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Job Satisfaction of Optometrists in relation to Organizational Settings and Demographic Characteristics

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(Health Services)

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May 2000
Job Satisfaction of Optometrists in relation to Organizational Settings and Demographic Characteristics

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May 2000

Abstract

This study investigated the job satisfaction of part I registered optometrists in relation to organizational settings and demographic characteristics. The first objective was to assess the level of job satisfaction of optometrists working in two organizational settings (business and the clinical) in Hong Kong. The second objective was to find out if any significant differences in optometrists’ job satisfaction exist between the business and the clinical organizational settings. The third objective was to study the relationship between the job satisfaction and the demographic characteristics of optometrists.

An optometrists’ job satisfaction measurement tool was developed to collect data from 302 optometrists via mail questionnaire survey. After a month period, 97 completed questionnaires were collected. The response rate was 32%.

The results showed that there is statistical difference in job satisfaction of optometrists working in the two different organizational settings. The data also showed that the optometrists working in the clinical setting are more satisfied than those that are working in the business setting. Demographic data such as age, academic qualification and income were found to have a statistically significant relationship with job satisfaction. In general, the optometrists in Hong Kong are satisfied with their jobs.
Acknowledgements

I express sincere gratitude to Dr. David Thompson for his guidance and helpful suggestions during the course of this project. I express much appreciation also to Professor Thomas Wong for his comment and approval in the application of the job satisfaction measurement tool in this study.

A special thanks is extended to the Hong Kong Society of Professional Optometrists for the announcement of the survey to the members.

I would like to thank all optometrists colleagues making their contributions and inputs in the questionnaire survey.

Finally, I wish to give special thanks to the invaluable supports from my family members and friends.
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Chapter 1

Introduction

1.1 Purpose of the Study

The purpose of this study was to determine the relation of job satisfaction of optometrists with organizational settings and demographic characteristics. A total of 302 part I registered optometrists in Hong Kong would provide data via mail survey. The organizational settings include the business settings and the clinical settings. The demographic data include gender, age, years of experience, qualification, length of service and income.

1.2 Background of the Study

Job satisfaction is a popular topic of interest to both people who work in organizations and people who study them. Actually, it is the most frequently studied variable in organizational behaviour research. Many job satisfaction studies have been conducted in different occupations. Health care professionals like nurses, physiotherapists and occupational therapists have accumulated lots of information in the literature regarding the determinants of job satisfaction-dissatisfaction in these occupations. However, there is few study related to job satisfaction of optometrists. This may due to the comparatively short history of optometry among the allied health professionals. Also, unlike physiotherapists and occupational therapists who are mostly working in the public sector, the majority of optometrists are employed in private sector in Hong Kong (Table 1.1).
Table 1.1  Distribution of physiotherapists, occupational therapists and optometrists among the public and private sectors (Department of Health 1998, Hospital Authority 1998, Hong Kong Government 1999).

<table>
<thead>
<tr>
<th>Allied health professionals</th>
<th>Public sector</th>
<th>Private sector</th>
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<tbody>
<tr>
<td>Physiotherapists</td>
<td>88.2%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Occupational therapist</td>
<td>93.7%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Optometrists (part I registered)</td>
<td>17.7%</td>
<td>82.3%</td>
</tr>
</tbody>
</table>

For physiotherapists and occupational therapists, over 70% are working in the Hospital Authority. However, for optometrists (part I registered), only about 8% are employed in the Hospital Authority (Department of Health 1998, Hospital Authority 1998, Hong Kong Government 1999). Furthermore, the private sector optometrists scatter over the districts in Hong Kong. It would be an obstacle to collect the optometrists job satisfaction opinions in this study.

1.3 Development of Optometry in Hong Kong

Optometrists are health care professionals who are specifically educated and highly trained to examine, diagnose and treat conditions of the vision system. They are highly skilled individuals who examine eyes and related structures to detect the presence of vision problems, eye diseases and other abnormalities. They gather information on the vision system during the optometric examination and diagnose any
conditions discovered. They prescribe optometric treatment such as corrective lenses, contact lenses or vision therapy that may be required to provide the patient with clear and efficient vision (AOA 1986).

Prior to 1978, there were no local formal training programmes for optometrists. In 1978, the Hong Kong Polytechnic started to offer a part-time Certificate course, and later a Higher Certificate course, for employees of local optical shops. A full-time Professional Diploma was also introduced and subsequently replaced by a Bachelor of Science (Hons) degree programme. Presently, the annual intake for the BSc(Hons) programme is 30 (Grant & Yuen 1998).

Optometry is among the youngest profession of the allied health professionals. The legislation of optometrists was enforced in Hong Kong on 1 April 1996. Practicing optometrists are classified into four parts according to their qualification, working experience and restrictions on practice. The Hong Kong Government Gazette 1999 provides the following information:

1.3.1  Part I: Holders of the Hong Kong Polytechnic University BSc(Hons) Degree in Optometry or Professional Diploma in Optometry or equivalent qualifications from overseas institutions. In 1999, there were 305 registered under this category.

1.3.2  Part II: Holders of the Hong Kong Polytechnic University Higher Certificates. In 1999 there were 319 registered under this category.

1.3.3  Part III: Those who passed the licensing examination of the Optometrists Board. 95 were registered under this category in 1999.
1.3.4 Part IV: Those who passed a provisional registration examination and holders of the Certificate in Optometry. There were 1142 persons registered under this category in 1999.

However, for part II, III and IV optometrists, they entered the profession by apprenticeship long before the legislation. At that time, some of them had completed the part-time higher certificate training programme and finally became qualified for part II registered. The remaining persons who want to continue to practice in the industry after the legislation must pass the Optometrists Board Examination leading to part III and IV registered. To avoid large variation in academic and working experience, the current study would concentrate on the Part I registered optometrists only because they possess similar academic background and receive formal institutional training before entering the profession.

1.4 Organizational Settings and Job Satisfaction of Optometrists in Hong Kong

Presently, the working environment of the optometrists can be classified into two different organizational settings, namely, the business setting and the clinical setting. The business setting includes the commercial and profit-oriented organizations, for examples, optical shops, products agents and pharmaceutical companies. The clinical setting includes the scientific and patient-oriented organizations, for examples, hospitals, clinics and academic institutions.
In the early years, the so called optometric services were mainly provided by the business setting optical shops. Their major objective is to make profit through selling glasses and contact lenses. Therefore, the services that provided were limited to prescribe glasses or to fit contact lenses. At that time there was no legislation governing the practice of optometry in Hong Kong. The public even did not know what an optometrist is about.

When the first group of about 30 formally trained optometrists graduated from the Hong Kong Polytechnic in 1987, most of them were employed by the business setting optical shops. These pioneer optometrists had to work about 60 to 66 hours per week in the optical shops. The scope of practice was also limited to eye examination for prescribing glasses or contact lenses. Most of them felt that their knowledge and skills were not fully utilized in such kind of working environment. Few years later, some of them started their own practice in a clinical setting environment to practice full scope of optometry, which extend the service to include the vision health care. Therefore, to provide patient-oriented vision health care services became one of their major objective.

Meanwhile the Hong Kong Society of Professional Optometrists developed and started to promote the professional image and status of optometrists to the public through vision screening programmes and vision health seminar. After 1987, more and more formally trained optometrists graduated from the Hong Kong Polytechnic and other overseas institutions. They helped to upgrade the standard of service in the optometric industry. The public began to know more about the role of an optometrist.

It was until 1990 that the government hospitals started to employ optometrists to work in the ophthalmic department. In 1995, the Department of Health started to employ optometrists for their Student Health Services. Both organizations belong to
the clinical setting.

The legislation of optometrists was enforced in Hong Kong on 1 April 1996. During these years, more and more clinical setting optometry clinics were opened to provide full scope of vision health care to the public. Also, the business setting optical shops began to emphasis on providing professional optometric services. The job nature, working conditions, environment and remuneration have changed a lot over the long road of development of optometry in Hong Kong.

However, there is no related study regarding the job satisfaction of optometrists in Hong Kong. Although there is still an asymmetric distribution of optometrists among the public and private sectors, the distribution of optometrists among the business and clinical settings are about the same.

The degree of job satisfaction of optometrists may be highly dependent on organizational settings (business and clinical)). It is worth studying in this area to establish a fundamental knowledge about the optometrists’ job satisfaction characteristics within the business and clinical settings. The results of this study can serve as a base on which future investigations on job satisfaction of optometrists can be done.
Chapter 2

Literature Review

This review focuses on job satisfaction by evaluating the main established theories, the definitions, the consequences and the determinants of job satisfaction.

2.1 Conceptual and Theoretical Basis for Job Satisfaction

Several theories of job satisfaction and motivation have been developed as guidelines for future researchers to follow in their job satisfaction studies. The theories may build on each other to provide supervisors and management with some direction towards motivation of employees. The theories which are to be discussed include Maslow’s hierarchy of needs theory, Herzberg’s motivation-hygiene theory, McGregor’s theory X and theory Y, expectancy theory, equity theory, reinforcement theory, goal-setting theory and need-fulfillment theory.

2.1.1 Maslow’s Hierarchy of Needs Theory

Maslow’s hierarchy of needs viewed human satisfaction as a hierarchy of five needs, ranging from the most basic physiological needs to the highest needs for self-actualization (Maslow 1943). As lower order needs became satisfied, higher order ones became important as motivators. When the basic needs were unfulfilled, people did not even realize that there were other needs. So, unfulfilled needs motivated them, and once a need was fulfilled, they became aware of the next need level up in the hierarchy. The five levels of human needs are basic physiological needs, security and safety needs, social needs, esteem needs and self-actualization (Figure 2.1).
2.1.1.1 Basic physiological needs are needs of the lowest order of human needs, which include basic physiological necessities, such as food, water and shelter.

2.1.1.2 Security and safety needs are essentially the need to be free of the fear of physical danger and deprivation of the physiological needs.

2.1.1.3 Social needs are related to the social nature of people and their need for companionship.

2.1.1.4 Esteem needs encompass the desire for being highly regarded by others. Achievement, competence, status and recognition satisfy this need level.

2.1.1.5 Self-actualization is the highest level of Maslow's hierarchy of human needs. The individual desires to become everything that he or she is capable of becoming. The self-actualized person is strong, inner-directed, growth oriented and is highly motivated by loyalty to cherished values, ethics and beliefs.

Figure 2.1 The categories in the pyramid of Maslow's hierarchy of needs theory
This theory does not describe a universal human motivational process. Rather, it is the description of a specific value system. Thus people in cultures that have other value systems may not follow the order of the five needs or may even have different needs. Also, any one person’s needs can change over time as well. Each person is a unique being with his or her own personal needs. Nor would a person’s needs mix necessarily remain constant. Changing values would tend to change the needs mix over time.

2.1.2 Herzberg’s Motivation-Hygiene Theory

Herzberg’s two-factor theory concluded that job satisfaction and job dissatisfaction arose from two separate sets of factors (Herzberg 1966). The theory was based upon data collected from 200 engineers and accountants at the psychological service of Pittsburgh. In two separate sets of interviews, subjects recalled times when they felt exceptionally good about their jobs, identifying things which satisfied them on the job as well as things that made them unhappy. Herzberg concluded and theorized that there are two different types of needs that are separate entities from each other, influencing motivation behaviour in different ways.

Those factors or needs related to satisfaction and feeling good about the job are termed motivators or satisfiers. They include achievement, recognition, the job itself, feedback, responsibility and advancement—all related to the job content and rewards of work performance. Factors or needs concerned more with the environmental characteristics are called dissatisfiers or hygiene factors. These include salary, working conditions, company policy, administration, supervision and interpersonal relations—all of which affected the context in which work was conducted. The theory is based on Maslow’s hierarchy of needs theory discussed
above, with the satisfiers being related to the higher levels of needs and dissatisfiers related to the lower levels of needs.

Motivators tend to be useful in providing motivation to people to perform in a high caliber manner. Motivators, if adequate, produce real satisfaction, and when the motivators are inadequate, there is no satisfaction. Hygiene factors serve as a medium to prevent job dissatisfaction. If the hygiene factors are not adequate, then you will feel dissatisfied with work. However, even if the hygiene factors are adequate, you will simply be not dissatisfied (Figure 2.2). It is important to understand that a state of not being dissatisfied is not the same as being satisfied, and a state of not being satisfied is not the same as being dissatisfied.

Figure 2.2  Contrasting views of satisfaction and dissatisfaction

**Traditional view**

Dissatisfaction ← ——> Satisfaction

**Herzberg's view**

Motivators

No satisfaction ← ——> Satisfaction

Hygiene factors

Dissatisfaction ← ——> No dissatisfaction

Unfortunately, subsequent research did not support this theory and Herzberg was criticized for biasing his theory on results obtained from an unrepresentative sample. The procedure that Herzberg used was limited by its methodology. When
things are going well, people tend to take credit themselves. Contrarily, they blame failure on the external environment. The reliability of Herzberg’s methodology is questioned. Since raters have to make interpretations, it is possible that they may contaminate the findings by interpreting one response in one manner while treating another similar response differently. Also, no overall measure of satisfaction was utilized. In other words, a person may dislike part of his or her job, yet still think the job is acceptable.

