232	33.0
	3.5~4.0 or under	211	30.0
	4.0 or more	109	15.4
Total		704	100.0

The emotional anxiety had a positive and significant effect on oral health beliefs <Table 2> ($\beta=.163$, $p<0.001$). Extroversion and sincerity did not show a significant effect on oral health belief. The regression equation explained 14% of variations. The results indicated that personality types and oral health beliefs were related. Therefore, the hypothesis of 'personality type is related to oral health beliefs' was accepted.

<Table 2> The effects of oral health beliefs

Variable		B	SE	β	t	p
Oral Health Beliefs	(Constant)	2.690	.161		16.744	.000
	Extroversion	-.017	.023	-.029	-.757	.449
	Sincerity	-.054	.028	-.076	-1.916	.056
	Emotional Anxiety	.107	.026	.163	4.087***	.000
Adjusted $R^2=.145(.141)$, $F=10.915$, $p=.000$ ***						

* $p<.05$, ** $p<.01$, *** $p<.001$

When the effects of personality type on oral health belief severity were evaluated, sincerity had a significant and negative effect on it <Table 3> ($\beta=.132$, $p<.001$). Emotional anxiety had a significant and positive effect on it ($\beta=.090$, $p<.05$). Extroversion did not have a significant effect on it. The regression equation explained 14% of variations. These results indicated that sincerity and emotional anxiety influenced the oral health belief severity.

<Table 3> The effects of personality type on oral health belief severity

Variable		<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Oral Health Belief Severity	(Constant)	2.282	.256		8.896	.000
	Extroversion	-.055	.037	-.057	-1.505	.133
	Sincerity	-.149	.045	-.132	-3.324***	.001
	Emotional Anxiety	.094	.042	.090	2.260*	.024
Adjusted R^2 =.142(.138), F =10.309, p =.000***						

* p <.05, ** p <.01, *** p <.001

When the effects of personality type on oral health belief sensitivity were examined, sincerity had a significant and negative effect on it<Table 4>(β =-.158, p <.001). Emotional anxiety had a significant and positive effect on it (β =.126, p <.01). Extroversion did not have a significant effect on it. The regression equation explained 16% of variations. These results revealed that sincerity and emotional anxiety affected the oral health belief sensitivity

<Table 4> The effects of personality type on oral health belief sensitivity

Variable		<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Oral Health Belief Sensitivity	(Constant)	2.824	.299		9.451	.000
	Extroversion	-.075	.043	-.066	-1.748	.081
	Sincerity	-.210	.052	-.158	-4.019***	.000
	Emotional Anxiety	.155	.049	.126	3.182**	.002
Adjusted R^2 =.166(.162), F =16.554, p =.000***						

* p <.05, ** p <.01, *** p <.001

When the effects of personality type on oral health belief disability were evaluated, emotional anxiety had a significant and positive effect on it<Table 5> (β =.246, p <.001). Extroversion and sincerity did not have a significant effect on it. The regression equation explained 17% of variations. These results indicated that emotional anxiety influenced the oral health belief disability.

<Table 5> The effects of personality type on oral health belief disability

Variable		<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Oral Health Belief Disability	(Constant)	1.993	.290		6.864	.000
	Extroversion	-.054	.042	-.049	-1.297	.195
	Sincerity	-.041	.051	-.032	-.812	.417
	Emotional Anxiety	.296	.047	.246	6.266***	.000
Adjusted R^2 =.075(.071), F =18.860, p =.000***						

* p <.05, ** p <.01, *** p <.001

When the effects of personality type on oral health belief advantage, extroversion did not have a significant effect on it <Table 6> ($\beta=.069$). Sincerity and emotional anxiety did not have a significant effect on it either. The regression equation explained a little variation.

<Table 6> The effects of personality type on oral health belief advantage

Variable		B	SE	β	t	p
Oral Health Belief Advantage	(Constant)	3.629	.254		14.293	.000
	Extroversion	.065	.036	.069	1.777	.076
	Sincerity	.071	.044	.065	1.599	.110
	Emotional Anxiety	-.046	.041	-.045	-1.107	.269
Adjusted $R^2=.016(.012)$, $F=3.749$, $p=.000^*$						

* $p<.05$, ** $p<.01$, *** $p<.001$

IV. DISCUSSION

The personality types of college students were classified into extroversion, sincerity, and emotional anxiety types. Oral health beliefs were divided into sensitivity, severity, disability and advantage. The main findings of this study are as follows.

The results of analyses showed that the VIF values of all variables were below 10 and the tolerance was larger than 0.1, which indicated that data did not violate the multicollinearity assumption. When the effects of personality type on oral health belief importance were evaluated, sincerity had a significant and negative effect on it ($\beta=-.092$, $p<.05$). Extroversion and emotional anxiety did not show a significant effect on it. The regression equation explained 12% of variations. These results indicated that sincerity affected the oral health belief importance. When the effects of personality type on oral health belief sensitivity were tested, sincerity had a significant and negative effect on it ($\beta=-.158$, $p<.001$). Emotional anxiety had a significant and positive effect on it ($\beta=.126$, $p<.01$). Extroversion did not have a significant effect on it. The regression equation explained 16% of variations. These results showed that sincerity and emotional anxiety affected the oral health belief sensitivity. Moreover, when the effects of personality type on oral health belief severity were examined, the VIF values of all variables were below 10 and the tolerance was larger than 0.1, indicating that data did not violate the multicollinearity assumption. In this case, sincerity had a significant and negative effect on it ($\beta=-.132$, $p<.001$). Emotional anxiety had a significant and positive effect on it ($\beta=.090$, $p<.05$). Extroversion did not have a significant effect on it. The regression equation explained 14% of variations. These results indicated that sincerity and emotional anxiety significantly influenced the oral health belief severity. The results of this study showed that extroversion did not significantly affect oral health belief sensitivity and oral health belief severity. However, Won and Jin⁵ reported that extroverts tended to make diverse relationship such as teacher relationship, peer relationship, and family relationship. Song⁶ also showed there relationship between oral health belief and oral health-related life according to the DISC behavior patterns of workers. The factors affecting the quality of life-related to oral health were significantly different among oral health severity and disability ($p<.05$). The results revealed that severity was 3.70 ± 0.65 and disability was 2.95 ± 0.63 . Although oral health beliefs were significantly different in the oral health severity and disability, sincerity and emotional anxiety did not significantly affect oral health severity. The results implied that severity formed threats and people tried to find an issue in the early stage and take a preventative action when they believed there was little disability. Considering the analysis results of this study, it would be possible to enhance the sensitivity and severity of oral health belief if oral health education is given to extroverts through the interpersonal relationship. According to the personality type, the oral health beliefs were significantly influenced, and the oral health beliefs and the oral health behaviors would be required.

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