2.1.3 McGregor’s Theory X and Theory Y

The classic theory X and theory Y based upon assumptions about human nature and human motivations, as well as characteristics of the traditional organization. According to McGregor, managers must adopt either a theory X or theory Y approach to leadership (McGregor 1960). In theory X, the employee is considered lazy and irresponsible, while theory Y proposes that the employee is self-motivated and responsible.

A basic premise of theory X is that the average human being prefers to be directed, wishes to avoid responsibility and has relatively little ambition. Managers using theory X closely supervise their subordinates, whom they consider immature, irresponsible and unreliable.

Theory Y was developed as an alternative theory of human behaviour whose basic premise is that subordinates prefer to be busy and self-directed, and to exercise self-control in pursuit of objectives to which they are committed. The theory also assumes that people are potentially self-directed and original if properly motivated, which in turn will produce effort towards the accomplishment of the organization goals. The manager may have to use both assumptions in different types of situations
in the work environment.

McGregor himself held to the belief that theory Y assumptions were more valid than theory X. Therefore, he proposed such idea as participative decision making, responsible and challenging jobs, and good group relations as approaches that would maximize an employee's job satisfaction. Unfortunately, there is no evidence to confirm that either set of assumptions is valid or that accepting theory Y assumptions and altering one's actions accordingly will lead to more motivated workers (Robins 1998).

2.1.4 Expectancy Theory

According to the Expectancy Theory of work motivation (Vroom 1964), the satisfied and motivated individual was one for whom the rewards obtained from work were greater than those expected. If the rewards were less than those expected then job dissatisfaction would result. The willingness of an individual to act in a certain manner depends on the expectation that the act will generate an outcome that is attractive to the individual. The key to expectancy theory is the understanding of a person's goals and the linkage between effort and performance, between performance and rewards, and, finally, between the rewards and individual goal satisfaction. Three variables are included in this theory:

2.1.4.1 Attractiveness: the importance the individual places on the potential outcome.

2.1.4.2 Performance-reward linkage: the degree to which the individual believes that performing at a particular level will lead to the attainment of desired outcome.
2.1.4.3 Effort-performance linkage: the perceived probability by the individual that exerting given amount of effort will lead to performance.

This theory makes sense that we cannot motivate people with things they do not want or things they feel they cannot earn. It works in conjunction with all other motivational theories. Whether the offer is for money, for recognition (as mentioned by Herzberg), or for status (as identified by Maslow’s hierarchy of needs), people must want the motivator and they must believe they have a fair chance of obtaining it in order for it to motivate (Drafke & Kossen 1998).

However, subsequent research again failed to support the theory. The theory tended to be more valid for predicting in situations where effort-performance and performance-reward linkages were clearly perceived by the individual. It was suggested that some employees were really quite happy with their boring and undemanding jobs—provided they were well paid (Goldthorpe et al 1968).

2.1.5 Equity Theory

The equity theory stated that there is job satisfaction when the worker receives the perception that equity exists in the ratio of job input to what is received from the job (Adams 1965). The input and outcome ratio is compared to some relevant others. If an inequity exists, the employee will take actions to correct the problem. These corrective action can be:
2.1.5.1 Distort either their own or others' inputs or outcomes.

2.1.5.2 Behave in some manner to induce others to change their inputs or outcomes.

2.1.5.3 Behave in some manner to change their own inputs or outputs.

2.1.5.4 Choose a different comparison referent.

2.1.5.5 Quit the job.

Most discussion and research on equity theory focuses on money as the most significant reward in the workplace. People compare what they are being paid for their efforts with what others in similar situations receive for theirs. When they feel inequity exists, a state of tension develops within them, which they try to resolve by appropriately adjusting their behaviour (Stoner, Freeman & Gilbert 1995).

2.1.6 Reinforcement Theory

This theory associated with the psychologist B. F. Skinner and others, shows how the consequences of past behaviour affect future actions in a cyclical learning process (Figure 2.3). It regards behaviour as environmentally caused. If managers desire a certain behaviour, they must reinforce behaviour.

Figure 2.3 The learning process

Stimulus → Response → Consequences → Future Response

The individual's own voluntary behaviour (response) to a situation or event (stimulus) is the cause of specific consequences. If those consequences are positive,
the individual will in the future tend to have similar responses in similar situations. If those consequences are unpleasant, the individual will tend to change his or her behaviour in order to avoid them. Reinforcement theory involves people’s memory of past stimulus-response-consequence experiences. It is a way to link motivation and behaviours. A person is motivated when he or she responds to stimuli in consistent patterns of behaviour over time (Stoner, Freeman & Gilbert 1995).

Behaviour modification applies reinforcement theory to change human behaviour. Thus, a manager who wishes to change employee behaviour must change the consequences of that behaviour. Four main types of consequence (Robertson, Smith & Cooper 1992) can follow any behaviour and each consequence in turn has an influence on the behaviour that preceded it (Figure 2.4).

**Figure 2.4** Consequences of behaviour and their effects

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Effect on preceding behaviour</th>
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</thead>
<tbody>
<tr>
<td>Positive reinforcement (Giving ‘something nice’)</td>
<td>Increase</td>
</tr>
<tr>
<td>Negative reinforcement (Removing ‘something nasty’)</td>
<td>Increase</td>
</tr>
<tr>
<td>Punishment (Giving ‘something nasty’)</td>
<td>Decrease</td>
</tr>
<tr>
<td>Extinction (No reinforcement or punishment)</td>
<td>Decrease</td>
</tr>
</tbody>
</table>

However, reinforcement theory ignores the inner state of the individual and concentrates solely on what happens to a person when he or she takes some action. It also ignores feelings, attitudes, expectations and other cognitive variables that are
known to impact behaviour. In fact, some researchers look at the same experiments that reinforcement theorists use to support their position and interpret the findings in a cognitive framework.

2.1.7 Goal-setting Theory

According to goal-setting theory, individuals are motivated when they behave in ways that move them to certain clear goals that they accept and can reasonably expect to attain. The theory has been expanded to include concepts from self-efficacy theory and expectancy theory of work motivation, thus transforming it from a relatively narrow set of motivational principles to a broad theory of motivation (Ford 1992). When goals are specific and challenging, they function more effectively as motivating factors in both individual and group performance. Also, motivation and commitment are higher when employees participate in the setting of goals.

2.1.8 Need Fulfillment Theory

In the need fulfillment theory proposed by Locke (1973), job satisfaction is influenced by the degree to which the employee’s work fulfills respective physical and psychological needs. Needs influence behaviour whether the employee is cognizant of the needs or not.

2.2 Definitions of Job Satisfaction

The term job satisfaction refers to affective orientation on the part of individuals toward their work roles (Vroom 1964). Another definition is 'a pleasurable or positive emotional state resulting from the appraisal of one’s job or job
experiences' (Locke 1983). For a workable definition, job satisfaction will be defined as the amount of overall positive affect or feelings that individuals have toward their jobs (Arnold & Feldman 1983). Meanwhile, there is little consensus about what exactly ‘job satisfaction’ is, and there is no optimal way to measure satisfaction. The main problem of measuring job satisfaction is whether job satisfaction is unidimensional or multidimensional. Researchers who favour the unidimensional approach measure a person’s overall satisfaction (or global satisfaction) with his or her job. Other researchers who favour the multidimensional approach measure satisfaction with particular ‘facets’, or parts, of the job itself. Therefore, it is important to bear in mind just how complex is the interpretation when considering research findings on job satisfaction, given the multiplicity of ways in which it can be conceived and measured.

2.3 Consequences of Job Satisfaction

Many researchers and psychologists have spent considerable time and effort to study job satisfaction. Most of them focus on its effect on employee performance. This concern for the attitudes that people hold about their jobs and the organizations in which they work is important for two reasons. Firstly, how employee feel about their work is important in and of itself. Whether people find their work satisfying or frustrating, challenging or boring, meaningful or pointless is a strong personal concern. Secondly, managers are concerned about the impact of employees’ attitudes on performance and productivity. Therefore, a large number of studies are designed to assess the impact of job satisfaction on employee productivity, absenteeism and turnover.
The early views on the satisfaction and productivity relationship can be summarized in the statement 'a happy worker is a productive worker'. However, there is no simple relationship between job satisfaction and job performance. The correlations between these variables vary within an extremely large range and the median correlation of 0.14 has little theoretical or practical importance (Vroom 1964). The conditions which affect the magnitude and direction of relationships between satisfaction and performance are still not known. Regarding absenteeism, it is suggested that absenteeism is linked to poor job satisfaction (Brooke 1986). It certainly make sense that unsatisfied employees are more likely to miss work. Evidence also exists to suggest there is a causal relationship between job satisfaction and turnover (Cavanagh 1990, Price & Mueller 1981). Being satisfied at work will lessen the likelihood of changing jobs.

In view of the consequences of job satisfaction, researchers, psychologists and human resource professionals try to find out the determinants or factors that associate with job satisfaction in order to increase the employees' job satisfaction. Many studies have been conducted which base their foundation on several developed theories. Some of job satisfaction were closely linked to motivation because it was assumed that highly motivated employees would be highly satisfied employees.

2.4 Determinants of Job Satisfaction

The situationist perspective on job satisfaction maintains that satisfaction is determined by characteristics of both the job and the larger environment in which the job exists. Jobs require interaction with coworkers and bosses, following organizational rules and policies, meeting performance standards, living with working
conditions that are often less than ideal, and the like. Therefore, the employee’s job satisfaction or dissatisfaction is a complex summation of a number of discrete job elements.

The two most widely used approaches to measure job satisfaction are a single global rating and a summation score made up of a number of job facets. The single global rating method is nothing more than asking individuals to respond to one question, such as ‘All things considered, how satisfied are you with your job?’ Respondents then reply by circling a number between one and five that corresponds with answers from ‘Highly satisfied’ to ‘Highly dissatisfied’. The other approach is the summation of job facets. It is more sophisticated. It identifies key elements in a job and asks for the employee’s feelings about each. Typical factors that would be included are the work itself, supervision, relations with coworkers, pay, promotion opportunities and working conditions.

2.4.1 The Work Itself

Research has found that the facet that correlates most highly with overall job satisfaction is the work itself. Satisfaction with the work itself is usually measured in terms of the core job characteristics proposed by Hackman and his colleagues (Hackman & Lawlyer 1971; Hackman & Oldham 1975). It can be shown that measures of the presence of skill variety, task identity, task significance, autonomy and feedback in the work itself implicitly address the nature of work.

2.4.2 Supervision

The concepts of opportunity and supervision have been closely linked in the theoretical literature on job satisfaction. Locke (1976) suggested that the relationship
between supervisors and subordinates is based partially on what he called functional attraction. Functional attraction refers to the extent to which subordinates perceive that their supervisor is helping them obtain valued job outcomes. Evans (1970) and Houser (1971) present similar conceptualizations of leadership. Thus, supervisors can control opportunities on the job through the assignments they make and the feedback they give to subordinates. For example, Landau and Hammer (1986) found that young clerical employees who received high levels of feedback about their job performance from their supervisors perceived greater opportunities for within-organizational mobility than did employees who received lower levels of feedback.

2.4.3 Coworkers

People seek friendly, warm and cooperative relationships with others not only for what they produce in some immediate sense, but also for what those relationships provide in times of need, that is, social support (LaRocco, House & French 1980). We argue that people are aware of their ties to others at least partially because of the possible, not only the actual, benefits attached to those relationships. For most employees, work also fills the need for social interaction. Not surprisingly, therefore, having friendly and supportive coworkers leads to increased job satisfaction. The behaviour of one's boss also is a major determinant of satisfaction. Studies generally find that employee satisfaction is increased when the immediate supervisor is understanding and friendly, offers praise for good performance, listens to the employee’s opinions, and shows a personal interest in his or her employees.
2.4.4 Pay

Pay is an important source of satisfaction at work. In addition to salary providing a potential source of self-esteem (Brockner 1988), pay provides the generic opportunity for anything money can buy (Lawler 1971). Most, if not all, research on satisfaction with pay focuses on current income. However, current pay, even though it provides current opportunities, is not the only conceptually important determinant of satisfaction with pay. People’s satisfaction with pay would also be influenced by what they will be able to obtain (that is, how their standard of living will improve) as their salary increases.

Employees want pay systems and promotion policies that they perceive as being just, unambiguous, and in the line with their expectations. When pay is seen as fair based on job demands, individual skill level, and community pay standards, satisfaction is likely to result. Of course, not everyone seeks money. Many people willingly accept less money to work in a preferred location or in a less demanding job or to have greater discretion in the work they do and the hours they work. But the key in linking pay to satisfaction is not the absolute amount one is paid; rather, it is the perception of fairness.

2.4.5 Promotion Opportunities

Promotion is the one facet that explicitly assesses how perceptions about the future can affect job satisfaction. Studies have shown that employees who perceive few opportunities for advancement have negative attitudes towards their work and their organizations (Kanter 1977, Kipnis 1964, Larson 1982). For example, Kanter (1977) found that career opportunity at all hierarchical levels can account for the ways people involve themselves in their work. Furthermore, it is likely that an
individual’s satisfaction with promotion opportunities is influenced by more than just the next promotion in the line of progression. Opportunities for promotion throughout an individual’s tenure with an organization are probably reflected in an individual’s satisfaction with promotion. The individual also seeks fair promotion policies and practices. Promotions provide opportunities for personal growth, more responsibilities, and increased social status. Individual who perceives that promotion decisions are made in a fair and just manner, therefore, is likely to experience satisfaction from their job.

2.4.6 Working Conditions

Employees are concerned with their work environment for both personal comfort and facilitating doing a good job. Studies demonstrate that employees prefer physical surroundings that are not dangerous or uncomfortable. Temperature, light, noise, and other environmental factors should not be at either extreme, for example, having too much heat or too little light. Additionally, most employees prefer working relatively close to home, in clean and relatively modern facilities, and with adequate tools and equipment.

For the time being, it is still unclear about what determinants or factors contribute the most significant effect on a person’s job satisfaction. The current study is going to assess and compare the level of job satisfaction among optometrists who are working in the business and clinical settings. It also investigates whether there is any difference in optometrists’ job satisfaction between the two organizational settings. Demographic characteristics would also be analyzed to see whether there is any association with job satisfaction.
Chapter 3

Theoretical Framework

This chapter describes the statement of the problem, the operational definitions, the framework, basic assumptions, objectives and the hypotheses of this study.

3.1 Statement of the Problem

The purpose of this study was to determine the relation of job satisfaction of part I registered optometrists in Hong Kong with organizational settings and demographic characteristics.

The organizational settings include the business settings and the clinical settings. The demographic data include gender, age, years of experience, qualification, length of service and income.

3.2 Operational Definitions

3.2.1 Job Satisfaction: A person's feeling towards specific aspects of the work environment (e.g. pay benefits, promotional opportunities, work conditions, supervision, the work itself, coworkers, organizational structure) (Milbourn & Francis 1981).

3.2.2 Business Setting Organizations: the commercial and profit-oriented organizations, for examples, optical shops, product agents and pharmaceutical companies.
3.2.3 Clinical Setting Organizations: the scientific and patient-oriented organizations, for examples, hospitals, clinics and academic institutions.

3.2.4 Demographic Characteristics: gender, age, years of experience, qualification, length of service and income of the optometrists.

3.2.5 Optometrists: health care professionals that are specifically educated and highly trained to examine, diagnose and treat conditions of the vision system.

3.3 Framework of the Study

The independent variables are the organizational settings (business and clinical settings) where the optometrists work and the demographic characteristics (gender, age, years of experience, academic qualification, length of service and income) of the optometrists.

The dependent variable is the job satisfaction of the optometrists which is the variable of primary interest in this research.

Figure 3.1 represents the theoretical framework of this study.
3.4 Basic Assumptions

The basic assumption were as follow:

3.4.1 Respondents were aware of their predispositions and were willing to represent them to the best of their ability in representing to the questionnaire.

3.4.2 The response given to the items on the job satisfaction questionnaire were honest representations of true feelings.
3.5 Objectives

3.5.1 To describe the level of job satisfaction of optometrists working in two different organizational settings (business and clinical settings).

3.5.2 To test the hypothesis that there is difference in optometrists' job satisfaction between the two organizational settings.

3.5.3 To relate the demographic characteristics and job satisfaction of optometrists.

3.6 Hypotheses

3.6.1 Alternate Hypotheses

\( H_{A1} \): There is difference in job satisfaction between optometrists working in business setting and clinical setting.

\( H_{A2} \): There is difference in job satisfaction between male and female optometrists.

\( H_{A3} \): There is difference in job satisfaction between optometrists with different age groups.

\( H_{A4} \): There is difference in job satisfaction between optometrists with different years of experience.

\( H_{A5} \): There is difference in job satisfaction between optometrists with different academic qualifications.

\( H_{A6} \): There is difference in job satisfaction between optometrists with different length of service within the organizational setting.

\( H_{A7} \): There is difference in job satisfaction between optometrists with different income groups.
3.6.2 Null Hypotheses

H01: There is no difference in job satisfaction between optometrists working in business setting and clinical setting.

H02: There is no difference in job satisfaction between male and female optometrists.

H03: There is no difference in job satisfaction between optometrists with different age groups.

H04: There is no difference in job satisfaction between optometrists with different years of experience.

H05: There is no difference in job satisfaction between optometrists with different academic qualifications.

H06: There is no difference in job satisfaction between optometrists with different length of service within the organizational setting.

H07: There is no difference in job satisfaction between optometrists with different income groups.
Chapter 4

Methodology

The following chapter of this study defines the subjects for the study, the instrumentation utilized to collect the data, the data collection procedures and the data analysis method.

4.1 Subjects

The subjects participating in this research study were Part I Registered Optometrists in Hong Kong. They possess similar academic background and receive formal institutional training before entering the profession. The part II to part IV registered optometrists were excluded from this study to avoid large variation in academic and working experience.

In 1999 there was a total of 305 part I registered optometrists in Hong Kong (Hong Kong Government Gazette 1999) and they were all practicing in that year. All of them possess the Professional Diploma or the Bachelor of Science or higher degrees in Optometry from the Hong Kong Polytechnic University or other recognized overseas universities. Most of them were working in the private sector. Their workplaces were quite diversify and were scattered over the districts in Hong Kong. Nevertheless, the organizational settings in which the optometrists work could be classified into the business setting and the clinical setting. The business setting includes the commercial and profit-oriented organizations, for examples, optical shops, products agents and pharmaceutical companies. The clinical setting includes the scientific and patient-oriented organizations, for examples, hospitals, clinics and
academic institutions.

In this study, total population sampling method was adopted. Field study was chosen as the study setting and mail questionnaires would be used to collect the job satisfaction and demographic data. The time horizon of the study was cross-sectional. The measurement was on individual subjects, therefore the unit of analysis was individual.

4.2 Instrumentation

Most of the job satisfaction researches were done with questionnaires. This was because one can survey a large number of people with a paper-and-pencil questionnaire with very little effort or expense. Also, it was easy to quantify and standardize questionnaire responses. There were a number of measurement tools used to measure job satisfaction through questionnaire. They included the Job Satisfaction Survey (JSS), the Job Descriptive Index (JDI), the Minnesota Satisfaction Questionnaire (MSQ) and the Job Diagnostic Survey (JDS).

4.2.1 The Job Satisfaction Survey (JSS)

The Job Satisfaction Survey (Spector 1985) assesses nine facets of job satisfaction, as well as overall satisfaction. The nine facets include pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, coworkers, nature of work and communication. Each of the nine facet subscales contain four items, making up a total of 36 items. This instrument consists both positively worded and negatively worded items.

The JSS can yield 10 scores. Each of the nine subscales can produce a
separate facet score. The total of all items produces a total score. Each of the nine JSS subscales is scored by combining responses to its four items. The JSS items are numbered from 1 to 6 corresponding to the responses 'disagree very much', 'disagree moderately', 'disagree slightly', 'agree slightly', 'agree moderately', 'agree very much'. Since each item's score can range from 1 to 6, the individual facet scores can range from 4 to 24. This is because each facet has four items, so the lowest score is the sum of four ones, and the highest score is the sum of four sixes. The total score can range from 36 to 216.

4.2.2 The Job Descriptive Index (JDI)

The Job Descriptive Index (Smith, Kendall & Hulin 1969) has probably been the most popular facet scale among organizational researchers. The JDI scale assess five facets of job satisfaction: supervision, pay, promotional opportunities, coworkers and the work itself. The entire scale contains 72 items with either 9 or 18 items per subscales. Each item is an evaluative adjective or short phrase that is descriptive of the job. Responses are 'yes', 'uncertain' or 'no'. Both favourable or positively worded and unfavourable or negatively worded items are provided.

This scale has been used with a large variety of employees samples, and norms are provided for employees according to their age, sex, education, income and type of community. The subscales also have very good reliabilities. The very extensive body of research using the scale provides good validation evidence. Perhaps the biggest limitation of the scale is that it is limited to five facets, although these are five of the most frequently assessed.
4.2.3 The Minnesota Satisfaction Questionnaire (MSQ)

The Minnesota Satisfaction Questionnaire (Weiss et al 1967) is another satisfaction scale that has been very popular among researchers. The MSQ comes in two forms, a 100-item long version and a 20-item short form. It covers 20 facets: ability utilization, achievement, activity, advancement, authority, company policies and practices, compensation, coworkers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision—human relations, supervision—technical, variety, working conditions. The long form contains five items per facet, whereas the short form contains only one. Norms for a wide variety of occupational groups are available for the MSQ too. Most researchers who use the short form combine all the items into a single total score, or compute extrinsic and intrinsic satisfaction subscales from subsets of items. Extrinsic satisfaction concerns aspects of work that have little to do with the job tasks or work itself, such as pay. Intrinsic satisfaction refers to the nature of job tasks themselves and how people feel about the work they do. Subscales, which have better reliabilities than individual items, are generally preferred.

The 20 facets of the MSQ are in many cases more specific than the JDI or JSS. For example, satisfaction with supervision is divided into an interpersonal or human relations component and a technical competence component. The nature of work itself is reflected in several facets, including ability utilization, achievement, activity, creativity, independence, and variety.

4.2.4 The Job Diagnostic Survey (JDS)

The Job Diagnostic Survey (Hackman & Oldham 1975) is an instrument that developed to study the effect of job characteristics on people. It contains subscales to
measure the nature of the job and job tasks, motivation, personality, psychological states (cognitions and feelings about job tasks), and reaction to the job. One of the reaction is job satisfaction. This scale covers several areas of job satisfaction, specifically growth, pay, security, social, and supervision, as well as global satisfaction.

The individual subscales contain from two to five items each. The format for the facet items is a 7-point scale ranging from 'extremely dissatisfied' to 'extremely satisfied'. The format for the global satisfaction subscale is a seven point ranging from 'disagree strongly' to 'agree strongly'. Considering that its purpose was to study job characteristics, the JDS includes those facets that the authors felt were most important for this purpose.

Although the above measuring instruments are widely used, they may not be suitable for measuring the satisfaction of the optometry profession in Hong Kong.

4.2.5 Development of Job Satisfaction Measure in Hong Kong

This section is going to describe the development of an instrument which measures local nurses' job satisfaction. Also, how this instrument is modified to measure local optometrists' job satisfaction would be discussed.

4.2.5.1 The Development of a Nurse's Job Satisfaction Measure in Hong Kong (Cheung et al 1993)

With the permission from Professor Thomas K. S. Wong (Department of Nursing and Health Sciences, HKPolyU) for quoting his research team's article 'The Development of a Nurse's Job Satisfaction Measure in Hong Kong' (Cheung et al 1993) and using the modified 37 items in this study, the measurement tool for the
optometrists' job satisfaction could thus be developed.

The researchers developed a bilingual (Chinese and English) measure of nurse’s job satisfaction for use in Hong Kong. In the process of development, they aimed to satisfy the following five criteria:

1. That the measure should have a comprehensive inclusion of items and factors, so that it can be utilized in various nursing environments.

2. That the measure should achieve a satisfactory level of discriminatory power.

3. That the measure must be valid.

4. That the measure must be reliable.

5. That the measure can reveal the factor structure of nurse’s job satisfaction.

In order to meet the first criterion stated above, the researchers reviewed relevant literatures and selected the items and factors of eleven studies as the base for development. In the course of selection, the following principles were observed:

1. The studies must be particularly designed or adapted for nursing research, instead of general studies of job satisfaction.

2. The studies measured job satisfaction comprehensively, instead of measuring some of the sub-domains.

3. If the same measure had been used in more than one studies, only one of the studies would be selected.
4. If more than one measure had been developed from the same data set, only one of the measures would be selected.

A software (Textbase Alpha) was then utilized to conduct a content analysis on the eleven selected literatures. Elements of nurse’s job satisfaction contained in the literatures were coded twice by two different members of the research team to minimize subjective predilections. Whenever there were interpretative differences, compromises between the researchers were sought prior to coding.

The content analysis disclosed that the literatures contained 36 elements of job satisfaction in all. The average frequency of the codes was 8.8 and standard deviation was 7.9, revealing a widely varied expectation of what elements should be included in such measures. Of the 36 codes, three (self-esteem, flexibility, and physical environment) were excluded by the researchers either because their frequencies of showing up were small (frequency<2), suggesting that nursing researchers had little consensus as to the relative importance of these three elements, or because their vague literal meanings cast doubts on their face validity. In addition, the content of the first two omitted codes could well be reflected in other items; whereas the third (physical environment) was irrelevant to the present purpose. As a result of the above analysis, the researchers regarded that only 33 elements needed be included in the new measure.

Furthermore, it was found that one of the measures selected for content analysis contained 31 of the 33 coded elements (Traynor & Wade 1992). Only two of the elements - ‘interaction between nurse and patients’ and ‘recognition by patients’ - were missing. Because of the comprehensiveness of this measure, it was decided that it could serve as a basic reference for modification and further development of a new
measure.

The measure proposed by Traynor and Wade (1992) contained 38 items all related to a stem question: 'How satisfied are you with this aspect of your job?' Respondents were asked to place their responses on a Likert Scale with five choices, ranging from 'Very Satisfied' to 'Very Dissatisfied'. Also, the following modifications were made:

1. Splitting each of the three items that contained double questions or were problematic as to content validity into two items.
2. Canceling five items which were similar to or overlapping with other items in the measure.
3. Rephrasing five items to clarify the meaning, avoid overlapping, or adjust to colloquial terms.
4. Adding two items, in response to the two aforesaid neglected coded elements.

Having made the above modifications, a preliminary measure was developed and subsequently translated into Chinese. It consisted of 38 items, which covered all of the 33 codes disclosed by content analysis.

4.2.5.2 Test

4.2.5.2.1 Face Validity

Apart from being scrutinized by all five members of the research team, who represented a wide coverage of professional backgrounds, the face validity of the measure was validated by an experienced local nurse who was fluent in both English and Chinese.
4.2.5.2.2 Statistical Analysis

In late 1992, a pre-test was given to the first year students of the part-time Post-registration Diploma Course in Nursing at the Hong Kong Polytechnic. The class comprised of 79 students, all of them were qualified nurses with relevant work experience. The researchers received 77 returned questionnaires and the responses were analyzed using the SPSS PC+ software.

4.2.5.2.2.1 Correlations between each item and the whole measure ranged from 0.36 (item 8) to 0.73 (item 17). Item 8 ('The standard of care I give to the patients') is the only item which did not achieve a statically significant correlation with the measure (p>0.001). The researchers attributed this to the unclear meaning of the term 'standard', and decided to remove this item from the measure.

4.2.5.2.2 Item 38 ('The amount of time I talk to patients') achieved statistically significant correlation (p<0.001) with item 12 to item 15, which were concerned with workload. The researchers supposed that the term 'time' led the respondents to think more about workload than about interaction, which was not the intention of the researchers. In order to redress its validity, the researchers rephrased it as: 'The opportunities I have to talk to patients'.

4.2.5.2.3 To assure a reasonable level of discriminatory power, the researchers set a criterion that items with a standard deviation of less than 0.5 would be deleted or modified. It turned out that the lowest standard deviation found was 0.64. Therefore, the discriminatory power of all items was accepted.

4.2.5.2.4 Having deleted item 8, the internal consistency of the measure was 0.449. The researchers considered it highly satisfactory.
After the pre-test, a measure consisting of 37 items and meeting the first three criteria (comprehensive, discriminatory and valid) was developed (Appendix 1). It was then put to a re-test in order to find out its reliability and factor structure (criteria 4 and 5).

4.2.5.3 Re-test

Six weeks after the pre-test, the adapted measure was delivered to the same group of students. Sixty-six questionnaires were returned.

4.2.5.3.1 Principal Component Analysis

With a view to revealing the factor structure of nurse’s job satisfaction, this study made use of varimax rotation to conduct a principal component analysis. Two guidelines were observed in considering the items’ factor loadings:

4.2.5.3.1.1 Only a factor loading higher than 0.3 would be given consideration.

4.2.5.3.1.2 In the event of multiple loadings, only the highest one would be considered.

Following these two guidelines, it was discovered that the items attached to nine factors together explained 72% of the total variation. The factors and the corresponding items were as follow:

a) Communication: items 16, 17, 18, 19, 20, 21, 37

16 The amount of support and guidance I receive from my supervisor

17 The opportunities I have to discuss my concerns with colleagues
18 The opportunities I have to discuss my concerns with my supervisor
19 The support available to me in my job
20 The overall quality of the supervision I receive in my work
21 The degree of respect and fair treatment I receive from my supervisor
37 The opportunities I have to talk to patients

b) Professionalism: items 3, 14, 22, 23, 24, 25, 32

3 The contribution I make to patient care
14 The way that I am able to care for patients
22 The degree to which I feel part of a team
23 The relationship I have with other health care workers
24 The contact I have with colleagues
25 The value placed on my work by my colleagues
32 The amount of job security I have

c) Job Nature: items 4, 5, 6, 8

4 The amount of challenge in my job
5 The extent to which my job is varied
6 The extent to which my job is interesting
8 The amount of personal growth and development I get from my work

d) Pay and Prospect: items 26, 27, 28, 29, 30

26 The amount of pay I receive in comparison with people in other occupation
27 My rank

28 The degree to which I am fairly paid for what I contribute to this organization

29 My prospects for promotion

30 The opportunities I have to develop professionally

e) Locus of Control: items 11, 12, 13

11 The time available to get through my work

12 The time available for patient care

13 Overall staffing level

f) Education and Training: items 33, 34, 35

33 Time off to attend course

34 Being sponsored to attend course

35 The extend to which I have adequate training for what I do

g) Commitment: items 1, 2, 7, 15, 31

1 The feeling of worthwhile accomplishment I get from my work

2 The extent to which I can use skill

7 What I have accomplished when I go home at the end of the day

15 The amount of time spent on administration

31 The match between my job description and what I do
h) Personal Control: items 9, 10

9 The amount of independent decision making power I can exercise in my work

10 The amount of independent action I can exercise in my work

i) Recognition: item 36

36 The value placed on my work by my patients and/or their relatives

4.2.5.3.2 Internal Consistency

The internal consistency of the measure was 0.9375, which was both satisfactory and similar to the result of the first test. The internal consistencies of the subscales were also high:

a) Communication: 0.9061

b) Professionalism: 0.8270

c) Job Nature: 0.7757

d) Pay and Prospect: 0.7942

e) Locus of Control: 0.7838

f) Education and Training: 0.8069

g) Commitment: 0.7994

h) Personal Control: 0.8255

i) Recognition: Could not be computed since it contained only one item
4.2.5.3.3 Test-retest Reliability

Employing Mann-Whitney 2-tailed test, the null hypothesis that the measure’s
distribution were the same in the test and retest could not be rejected (p=0.06547).
When it came to the subscales, the probabilities concerned ranged from 0.9838 to
0.2523. As such, none of the null hypotheses could be rejected, showing the reliability
of the measure and all subscales.

With the above analysis, it can be concluded that a bilingual measure of
nurse’s job satisfaction for the local context was developed for the first time. It is
comprehensive, discriminatory, valid and reliable. It reflects the factor structure of
nurse’s job satisfaction.

4.2.5.2 Optometrists’ Job Satisfaction Measure in Hong Kong

Since the nurse’s job satisfaction measure (Cheung et al 1993) was
specifically developed to suit Hong Kong context, it was adopted as the instrument to
measure the optometrists’ job satisfaction in this study. Some wordings in the items
have been modified to suit the situation of optometrists work. Three items were
rephrased as follow:

Item 3: ‘The contribution I make to patient care’ was rephrased as ‘The contribution I
make to patient treatment’.

Item 12: ‘The time available for patient care’ was rephrased as ‘The time available
for patient examination’. 
Item 14: 'The way that I am able to care for patient' was rephrased as 'The way that I am able to examine patient'.

After the modification, the 37 items optometrists' job satisfaction measure was developed. The nine factors and the corresponding items were as follow:

a) Communication: items 16, 17, 18, 19, 20, 21, 37
   16  The amount of support and guidance I receive from my supervisor
   17  The opportunities I have to discuss my concerns with colleagues
   18  The opportunities I have to discuss my concerns with my supervisor
   19  The support available to me in my job
   20  The overall quality of the supervision I receive in my work
   21  The degree of respect and fair treatment I receive from my supervisor
   37  The opportunities I have to talk to patients

b) Professionalism: items 3, 14, 22, 23, 24, 25, 32
   3   The contribution I make to patient treatment
   14  The way that I am able to examine patients
   22  The degree to which I feel part of a team
   23  The relationship I have with other health care workers
   24  The contact I have with colleagues
   25  The value placed on my work by my colleagues
   32  The amount of job security I have
c) Job Nature: items 4, 5, 6, 8

4 The amount of challenge in my job
5 The extent to which my job is varied
6 The extent to which my job is interesting
8 The amount of personal growth and development I get from my work

d) Pay and Prospect: items 26, 27, 28, 29, 30

26 The amount of pay I receive in comparison with people in other occupation
27 My rank
28 The degree to which I am fairly paid for what I contribute to this organization
29 My prospects for promotion
30 The opportunities I have to develop professionally

e) Locus of Control: items 11, 12, 13

11 The time available to get through my work
12 The time available for patient examination
13 Overall staffing level

f) Education and Training: items 33, 34, 35

33 Time off to attend course
34 Being sponsored to attend course
The extend to which I have adequate training for what I do

g) Commitment: items 1, 2, 7, 15, 31

1 The feeling of worthwhile accomplishment I get from my work

2 The extent to which I can use skill

7 What I have accomplished when I go home at the end of the day

15 The amount of time spent on administration

31 The match between my job description and what I do

h) Personal Control: items 9, 10

9 The amount of independent decision making power I can exercise in my work

10 The amount of independent action I can exercise in my work

i) Recognition: item 36

36 The value placed on my work by my patients and/or their relatives

4.2.5.2.1 Content Validity

To ensure that the measure includes an adequate and representative set of items that would tap the concept, face validity is used to review the 37 items. Four professional optometrists (2 optometrists from the business setting and 2 optometrists from the clinical setting) are recruited to evaluate the 37 items optometrists' job satisfaction measure. They agree that the items can identify the situation and the working environment of the optometrists work. Therefore, the content validity of the
optometrists’ job satisfaction measure is developed.

4.2.5.2.2 Reliability

The reliability of a measure indicates the stability and consistency with which the instrument is measuring the concept and helps to assess the goodness of a measure. Stability of the measure, internal consistency (inter-item consistency) reliability can also be established, if the content validity is accepted. The internal consistency and test-retest reliability need not to be computed. That implies, if content changes is less than 25%, the measurement tool (questionnaire) validity and reliability are both accepted. Since the modified questionnaire content validity has been established, the reliability of this questionnaire is also established accordingly. A new optometrist’s job satisfaction measurement tool for Hong Kong context is developed.

The final version of the 37 items used in the optometrists’ job satisfaction questionnaire was thus developed. A 5-point Likert scale is adopted for items 1 to 37. Each item provides responses of ‘Very Satisfied’, ‘Satisfied’, ‘Uncertain’, ‘Unsatisfied’, and ‘Very Unsatisfied’. Demographic data of the optometrists would also be collected (Appendix 2).

4.3 Data Collection Procedures

In this study, total population sampling method was adopted. Questionnaires (Appendix 2) were mailed to all the part I registered optometrists together with the stamped return envelope. Covering letters explaining the purpose of the research were also sent to all respondents (Appendix 3). The mailing addresses of the part I
registered optometrists were obtained from the Hong Kong Government Gazette, 10 December 1999 Special Supplement No. 4.

In the demographic data sheet, personal information such as gender, age, years of experience, qualification, length of service and income would be collected. These information would be treated confidentially. Also, in the covering letter to the questionnaire respondent, the purpose of the study was explained as well as the confidentially and anonymity for both individuals and institutions were guaranteed.

Permission for using the 37 items modified optometrists’ job satisfaction questionnaire to collect data was also obtained from Professor Thomas K. S. Wong (Department of Nursing and Health Sciences HKPolyU).

The Hong Kong Society of Professional Optometrists (HKSPO) helped to announce this mail questionnaire survey in the January 2000 newsletter to the members. All the part I and II registered optometrists can join the HKSPO voluntarily. Currently, the HKSPO has about 300 members.

According to the government gazette, there were 305 part I registered optometrists practicing in Hong Kong in 1999. However, excluding the author and the two optometrists registered with overseas addresses, a total of 302 optometrists were recruited as subjects. Therefore, 302 questionnaires were mailed together with the stamped return envelopes on 28th January 2000. Completed questionnaires were expected to return within February.

4.4 Data Analysis Method

Both descriptive and inferential statistics would be used to describe and interpret the results. The demographic data would be described by the descriptive
statistics.

The purpose of the study was to test the seven hypotheses that mentioned in chapter 3. It also evaluates the level of optometrists' job satisfaction under the nine factors: Communication, Professionalism, Job Nature, Pay and Prospect, Locus of Control, Education and Training, Commitment, Personal Control, Recognition.

4.4.1 Coding in the 37 Questionnaire Items

The respondents job satisfaction scores in the 5-point Likert scale are coded as follow:

Very Satisfied = 1  Satisfied = 2  Uncertain = 3  Unsatisfied = 4
Very Unsatisfied = 5

Hence, the lowest the score value the highest the satisfaction.

For example, the Total Job Satisfaction Scores of the respondents in answering the 37 questionnaire items could be calculated by summing up all the scores from the 37 items and the value would be within the following Score Range (37 to 185):

\[
\text{Lowest} = 1 \times 37 = 37  \quad \text{Mean} = 3 \times 37 = 111  \quad \text{Highest} = 5 \times 37 = 185 \\
(\text{Very Satisfied})  \quad \quad \quad \quad \quad \quad (\text{Uncertain})  \quad \quad \quad \quad \quad \quad (\text{Very Unsatisfied})
\]

For the ease of comparison, the Mean Job Satisfaction Score (range: 1 to 5) of each respondent is calculated by dividing the Total Job Satisfaction Score with 37:

\[
\text{Mean Job Satisfaction Score} = \frac{\text{Total Job Satisfaction Score}}{37} \quad \text{(range: 1 to 5)} \quad \text{X} \quad \frac{1}{37} \quad \text{(range: 37 to 185)}
\]
Similarly, the Job Satisfaction Scores on each of the 9 factors can be calculated for each respondent by summing up the corresponding items scores. The Mean Score of each factor can be calculated by dividing with the corresponding number of items in each factor. The number of items within the 9 factors are listed as below:

<table>
<thead>
<tr>
<th>Factors</th>
<th>Score Range</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Communication: 7 items</td>
<td>7 to 35</td>
<td>1 to 5</td>
</tr>
<tr>
<td>2. Professionalism: 7 items</td>
<td>7 to 35</td>
<td>1 to 5</td>
</tr>
<tr>
<td>3. Job Nature: 4 items</td>
<td>4 to 20</td>
<td>1 to 5</td>
</tr>
<tr>
<td>4. Pay and Prospect: 5 items</td>
<td>5 to 25</td>
<td>1 to 5</td>
</tr>
<tr>
<td>5. Locus of Control: 3 items</td>
<td>3 to 15</td>
<td>1 to 5</td>
</tr>
<tr>
<td>6. Education and Training: 3 items</td>
<td>3 to 15</td>
<td>1 to 5</td>
</tr>
<tr>
<td>7. Commitment: 5 items</td>
<td>5 to 25</td>
<td>1 to 5</td>
</tr>
<tr>
<td>8. Personal Control: 2 items</td>
<td>2 to 10</td>
<td>1 to 5</td>
</tr>
<tr>
<td>9. Recognition: 1 item</td>
<td>1 to 5</td>
<td>1 to 5</td>
</tr>
</tbody>
</table>

A form could be constructed to record the respondents' job satisfaction scores in the 9 factors as well as the Total Satisfaction Scores (Figure 4.1).

**Figure 4.1** Form of Job Satisfaction Scores of Respondents

<table>
<thead>
<tr>
<th>Respondents No.</th>
<th>Mean Scores of the 9 Job Satisfaction factors</th>
<th>Mean Scores of Total Job Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.4.2 Coding in the Demographic Data Sheet

The following is the coding used in the demographic sheet:

Gender:
1: male 2: female

Age:
1: 24 years or below 2: 25-34 years 3: 35-44 years
4: 45-54 years 5: 55 years or above

How many years have you been working as an optometrist?
1: 0-3 years 2: 4-7 years 3: 8-11 years
4: 12-15 years 5: 16-19 years 6: 20 years or above

Please indicate your highest academic qualification:
1: Professional Diploma 2: Bachelor of Science
3: Master of Science / Master of Philosophy
4: Doctor of Philosophy 5: others
Type of facility in which you practice at present?

1: optical shops / optical chains / ophthalmic products (contact lenses, solutions, spectacle frames, lenses, drugs, instruments, etc.) companies
2: hospitals / government clinics / clinics in office building / academic institution / research unit
3: others

How many years have you worked in this facility?

1: 0-3 years 2: 4-7 years 3: 8-11 years
4: 12-15 years 5: 16-19 years 6: 20 years or above

Monthly income:

1: $15000 or below 2: $15001-$30000 3: $30001-$50000
4: $50001 or above

4.4.3 Hypotheses Testing

Since the 37 questionnaire items are in ordinal scale, non-parametric tests should be used in the hypotheses testing. To test the research hypotheses, Mann-Whitney U test (two independent samples, two-tailed non-parametric test) would be used to test the first two hypotheses (i.e., organizational settings difference, gender difference). Kruskal Wallis test (k independent samples, two-tailed non-parametric test) would be used to test the third to seventh hypotheses (i.e., age differences, years of experience differences, academic qualifications differences, length of service differences, income differences).
For example, to test the research hypothesis that there is a significant difference in job satisfaction between optometrists working in business setting and clinical setting, Mann-Whitney U test would be used to test the differences between mean satisfaction scores of the two organizational settings:

\[ H_0: \mu_1 = \mu_2 \quad (\text{null hypothesis: there is no difference}) \]

\[ H_a: \mu_1 \neq \mu_2 \quad (\text{alternate hypothesis: a difference exists}) \]

where \( \mu_1 \) = mean satisfaction score of optometrists working in business setting

\( \mu_2 \) = mean satisfaction score of optometrists working in clinical setting

The SPSS (Statistical Package for Social Science) computer programme can help to perform the statistical computation. If the calculation shows that the null hypothesis is rejected, then there is a statistically significant different in job satisfaction between optometrists working in business setting and clinical setting.

Since the Kruskal Wallis test (k independent samples) only tells you that the population means are not all equal. It does not tell you which pairs of groups appear to have different means. You reject the null hypothesis that all population means are equal if any two means are unequal. Therefore, Tukey’s Honestly Significant Difference test (Tukey HSD) will be used to produce post hoc multiple comparison tests to determine which means are significantly different from each other. This test will be applied on the demographic data of age, years of experience, academic qualification, length of service and income, which can be categorized into three or more groups.
Chapter 5

Results

This chapter describes the results of all the statistical analyses, with reference to pertinent tables. The data were analyzed using the computer programme known as the Statistical Package for the Social Sciences (SPSS).

The analysis of data and interpretation of findings are presented in this chapter in the following order:

1. Analysis of the demographic data.
2. The job satisfaction scores of the optometrists.
3. Results of the hypotheses testing.
4. Summary of comments from the optometrists.

5.1 Analysis of the Demographic Data

5.1.1 Return Rate

The 302 questionnaires were sent to the target population and 100 (33%) questionnaires were returned. Among the returned questionnaires, 3 (1%) of them were found incomplete. Therefore, only 97 (32%) questionnaires were used in this study.

Table 5.1.1 Results of Questionnaires Return Rate.

<table>
<thead>
<tr>
<th></th>
<th>no.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Return</td>
<td>100</td>
<td>33</td>
</tr>
<tr>
<td>Incomplete Return</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Usable Return</td>
<td>97</td>
<td>32</td>
</tr>
</tbody>
</table>
5.1.2 Gender

There are 57 (59%) male and 40 (41%) female respondents participate in this study. The male to female ratio is about 3 to 2.

Table 5.1.2 Distribution of Respondents by Gender.

<table>
<thead>
<tr>
<th>Gender</th>
<th>no.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>57</td>
<td>59</td>
</tr>
<tr>
<td>Female</td>
<td>40</td>
<td>41</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100</td>
</tr>
</tbody>
</table>

5.1.3 Age

The modal class is within the age range from 25 to 34 years old which makes up of 75 (77%) out of the 97 respondents.

Table 5.1.3 Distribution of Respondents by Age Groups.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>no.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 years or below</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>25 - 34 years</td>
<td>75</td>
<td>77</td>
</tr>
<tr>
<td>35 - 44 years</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>45 - 54 years</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100</td>
</tr>
</tbody>
</table>
5.1.4 Number of years working as an optometrist

The years of experience as an optometrist are mostly distributed among the 0 - 3 years, the 4 - 7 years and the 8 - 11 years. Each group represents approximately 30% of the total respondents.

<table>
<thead>
<tr>
<th>Number of years working as an optometrist</th>
<th>no.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 3 years</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>8 - 11 years</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>12 - 15 years</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>16 - 19 years</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>20 years or above</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100</td>
</tr>
</tbody>
</table>

5.1.5 Highest Academic Qualification

The majority of the respondents possess the Bachelor of Science degree, which make up of 71 (73%) out of the 97 respondents.

<table>
<thead>
<tr>
<th>Qualification</th>
<th>no.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Diploma</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>71</td>
<td>73</td>
</tr>
<tr>
<td>MSc / MPhil.</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100</td>
</tr>
</tbody>
</table>
5.1.6 Type of facility practicing at present

The respondents are quite evenly distributed among both organizational settings, i.e., the business setting (48%) and the clinical setting (52%).

Table 5.1.6 Distribution of Respondents by Organizational Settings.

<table>
<thead>
<tr>
<th>Organizational Settings</th>
<th>no.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Setting</td>
<td>47</td>
<td>48</td>
</tr>
<tr>
<td>Clinical Setting</td>
<td>50</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100</td>
</tr>
</tbody>
</table>

5.1.7 Number of years working in this facility

The years of service in the current facility concentrate in the 0 - 3 years and the 4 - 7 years, which correspond to 45% and 32% respectively.

Table 5.1.7 Distribution of Respondents by Length of Service.

<table>
<thead>
<tr>
<th>Number of years working in this facility</th>
<th>no.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 3 years</td>
<td>44</td>
<td>45</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>8 - 11 years</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>12 - 15 years</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>16 - 19 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>20 years or above</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100</td>
</tr>
</tbody>
</table>
5.1.8 Monthly Income

The majority of the respondents earn within the range from $15001 to $30000, which make up of 73 (75%) out of the 97 respondents.

Table 5.1.8 Distribution of Respondents by Income.

<table>
<thead>
<tr>
<th>Monthly Income</th>
<th>no.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15000 or below</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>$15001 - $30000</td>
<td>73</td>
<td>75</td>
</tr>
<tr>
<td>$30001 - $50000</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>$50001 or above</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>97</td>
<td>100</td>
</tr>
</tbody>
</table>
5.2 The Job Satisfaction of Optometrists and Organizational Settings

5.2.1 Job Satisfaction Scores of all Optometrists as a whole (n = 97).

Table 5.2.1 Mean Scores of Job Satisfaction Factors and Total Job Satisfaction of all Respondents.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Number of Respondents</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>97</td>
<td>2.69</td>
</tr>
<tr>
<td>Professionalism</td>
<td>97</td>
<td>2.45</td>
</tr>
<tr>
<td>Job Nature</td>
<td>97</td>
<td>2.77</td>
</tr>
<tr>
<td>Pay and Prospect</td>
<td>97</td>
<td>3.06</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>97</td>
<td>2.91</td>
</tr>
<tr>
<td>Education and Training</td>
<td>97</td>
<td>3.16</td>
</tr>
<tr>
<td>Commitment</td>
<td>97</td>
<td>2.63</td>
</tr>
<tr>
<td>Personal Control</td>
<td>97</td>
<td>2.12</td>
</tr>
<tr>
<td>Recognition</td>
<td>97</td>
<td>2.15</td>
</tr>
<tr>
<td>Total Job Satisfaction Score</td>
<td>97</td>
<td>2.71</td>
</tr>
</tbody>
</table>

According to the scoring system, the lowest the score the highest the satisfaction and the uncertain score is 3. The mean total satisfaction score (2.71) shows that the optometrists on average tend to feel satisfied with their job. However, the score of 2.71 is not clear cut. The optometrists feel more satisfied on Personal Control (2.12) and Recognition (2.15). However, they tend to feel unsatisfied with Education & Training (3.16) and Pay & Prospect (3.06). Also, they tend to feel satisfied on Professionalism (2.45), Commitment (2.63), Communication (2.69), Job Nature (2.77), and Locus of Control (2.91).
5.2.2 Total Job Satisfaction Scores of Optometrists among different Organizational Settings

Table 5.2.2 Total Job Satisfaction among different Organizational Settings.

<table>
<thead>
<tr>
<th>Organizational Settings</th>
<th>Number of Respondents ( n )</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Setting</td>
<td>47</td>
<td>2.84</td>
</tr>
<tr>
<td>Clinical Setting</td>
<td>50</td>
<td>2.58</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.71</td>
</tr>
</tbody>
</table>

Mann-Whitney \( U = 862 \)   Wilcoxon \( W = 2137 \)   \( Z = -2.26 \)

Asymp. Sig. (2-tailed) = 0.024

Since the p-value is equal to 0.024, which is less than 0.05. Therefore, there is a significant difference in job satisfaction between optometrists working in business setting and clinical setting. The data show that the optometrists working in the clinical setting are more satisfied than the optometrists working in the business setting (2.58 < 2.84, the lowest the score the highest the satisfaction).

5.2.3 Job Satisfaction Scores of Professionalism factor among different Organizational Settings

Table 5.2.3 Professionalism factor among different Organizational Settings.

<table>
<thead>
<tr>
<th>Organizational Settings</th>
<th>Number of Respondents ( n )</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Setting</td>
<td>47</td>
<td>2.65</td>
</tr>
<tr>
<td>Clinical Setting</td>
<td>50</td>
<td>2.27</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.45</td>
</tr>
</tbody>
</table>
Mann-Whitney U = 657   Wilcoxon W = 1932   Z = -3.756

Asymp. Sig. (2-tailed) = 0.000

Since the p-value is less than 0.05, there is a significant difference in job satisfaction of Professionalism among the different organizational settings. The data show that the optometrists working in the clinical setting are more satisfied in Professionalism than the optometrists working in the business setting (2.27 < 2.65).

5.2.4 Job Satisfaction Scores of Job Nature factor among different Organizational Settings

Table 5.2.4  Job Nature factor among different Organizational Settings.

<table>
<thead>
<tr>
<th>Organizational Settings</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Setting</td>
<td>47</td>
<td>2.99</td>
</tr>
<tr>
<td>Clinical Setting</td>
<td>50</td>
<td>2.57</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.77</td>
</tr>
</tbody>
</table>

Mann-Whitney U = 894   Wilcoxon W = 2169   Z = -2.039

Asymp. Sig. (2-tailed) = 0.041

Since the p-value is less than 0.05, there is a significant difference in job satisfaction of Job Nature among the different organizational settings. The data show that the optometrists working in the clinical setting are more satisfied in Job Nature than the optometrists working in the business setting (2.57 < 2.99).
5.2.5 Job Satisfaction Scores of Locus of Control factor among different Organizational Settings

Table 5.2.5  Locus of Control factor among different Organizational Settings.

<table>
<thead>
<tr>
<th>Organizational Settings</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Setting</td>
<td>47</td>
<td>3.08</td>
</tr>
<tr>
<td>Clinical Setting</td>
<td>50</td>
<td>2.75</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.91</td>
</tr>
</tbody>
</table>

Mann-Whitney U = 904.5   Wilcoxon W = 2179.5   Z = -1.969
Asymp. Sig. (2-tailed) = 0.049

Since the p-value is less than 0.05, there is a significant difference in job satisfaction of Locus of Control among the different organizational settings. The data show that the optometrists working in the clinical setting are more satisfied in Locus of Control than the optometrists working in the business setting (2.75 < 3.08).

5.2.6 Job Satisfaction Scores of Education and Training factor among different Organizational Settings

Table 5.2.6  Education & Training factor among different Organizational Settings.

<table>
<thead>
<tr>
<th>Organizational Settings</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Setting</td>
<td>47</td>
<td>3.39</td>
</tr>
<tr>
<td>Clinical Setting</td>
<td>50</td>
<td>2.95</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>3.16</td>
</tr>
</tbody>
</table>
Mann-Whitney $U = 886.5$    Wilcoxon $W = 2161.5$    $Z = -2.103$

Asymp. Sig. (2-tailed) = 0.035

Since the p-value is less than 0.05, there is a significant difference in job satisfaction of Education and Training among the different organizational settings. The data show that the optometrists working in the clinical setting are more satisfied in Education & Training than the optometrists working in the business setting ($2.95 < 3.39$).

### 5.2.7 Job Satisfaction Scores of Commitment factor among different Organizational Settings

Table 5.2.7 Commitment factor among different Organizational Settings.

<table>
<thead>
<tr>
<th>Organizational Settings</th>
<th>Number of Respondents $n$</th>
<th>Mean Scores $(1-2-3-4-5)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Setting</td>
<td>47</td>
<td>2.77</td>
</tr>
<tr>
<td>Clinical Setting</td>
<td>50</td>
<td>2.50</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.63</td>
</tr>
</tbody>
</table>

Mann-Whitney $U = 884$    Wilcoxon $W = 2159$    $Z = -2.117$

Asymp. Sig. (2-tailed) = 0.034

Since the p-value is less than 0.05, there is a significant difference in job satisfaction of Commitment among the different organizational settings. The data show that the optometrists working in the clinical setting are more satisfied in Commitment than the optometrists working in the business setting ($2.50 < 2.77$).
5.3 Job Satisfaction of Optometrists and Demographic Characteristics

5.3.1 Age

5.3.1.1 Total Job Satisfaction Scores of Optometrists among different Age Groups

Table 5.3.1.1 Total Job Satisfaction among different Age Groups.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Number of Respondents</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 years or below</td>
<td>2</td>
<td>2.36</td>
</tr>
<tr>
<td>25 - 34 years</td>
<td>75</td>
<td>2.80</td>
</tr>
<tr>
<td>35 - 44 years</td>
<td>16</td>
<td>2.36</td>
</tr>
<tr>
<td>45 - 54 years</td>
<td>4</td>
<td>2.49</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.71</td>
</tr>
</tbody>
</table>

Kruskal Wallis Test: Chi-Square = 9.487  df = 3  Asymp. Sig. = 0.023

Tukey HSD: For 25-34 years and 35-44 years, mean difference = 0.44, Sig. = 0.045

Since the p-value is less than 0.05, therefore, there is a significant difference in total job satisfaction between optometrists with different age groups.

5.3.1.2 Job Satisfaction Scores of Pay & Prospect factor among different Age Groups

Table 5.3.1.2 Pay & Prospect factor among different Age Groups.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Number of Respondents</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 years or below</td>
<td>2</td>
<td>3.10</td>
</tr>
<tr>
<td>25 - 34 years</td>
<td>75</td>
<td>3.18</td>
</tr>
<tr>
<td>35 - 44 years</td>
<td>16</td>
<td>2.51</td>
</tr>
<tr>
<td>45 - 54 years</td>
<td>4</td>
<td>2.90</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>3.06</td>
</tr>
</tbody>
</table>
Kruskal Wallis Test: Chi-Square = 10.643 df = 3 Asymp. Sig. = 0.014

Tukey HSD: For 25-34 years and 35-44 years, mean difference = 0.67, Sig. = 0.023

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Pay & Prospect between optometrists with different age groups.

5.3.1.3 Job Satisfaction Scores of Education & Training factor among different Age Groups

Table 5.3.1.3 Education & Training factor among different Age Groups.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 years or below</td>
<td>2</td>
<td>3.33</td>
</tr>
<tr>
<td>25 - 34 years</td>
<td>75</td>
<td>3.31</td>
</tr>
<tr>
<td>35 - 44 years</td>
<td>16</td>
<td>2.48</td>
</tr>
<tr>
<td>45 - 54 years</td>
<td>4</td>
<td>3.00</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>3.16</td>
</tr>
</tbody>
</table>

Kruskal Wallis Test: Chi-Square = 8.866 df = 3 Asymp. Sig. = 0.031

Tukey HSD: For 25-34 years and 35-44 years, mean difference = 0.83, Sig. = 0.007

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Education & Training between optometrists with different age groups.
5.3.2 Academic Qualification

5.3.2.1 Total Job Satisfaction Scores of Optometrists among Academic Qualification

Table 5.3.2.1 Total Job Satisfaction among Academic Qualification.

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Diploma</td>
<td>16</td>
<td>2.92</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>71</td>
<td>2.73</td>
</tr>
<tr>
<td>MSc / MPhil.</td>
<td>4</td>
<td>2.50</td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>6</td>
<td>2.02</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.71</td>
</tr>
</tbody>
</table>

Kruskal Wallis Test: Chi-Square = 10.55  df = 3  Asymp. Sig. = 0.014

Tukey HSD: For PD/PhD, mean difference = 0.90, Sig. = 0.012

For BSc/PhD, mean difference = 0.71, Sig. = 0.032

Since the p-value is less than 0.05, therefore, there is a significant difference in Total Job Satisfaction between optometrists with different Academic Qualification.

5.3.2.2 Job Satisfaction Scores of Job Nature factor among Academic Qualification

Table 5.3.2.2 Job Nature factor among Academic Qualification.

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Diploma</td>
<td>16</td>
<td>3.02</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>71</td>
<td>2.85</td>
</tr>
<tr>
<td>MSc / MPhil.</td>
<td>4</td>
<td>2.31</td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>6</td>
<td>1.50</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.77</td>
</tr>
</tbody>
</table>

64
Kruskal Wallis Test:  
Chi-Square = 11.716  
df = 3  
Asymp. Sig. = 0.008

Tukey HSD:  
For PD/PhD, mean difference = 1.52, Sig. = 0.012

For BSc/PhD, mean difference = 1.35, Sig. = 0.011

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Job Nature between optometrists with different Academic Qualification.

5.3.2.3 Job Satisfaction Scores of Pay & Prospect factor among Academic Qualification

Table 5.3.2.3  Pay & Prospect factor among Academic Qualification.

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Diploma</td>
<td>16</td>
<td>3.34</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>71</td>
<td>3.09</td>
</tr>
<tr>
<td>MSc / MPhil.</td>
<td>4</td>
<td>3.00</td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>6</td>
<td>1.93</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>3.06</td>
</tr>
</tbody>
</table>

Kruskal Wallis Test:  
Chi-Square = 10.792  
df = 3  
Asymp. Sig. = 0.013

Tukey HSD:  
For PD/PhD, mean difference = 1.40, Sig. = 0.003

For BSc/PhD, mean difference = 1.16, Sig. = 0.006

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Pay & Prospect between optometrists with different Academic Qualification.
5.3.3 Income

5.3.3.1 Total Job Satisfaction Scores of Optometrists among Income

Table 5.3.3.1 Total Job Satisfaction among different Income Groups.

<table>
<thead>
<tr>
<th>Monthly Income</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15000 or below</td>
<td>2</td>
<td>2.41</td>
</tr>
<tr>
<td>$15001 - $30000</td>
<td>73</td>
<td>2.86</td>
</tr>
<tr>
<td>$30001 - $50000</td>
<td>14</td>
<td>2.38</td>
</tr>
<tr>
<td>$50001 or above</td>
<td>8</td>
<td>1.92</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.71</td>
</tr>
</tbody>
</table>

Kruskal Wallis Test: Chi-Square = 20.84  df = 3  Asymp. Sig. = 0.000

Tukey HSD: For $15001-$30000 and $30001-$50000, mean diff=0.49, Sig.=0.017

For $15001-$30000 and $50001 or above, mean diff=0.95, Sig.=0.000

Since the p-value is less than 0.05, therefore, there is a significant difference in Total Job Satisfaction between optometrists with different Income Groups.

5.3.3.2 Job Satisfaction Scores of Professionalism factor among Income

Table 5.3.3.2 Professionalism factor among different Income Groups.

<table>
<thead>
<tr>
<th>Monthly Income</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15000 or below</td>
<td>2</td>
<td>2.07</td>
</tr>
<tr>
<td>$15001 - $30000</td>
<td>73</td>
<td>2.56</td>
</tr>
<tr>
<td>$30001 - $50000</td>
<td>14</td>
<td>2.29</td>
</tr>
<tr>
<td>$50001 or above</td>
<td>8</td>
<td>1.88</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.45</td>
</tr>
</tbody>
</table>
Kruskal Wallis Test:  Chi-Square = 12.058 \hspace{1cm} df = 3 \hspace{1cm} Asymp. Sig. = 0.007

Tukey HSD:  For $15001$-$30000$ and $50001$ or above, mean diff$=0.68$, Sig.$=0.007$

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Professionalism between optometrists with different Income Groups.

5.3.3.3 Job Satisfaction Scores of Job Nature factor among Income

Table 5.3.3.3  Job Nature factor among different Income Groups.

<table>
<thead>
<tr>
<th>Monthly Income</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15000$ or below</td>
<td>2</td>
<td>2.63</td>
</tr>
<tr>
<td>$15001$ - $30000$</td>
<td>73</td>
<td>2.99</td>
</tr>
<tr>
<td>$30001$ - $50000$</td>
<td>14</td>
<td>2.39</td>
</tr>
<tr>
<td>$50001$ or above</td>
<td>8</td>
<td>1.47</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.77</td>
</tr>
</tbody>
</table>

Kruskal Wallis Test:  Chi-Square = 17.693 \hspace{1cm} df = 3 \hspace{1cm} Asymp. Sig. = 0.001

Tukey HSD:  For $15001$-$30000$ and $50001$ or above, mean diff$=1.52$, Sig.$=0.000$

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Job Nature between optometrists with different Income Groups.
5.3.3.4 Job Satisfaction Scores of Pay & Prospect factor among Income

Table 5.3.3.4 Pay & Prospect factor among different Income Groups.

<table>
<thead>
<tr>
<th>Monthly Income</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15000 or below</td>
<td>2</td>
<td>3.40</td>
</tr>
<tr>
<td>$15001 - $30000</td>
<td>73</td>
<td>3.29</td>
</tr>
<tr>
<td>$30001 - $50000</td>
<td>14</td>
<td>2.47</td>
</tr>
<tr>
<td>$50001 or above</td>
<td>8</td>
<td>1.83</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>3.06</td>
</tr>
</tbody>
</table>

Kruskal Wallis Test: Chi-Square = 27.264 df = 3 Asymp. Sig. = 0.000

Tukey HSD: For $15001-$30000 and $30001-$50000, mean diff=0.82, Sig.=0.001
For $15001-$30000 and $50001 or above, mean diff=1.47, Sig.=0.000
For $15000 or below and $50001 or above, mean diff=1.58, Sig.=0.035

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Pay & Prospect between optometrists with different Income Groups.

5.3.3.5 Job Satisfaction Scores of Education & Training factor among Income

Table 5.3.3.5 Education & Training factor among different Income Groups.

<table>
<thead>
<tr>
<th>Monthly Income</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15000 or below</td>
<td>2</td>
<td>3.33</td>
</tr>
<tr>
<td>$15001 - $30000</td>
<td>73</td>
<td>3.38</td>
</tr>
<tr>
<td>$30001 - $50000</td>
<td>14</td>
<td>2.64</td>
</tr>
<tr>
<td>$50001 or above</td>
<td>8</td>
<td>2.04</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>3.16</td>
</tr>
</tbody>
</table>
Kruskal Wallis Test: Chi-Square = 15.868 df = 3 Asymp. Sig. = 0.001

Tukey HSD: For $15001-$30000 and $30001-$50000, mean diff=0.74, Sig. =0.021

For $15001-$30000 and $50001 or above, mean diff=1.34, Sig. =0.000

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Education & Training between optometrists with different Income Groups.

### 5.3.3.6 Job Satisfaction Scores of Commitment factor among Income

Table 5.3.3.6 Commitment factor among different Income Groups.

<table>
<thead>
<tr>
<th>Monthly Income</th>
<th>Number of Respondents n</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15000 or below</td>
<td>2</td>
<td>2.10</td>
</tr>
<tr>
<td>$15001 - $30000</td>
<td>73</td>
<td>2.76</td>
</tr>
<tr>
<td>$30001 - $50000</td>
<td>14</td>
<td>2.39</td>
</tr>
<tr>
<td>$50001 or above</td>
<td>8</td>
<td>1.93</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>2.63</td>
</tr>
</tbody>
</table>

Kruskal Wallis Test: Chi-Square = 13.742 df = 3 Asymp. Sig. = 0.003

Tukey HSD: For $15001-$30000 and $50001 or above, mean diff=0.84, Sig. =0.010

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Commitment between optometrists with different Income Groups.
5.3.3.7 Job Satisfaction Scores of Personal Control factor among Income

Table 5.3.3.7 Personal Control factor among different Income Groups.

<table>
<thead>
<tr>
<th>Monthly Income</th>
<th>Number of Respondents</th>
<th>Mean Scores (1-2-3-4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15000 or below</td>
<td>2</td>
<td>1.50</td>
</tr>
<tr>
<td>$15001 - $30000</td>
<td>73</td>
<td>2.30</td>
</tr>
<tr>
<td>$30001 - $50000</td>
<td>14</td>
<td>1.68</td>
</tr>
<tr>
<td>$50001 or above</td>
<td>8</td>
<td>1.38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>97</strong></td>
<td><strong>2.12</strong></td>
</tr>
</tbody>
</table>

Kruskal Wallis Test: Chi-Square = 13.711 df = 3 Asymp. Sig. = 0.003

Tukey HSD: For $15001-$30000 and $50001 or above, mean diff=0.93, Sig.=0.027

Since the p-value is less than 0.05, therefore, there is a significant difference in job satisfaction of Personal Control between optometrists with different Income Groups.

5.4 Results of the Hypotheses Testing

5.4.1 Organizational Settings

H₀: There is no difference in job satisfaction between optometrists working in business setting and clinical setting.

H₁: There is difference in job satisfaction between optometrists working in business setting and clinical setting.

Mann-Whitney U = 862 Wilcoxon W = 2137 Z = -2.26

Asymp. Sig. (2-tailed) = 0.024
Since the p-value is equal to 0.024, which is less than 0.05, the null hypothesis is thus rejected. Therefore, there is a significant difference in job satisfaction between optometrists working in business setting and clinical setting.

5.4.2 Gender

$H_{02}$: There is no difference in job satisfaction between male and female optometrists.

$H_{a2}$: There is difference in job satisfaction between male and female optometrists.

Mann-Whitney $U = 1089$  Wilcoxon $W = 1909$  $Z = -0.374$

Asymp. Sig. (2-tailed) = 0.709

Since the p-value is equal to 0.709, which is greater than 0.05, the null hypothesis is not rejected. Therefore, there is no difference in job satisfaction between male and female optometrists.

5.4.3 Age

$H_{03}$: There is no difference in job satisfaction between optometrists with different age groups.

$H_{a3}$: There is difference in job satisfaction between optometrists with different age groups.

Kruskal Wallis Test: Chi-Square = 9.487  df = 3  Asymp. Sig. = 0.023

Since the p-value is less than 0.05, the null hypothesis is rejected. Therefore, there is a significant difference in job satisfaction between optometrists with different age groups.
5.4.4 Years of Experience

\[ H_0: \] There is no difference in job satisfaction between optometrists with different years of experience.

\[ H_a: \] There is difference in job satisfaction between optometrists with different years of experience.

Kruskal Wallis Test: Chi-Square = 9.564 \hspace{1em} df = 5 \hspace{1em} Asymp. Sig. = 0.089

Since the p-value is greater than 0.05, the null hypothesis is not rejected. Therefore, there is no difference in job satisfaction between optometrists with different years of experience.

5.4.5 Academic Qualification

\[ H_0: \] There is no difference in job satisfaction between optometrists with different academic qualifications.

\[ H_a: \] There is difference in job satisfaction between optometrists with different academic qualifications.

Kruskal Wallis Test: Chi-Square = 10.55 \hspace{1em} df = 3 \hspace{1em} Asymp. Sig. = 0.014

Since the p-value is less than 0.05, the null hypothesis is rejected. Therefore, there is a significant difference in job satisfaction between optometrists with different academic qualifications.

5.4.6 Length of Service

\[ H_0: \] There is no difference in job satisfaction between optometrists with different length of service within the organizational setting.

\[ H_a: \] There is difference in job satisfaction between optometrists with different length of service within the organizational setting.
Kruskal Wallis Test: Chi-Square = 7.712   df = 5   Asymp. Sig. = 0.173

Since the p-value is greater than 0.05, the null hypothesis is not rejected. Therefore, there is no difference in job satisfaction between optometrists with different length of service within the organizational setting.

5.4.7 Income

H0: There is no difference in job satisfaction between optometrists with different income groups.

H1: There is difference in job satisfaction between optometrists with different income groups.

Kruskal Wallis Test: Chi-Square = 20.84   df = 3   Asymp. Sig. = 0.000

Since the p-value is less than 0.05, the null hypothesis is rejected. Therefore, there is a significant difference in job satisfaction between optometrists with different income groups.
<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Accepted</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  ( H_{01} ): There is no difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists working in business setting and clinical setting.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( H_{A1} ): There is difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists working in business setting and clinical setting.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2  ( H_{02} ): There is no difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>male and female optometrists.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( H_{A2} ): There is difference in job satisfaction between male</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>and female optometrists.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3  ( H_{03} ): There is no difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists with different age groups.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( H_{A3} ): There is difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists with different age groups.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4  ( H_{04} ): There is no difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists with different years of experience.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( H_{A4} ): There is difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists with different years of experience.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5  ( H_{05} ): There is no difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists with different academic qualifications.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( H_{A5} ): There is difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists with different academic qualifications.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6  ( H_{06} ): There is no difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists with different length of service within the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>organizational setting.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( H_{A6} ): There is difference in job satisfaction between</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>optometrists with different length of service within the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>organizational setting.</td>
<td></td>
<td></td>
</tr>
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<td>7  ( H_{07} ): There is no difference in job satisfaction between</td>
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<td>optometrists with different income groups.</td>
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<td>( H_{A7} ): There is difference in job satisfaction between</td>
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<td>optometrists with different income groups.</td>
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</table>
5.4 Summary of Comments from the Optometrists

For the open-ended question set at the end of the questionnaire, which asks for respondents' comments on any other job satisfaction aspects, there are total twelve responses.

Four of them concern either 'any follow-up action after this study' or 'whether the results would be published in the newsletter of the Hong Kong Society of Professional Optometrists (HKSCO)', which are not related to the main theme of this study.

The remaining eight responses voice out the dissatisfaction in certain aspects, which could be related to four job satisfaction factors (Professionalism, Recognition, Pay & Prospect, Education & Training) in this study. They are summarized in the following sections.

5.4.1 Professionalism (3 responses)

'I feel that the optometry profession is not support by the government and even opposed by the medical doctors in Hong Kong as well as other paramedical practice such as pharmacists.'

'Professional satisfaction is the major problem of being an optometrists in Hong Kong. Approval of direct referral seems to be the first stop of going professional status in public.'

'I wish the government will extend the service of optometric system and promote primary care optometry.'
5.4.2 Recognition (2 responses)

'My job satisfaction would be much better if patients thoroughly understand my professional training and appreciate my service.'

'The PolyU does not promote her optometrist students. The public in general do not know what an optometrist is all about.'

5.4.3 Pay & Prospect (2 responses)

'The lack of promotional opportunities make me feel the most unsatisfactory to my career as an optometrist.'

'Compare to other health care professionals, I think optometrists get the lowest salary.'

5.4.4 Education & Training (1 response)

'There are not enough continuing education exposure and professional interaction among optometrists in Hong Kong.'

In conclusion, the above 8 responses represent the dissatisfaction and the concern of professional status, public recognition, pay & promotion, continuing education and professional interaction of optometrists in Hong Kong.
Chapter 6

Discussions

This chapter discusses the results of the level of job satisfaction of the optometrists in general and compares the job satisfaction of optometrists working in the business and clinical settings. Then, the results of the hypotheses testing and the relations between the total job satisfaction, the job satisfaction factors and the demographic characteristics will be discussed. Finally, the limitations of the study will be described.

6.1 Job Satisfaction of Optometrists in general

The Mean Total Job Satisfaction Score of the optometrists is found to be 2.71 (n = 97). This value suggests that on average the optometrists tend to feel satisfied with their job. However, this value is not clear cut, it lies between 2 (Satisfied) and 3 (Uncertain). For the job satisfaction factors, the optometrists definitely feel satisfied on Personal Control (2.12) and Recognition (2.15). Also, they tend to feel satisfied on Professionalism (2.45), Commitment (2.63), Communication (2.69), Job Nature (2.77) and Locus of Control (2.91), and once again these values are not clear cut. Especially the Locus of Control factor scores very close to 3 (Uncertain). Furthermore, the Education & Training factor (3.16) and the Pay & Prospect factor (3.06) also score very close to 3 (Uncertain), the optometrists on average feel a bit uncertain to unsatisfied in these two factors. Comparatively speaking, it can be stated that the optometrists feel more satisfied on Personal Control and Recognition than on Education & Training and Pay & Prospect (approximately one unit difference in the
Likert scale). The optometrists are generally tend to feel satisfied on their jobs. It is consistency with overseas study, in which a survey questionnaire was mail to a large nationwide random sample of optometrists (n=709), and most of the respondents indicated they derived personal satisfaction from their career (Voorhees et al 1997).

6.2 Job Satisfaction and Organizational Settings

The results show that statistically there are significant differences in Total Job Satisfaction, Professionalism, Job Nature, Locus of Control, Education & Training, Commitment among the optometrists working in the two different organizational settings (Business and Clinical Settings).

Regarding the Total Job Satisfaction, the optometrists in the clinical setting (2.58) are more satisfied than the optometrists in the business setting (2.84) with 2-tailed \( p=0.024 \). Data also show that the clinical optometrists are more satisfied in Professionalism (2.27<2.65, \( p=0.000 \)), Job Nature (2.57<2.99, \( p=0.041 \)), Locus of Control (2.75<3.08, \( p=0.049 \)), Education & Training (2.95<3.39, \( p=0.035 \)), Commitment (2.50<2.77, \( p=0.034 \)) than the business optometrists.

These results support the view that Optometry being a health science discipline, the optometrists can gain more satisfaction by working in the clinical setting environment like hospitals, clinics, or academic institutions. Such environment provides more opportunities for professional development in knowledge and skills, more support to education & training. The clinical setting also encourages the optometrists to practice full scope of optometry. It provides more challenging jobs and enables greater extent of personal growth and achievement. Satisfaction from these aspects certainly helps to drive the optometrists to commit to their jobs. The
business setting optometrists tend to feel a bit unsatisfied on Education & Training (3.39). This may suggest that the employers might feel that the optometrists have had adequate training to manage their current jobs in the business environment and reluctant to sponsor their employees to attend courses.

6.3 Job Satisfaction and Demographic Characteristics

6.3.1 Results of Hypotheses Testing

Four out of seven alternate hypotheses are accepted. They are listed as follow:

(For summary of hypotheses testing, refer to p.74 Table 5.4)

$H_{01}$: There is difference in job satisfaction between optometrists working in business setting and clinical setting.

$H_{02}$: There is difference in job satisfaction between optometrists with different age groups.

$H_{03}$: There is difference in job satisfaction between optometrists with different academic qualifications.

$H_{04}$: There is difference in job satisfaction between optometrists with different income groups.

The first alternate hypothesis has been discussed in section 6.2, therefore, the remaining three alternate hypotheses would be discussed in this section.
6.3.2 Job Satisfaction and Age

By the multiple comparison tests (Tukey HSD), there are statistical differences in Total Job Satisfaction, Pay & Prospect, Education & Training between the 25-34 and the 35-44 age groups. The older age group is more satisfied than the younger age group (2.36 < 2.80, p = 0.045; 2.51 < 3.18, p = 0.023; 2.48 < 3.31, p = 0.007, respectively). The finding reported by Herzberg et al (1957) shows that job satisfaction starts high, declines, and then starts to improve again with increasing age. The increased of job satisfaction from the 25-34 to the 35-44 age groups can be resulted from the optometrist comes to adjust to his work and life situation. The 35-44 age group may feel more satisfied on what they possess like salary, rank, opportunities for training. However, optometrists in these two age groups may have different reference groups, moral values, and life experiences, which may also account for the change in job satisfaction.

6.3.3 Job Satisfaction and Academic Qualification

By the multiple comparison tests (Tukey HSD), there are statistical differences in Total Job Satisfaction, Job Nature, Pay & Propect between Professional Diploma (PD) and PhD holders and between BSc and PhD holders. It is obvious that the highest academic qualification of PhD holders are more satisfied than the BSc and the PD holders (2.02 < 2.73, 2.92; 1.50 < 2.85, 3.02; 1.93 < 3.09, 3.34 respectively). The optometrists with PhD degree gain very much satisfaction and self achievement within the work itself. The PhD holders are usually at higher occupational levels, their remuneration and prospect for promotion are greater than the BSc and PD holders. Herzberg et al (1957) also found a positive relationship between education level and job satisfaction.
6.3.4 Job Satisfaction and Income

By the multiple comparison tests (Tukey HSD), there are statistical differences in Total Job Satisfaction, Professionalism, Job Nature, Pay & Prospect, Education & Training, Commitment, Personal Control between the 15001-30000 and the 50001 or above income groups. The highest income group feels more satisfied than the 15001-30000 income group (1.92<2.86, 1.88<2.56, 1.47<2.99, 1.83<3.29, 2.04<3.38, 1.93<2.76, 1.38<2.30 respectively). Statistical differences are also found in Total Job Satisfaction, Pay & Prospect, Education & Training between the 15001-30000 and the 30001-50000 income groups. Hence, the 30001-50000 income group feels more satisfied than the 15001-30000 income group (2.38<2.86, 2.47<3.29, 2.64<3.38 respectively). The results show that income is an important element in job satisfaction of the optometrists. The highest income group seems to be more satisfied in six out of the nine job satisfaction factors (professionalism, job nature, pay & prospect, education & training, commitment, personal control) than the 15001-30000 income group.

This may due to the fact that income, in terms of money payment, means much more than just the amount of goods and services that can be bought with it. The amount of money which one receives is sometimes an indication of one's value to an organization, so it is associated with achievement and recognition by one's peers. Income can take on symbolic functions of indicating recognition and achievement. This opposing Herzberg (1966) view that money is a hygiene factor. However, it is not necessarily actual level of pay which is related to job satisfaction., but relative levels, that is, the amount of pay received relative to others with whom one is comparing oneself. The equity theory (Adams 1965) supports this view.
6.4 Limitations of the Study

6.4.1 The study only recruits Part I registered Optometrists as subjects. Therefore, the results cannot be generalized to include the Part II to IV registered Optometrists.

6.4.2 The job satisfaction scores that lies between 2 (Satisfied) and 3 (Uncertain) make the results interpretation not very clear cut.
Chapter 7

Conclusions

7.1 Conclusions of the Study

A Job Satisfaction Measurement Instrument is developed to measure optometrists' job satisfaction in the business and clinical settings in Hong Kong. The job satisfaction of the optometrists working in the two different organizational settings is statistically different. Optometrists working in the clinical setting are more satisfied than those that are working in the business setting, especially in the following job satisfaction factors: Professionalism, Job Nature, Locus of Control, Education & Training, Commitment.

Some of the demographic characteristics of the optometrists are related to their job satisfaction. Age, Academic Qualification, and Income are associated with the total job satisfaction and some of the job satisfaction factors of the optometrists. The 35-44 age group, the PhD holders, and the highest income group are found to be the most satisfied among the respondents.

On average, the optometrists (n=97) tend to feel satisfied with their job with the mean total job satisfaction scores of 2.71, although this value is not clear cut enough. The optometrists show clear cut satisfaction in the job satisfaction factors on Personal Control (2.12) and Recognition (2.15). However, they feel a bit uncertain to unsatisfied on Education & Training (3.16) and Pay & Prospect (3.06).
7.2 Recommendations

7.2.1 Since the optometrists working in the clinical setting are more satisfied than those that are working in the business setting, the employers of the business setting should review the job nature of the optometrists. Besides the commercial point of view, the job nature should emphasize more on the vision health care aspect, such as ocular health assessment and binocular vision assessment. This can be done by encouraging the practice of full scope of optometry in their workplace. Hence, the optometrists can use what they have learned to examine and to treat their patients. Therefore, more contribution can be made to patient treatment and more professional interaction with other health care workers such as ophthalmologists.

7.2.2 The business setting employers can encourage life-long education and offer opportunities for further professional development and training for the optometrists. At the same time, the employers should allow sufficient time and manpower for the optometrists to examine the patients. Therefore, with all these supports, the optometrists would become more committed to their jobs.

7.2.3 For future research, the subjects of the study can be expanded to include the part II to IV registered optometrists. Hence, a more thorough picture of the job satisfaction characteristics of all registered optometrists in Hong Kong could be delineated.
References


Hong Kong Government. Hong Kong Government Gazette. 10 December 1999, Special Supplement No. 4.


Appendix 1: The 37 items developed by Cheung et al 1993

1. The feeling of worthwhile accomplishment I get from my work

2. The extent to which I can use my skills

3. The contribution I make to patient care

4. The amount of challenge in my job

5. The extent to which my job is varied

6. The extent to which my job is interesting

7. What I have accomplished when I go home at the end of the day

8. The amount of personal growth and development I get from my work

9. The amount of independent decision making power I can exercise in my work

10. The amount of independent action I can exercise in my work

11. The time available to get through my work

12. The time available for patient care

13. Overall staffing level

14. The way that I am able to care for patient

15. The amount of time spent on administration

16. The amount of support and guidance I receive from my supervisor

17. The opportunities I have to discuss my concerns with colleagues

18. The opportunities I have to discuss my concerns with my supervisor
19. The support available to me in my job

20. The overall quality of the supervision I receive in my work

21. The degree of respect and fair treatment I receive from my superior

22. The degree to which I feel part of a team

23. The relationship I have with other health care workers

24. The contact I have with colleagues

25. The value placed on my work by my colleagues

26. The amount of pay I receive in comparison with people in other occupations

27. My rank

28. The degree to which I am fairly paid for what I contribute to this organization

29. My prospects for promotion

30. The opportunities I have to develop professionally

31. The match between my job description and what I do

32. The amount of job security I have

33. Time off to attend course

34. Being sponsored to attend course

35. The extend to which I have adequate training for what I do

36. The value placed on my work by my patients and/or their relatives

37. The opportunities I have to talk to patient
Appendix 2:  Job Satisfaction Questionnaire

Instruction: This questionnaire has been designed to assess how do Hong Kong optometrists working in different organizational settings feel about different aspects of their job. Please answer EACH question by ticking ONLY ONE BOX and be sure to answer all questions. You do not need to give your own name. All answers are absolutely confidential. You will not be identified. Please seal your questionnaire in the envelope provided and send it back to me. Thank you.

非常滿意       滿意       不滿意       非常不滿意       不清楚
VS = Very Satisfied  S = Satisfied  US = Unsatisfied  VUS = Very Unsatisfied  U=Uncertain

你對你的工作在以下各方面有多滿意？
How satisfied are you with the following?

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<th>非常滿意</th>
<th>滿意</th>
<th>不滿意</th>
<th>非常不滿意</th>
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<tr>
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<td>VS</td>
<td>S</td>
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<tr>
<td>1.</td>
<td>我從工作中取得的成就感</td>
<td>The feeling of worthwhile accomplishment</td>
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<td>2.</td>
<td>我可以運用專業技巧的程度</td>
<td>The extent to which I can use my skills</td>
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<td>3.</td>
<td>我對治療病人的貢獻</td>
<td>The contribution I make to patient treatment</td>
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<td>4.</td>
<td>我的工作之挑戰性</td>
<td>The amount of challenge in my job</td>
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<td>5.</td>
<td>我的工作之多樣性</td>
<td>The extent to which my job is varied</td>
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<td>6.</td>
<td>我的工作之趣味性</td>
<td>The extent to which my job is interesting</td>
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<td>7.</td>
<td>當我放工回家時，我所完成的工作給我的感受</td>
<td>What I have accomplished when I go home at the end of the day</td>
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<td>8.</td>
<td>我從工作中所得到的個人成長及發展</td>
<td>The amount of personal growth and development I get from my work</td>
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<td>9.</td>
<td>我在工作中所能運用的獨立決策權力</td>
<td>The amount of independent decision making power I can exercise in my work</td>
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<td>10. 我在工作中能夠獨立處事的程度</td>
<td>The amount of independent action I can exercise in my work</td>
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<td>11. 我可使用於完成工作的時間</td>
<td>The time available to get through my work</td>
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<td>12. 我可使用於檢查病人的時間</td>
<td>The time available for patient examination</td>
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<tr>
<td>13. 人手足夠的程度</td>
<td>Overall staffing level</td>
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<td>14. 我能夠檢查病人的方法</td>
<td>The way that I am able to examine patient</td>
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<td>15. 用於行政上的時間之總量</td>
<td>The amount of time spent on administration</td>
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<tr>
<td>16. 我從上司中得到的支持和指導</td>
<td>The amount of support and guidance I receive from my supervisor</td>
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<td>17. 我和同事討論我所關心的事情之機會</td>
<td>The opportunities I have to discuss my concerns with colleagues</td>
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<tr>
<td>18. 我和上司討論我所關心的事情之機會</td>
<td>The opportunities I have to discuss my concerns with my supervisor</td>
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<td>19. 我在工作中可以獲得的支持</td>
<td>The support available to me in my job</td>
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<td>20. 我在工作中得到的督導之整體素質</td>
<td>The overall quality of the supervision I receive in my work</td>
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<td>21. 我的上司尊重和公平對待我程度</td>
<td>The degree of respect and fair treatment I receive from my superior</td>
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<td>22. 我覺得自己屬於整體工作人員之程度</td>
<td>The degree to which I feel part of a team</td>
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<td>23. 我和其他醫療工作人員之間的關係</td>
<td>The relationship I have with other health care workers</td>
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<td>24. 我和同事之間的交往</td>
<td>The contact I have with colleagues</td>
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<td>25. 同事對我的工作評價</td>
<td>The value placed on my work by my colleagues</td>
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<td>26. 相對於其他行業的從業員，我所得到的薪酬</td>
<td>The amount of pay I receive in comparison with people in other occupations</td>
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<td>27. 我的職級</td>
<td>My rank</td>
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<td>28. 以我對機構的貢獻，我所獲得薪酬的公平程度</td>
<td>The degree to which I am fairly paid for what I contribute to this organization</td>
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<td>29. 我得到晉升的機會</td>
<td>My prospects for promotion</td>
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<td>30. 我得到的專業發展機會</td>
<td>The opportunities I have to develop professionally</td>
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<td>31. 我的工作描述和我的實際工作相符的程度</td>
<td>The match between my job description and what I do</td>
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<td>32. 我在工作上的安全感</td>
<td>The amount of job security I have</td>
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<td>33. 因修讀課程而獲得的休假和上班的時間安排</td>
<td>Time off to attend course</td>
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<td>34. 受資助修讀課程的機會</td>
<td>Being sponsored to attend course</td>
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<td>35. 對我須要完成的工作我接受到充分訓練之程度</td>
<td>The extend to which I have adequate training for what I do</td>
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<tr>
<td>36. 我的病人及/或他們的親友對我的工作之評價</td>
<td>The value placed on my work by my patients and/or their relatives</td>
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<tr>
<td>37. 我和病人交談的機會</td>
<td>The opportunities I have to talk to patients</td>
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</table>
38. Gender:
   □ male       □ female

39. Age:
   □ 24 years or below    □ 25-34 years    □ 35-44 years
   □ 45-54 years         □ 55 years or above

40. How many years have you been working as an optometrist?
   □ 0-3 years       □ 4-7 years       □ 8-11 years
   □ 12-15 years     □ 16-19 years     □ 20 years or above

41. Please indicate your highest academic qualification:
   □ Professional Diploma  □ Bachelor of Science
   □ Master of Science / Master of Philosophy
   □ Doctor of Philosophy  □ others

42. Type of facility in which you practice at present?
   □ optical shops / optical chains / ophthalmic products (contact lenses, solutions, spectacle frames, lenses, drugs, instruments, etc.) companies
   □ hospitals / government clinics / clinics in office building / academic institution / research unit
   □ others

43. How many years have you worked in this facility?
   □ 0-3 years       □ 4-7 years       □ 8-11 years
   □ 12-15 years     □ 16-19 years     □ 20 years or above

44. Monthly income:
   □ $15000 or below  □ $15001-$30000  □ $30001-$50000
   □ $50001 or above

You are invited to comment in the space below:
__________________________________________________________
__________________________________________________________
__________________________________________________________

Thank you very much for your cooperation.

End of Questionnaire
Appendix 3: Covering letter to questionnaire respondent

Job Satisfaction Survey

28 January 2000

Dear Colleague,

I am Henry Chui, a MSc student in Health Services Management of The Hong Kong Polytechnic University. I am in the process of writing my dissertation on the topic "Organizational Settings and Job Satisfaction of Optometrists".

The study would involve administration of one questionnaire and a demographic data sheet. Confidentiality and anonymity for both individuals and institutions are guaranteed.

Would you please complete the questionnaire, seal with the envelope provided and send it back to me as soon as possible.

I hope that you will be able to participate and thank you in advance for your cooperation.

Yours sincerely,

CHUI Hang-lee, Henry
Registered Optometrist

Contact number: 9374