JOB-SPECIFIC SOCIAL SKILLS TRAINING PROGRAMME FOR PEOPLE WITH SEVERE MENTAL ILLNESS IN HONG KONG

BY

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CERTIFICATE OF ORIGINALITY

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

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ABSTRACT

Background: Literature has shown that people with severe mental illness (SMI) experience deficits in social skills and social competencies which affect their performance in getting and keeping a job. However, there was a scarcity of studies on social skills needed in the workplace. This study aimed at developing a Job-specific Social Skills Training (JSST) based on the conceptual framework of Work-related Social Skills and Work-related Social Skills Training (WSST) programme in psychiatric rehabilitation (Tsang, 2001b; Tsang & Pearson, 1996) in order to further improve employment outcomes of individuals with SMI in Hong Kong. A control study was carried out to assess its efficacy. **Method:** In Phase One of the study, factor structure of relevant Job-specific Social Skills Components (JSSC) required by salespersons which may contribute to successful employment of consumers was identified by exploratory factor analysis of results of a questionnaire survey. The respondents consisted of 106 salespersons from the retail market. In Phase Two, the JSST module for consumers who have a vocational goal working as salespersons was developed. The content of the module follows the factor structure results in Phase One. Five skill areas are covered in the module. In Phase Three, a control study was conducted to test the efficacy of the module. An Integrated Social Skills Training group (WSST with JSST) (n=37) was compared with two historical comparison groups conducted by Tsang and Pearson (2001), a training group with WSST only (n=30), and a control group (n=41). **Results:** Comparisons of the pre-treatment and post-treatment assessment results among the three groups, using a series of work-related social skills assessments and vocational follow-up questionnaire, showed that the Integrated Social Skills Training group (WSST with JSST) was effective in improving work-related social skills of participants in a larger progress. Vocational follow-up assessment after three-month completion of the training showed that the integrated training group had the most participants (70.3%) who were employed when compared with the previous results (WSST group = 46.7%; control group = 2.4%) done by Tsang and Pearson (2001). **Conclusion:** This study substantiated that the training module of JSST used as an Integrated Social Skills Training with WSST is efficacious in improving the work-related social skills and the chance of open employment of people with SMI in Hong Kong.

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Chapter I: Introduction

Mental illness is not the exclusive preserve of any special group; they are truly universal and found in people of all regions and countries (World Health Organization (WHO), 2001). According to the recent statistics done by WHO in 2001, it showed that neuropsychiatric conditions had an aggregate point prevalence of about 10% for adults, there are about 450 million people were estimated to be suffering from neuropsychiatric conditions. In mainland China, Chen (1995) estimated that the prevalence rate of mental illness was approximately 11 per 1,000 people. This number translates into a total of over 10 million people in China. People with mental illness are not a small group of disabilities in Hong Kong. Health and Welfare Bureau estimated that the number of people with mental illness requiring rehabilitation services would be 96 005 in 2002 (Health and Welfare Bureau, 1999), it is a second large group of disabilities follow the mental handicap, and included 22% population in the disability group.

A wide range of services is provided for our mental health consumers to re-adjust and reintegrate into the community in Hong Kong. According to the Health and Welfare Bureau (1999), the major rehabilitation services required by people with mental illness are medical rehabilitation, education, social rehabilitation and vocational rehabilitation.

The social and vocational rehabilitation of people with psychiatric disabilities, particularly for those with severe mental illness (SMI), is a major concern of mental health professionals. From the "train-and-place" approach to "place-and-train" approach, and

either pre-vocational training or supported employment, various approaches also aim at helping them to get employment and reintegrate into the community.

People with SMI have serious employment problems which include getting and keeping a job. In the United State, surveys indicate that between 75% and 90% of adults with SMI are unemployed (Bond, Becker, Drake, Rapp, Meisler, Lehman et al., 2001; Mueser, Saylers & Mueser, 2001). Trupin and colleagues (1997) reported that the employment rates of people with SMI ranged from a low of 21.5% in 1985 to 27.2% in 1994. This rate is similar to the 15 to 30% employment rates for people with SMI reported by other studies (Dion & Anthony, 1987; Unger & Anthony, 1984). Available local statistics showed that the competitive employment rate was around 30% in a sample of 325 people with psychiatric disabilities in Hong Kong (Equal Opportunities Commission, 1997).

People with SMI usually experience deficits in social skills and social competencies affecting their valued life and the performance in getting and keeping a job (Argyle, 1992; Solinski, Jackson & Bell, 1992; Bond, Becker, Drake et al., 2001; Dion & Anthony, 1987; Mueser, Saylers & Mueser, 2001; Tsang & Pearson, 2001; Wallace, Tauber & Wilde, 1999). The field of psychiatric rehabilitation has therefore paid considerable attention in social skills training in the past three decades. Varieties of social skills training have been designed for people with SMI in order to help them integrate into the community. Several review studies showed that social skills training has a strong and positive impact on acquisition of social skills as measured by behavioral scales and self-reported inventories (Benton & Schroeder, 1990; Corrigan, 1991; Dilk & Bond, 1996; Brenner, Pfammatter & Andres, 1998; Heinssen, Liberman & Kopelowicz, 2000; Bustillo, Lauriello, Horan & Keith, 2001). The goal of skills training, especially social skills training at work, is to help

people with SMI get and keep a regular job (Bond, 1998). The recent trend is to apply social skills training model in the vocational context and specifically in particular jobs (Becker, Bebout & Drake, 1998; Tsang & Pearson, 2001; Twamley, Jeste & Lehman, 2003; Wallace, Tauber & Wilde, 1999). However, the existing training modules focus mainly on social skills which are generic in nature and not specific enough to particular jobs.

This study aimed at developing a Job-specific Social Skills Training (JSST) based on the conceptual framework of work-related social skills in psychiatric rehabilitation (Tsang & Pearson, 1996) to further improve employment outcomes of individuals with SMI in Hong Kong. A clinical trial was then carried out to assess its efficacy. Through the implementation of JSST programme, people with SMI are expected to acquire, improve and generalize the skills to get and keep a particular job based on their preference. Having equipped with the abilities, their vocational outcome can be improved. The design of training programme is based on the employment pattern of people with SMI in Hong Kong. This helps to ensure that the content is relevant to local culture. As social skills training at work is an important intervention in vocational rehabilitation, JSST is the most updated, systematic and evidence-based module for our consumers and is the module that provides the most representative and specific skill components related to a particular job for clinical practice. The programme would act as an updated training protocol for mental health professionals working in hospitals, sheltered workshops, day hospitals, and halfway houses.

Chapter II: Literature Review

A. Review of Severe Mental Illness (SMI)

1. Definition

There have been considerable discussion and controversies regarding the concepts of mental illness in the past decades. Researchers and professions are not satisfied by a single definition of the term "mental illness" or "severe mental illness". They attempted to provide an acceptable definition of their own.

"Mental illness" is defined by the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*, fourth edition (American Psychiatric Association, 1994) as:

"...a clinical significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. In addition, this syndrome or pattern must not be merely an expectable and culturally sanctioned response to a particular event, for example, the death of a loved one. Whatever its original cause, it must currently be considered a manifestation of a behavioral, psychological, or biological dysfunction in the individual..." (American Psychiatric Association, 1994, pp. xxi-xxii)

"Severe mental illness (SMI)" is a term used to describe the severity of mental illness. It is widely used to describe psychiatric disorders characterized by pervasive impairments across different areas of psychosocial functioning, including social relationship, work, leisure and recreation activities, and the ability to care for oneself (Mueser, Drake & Bond, 1997). According to Barker and Gregoire (2000), they provided a workable definition of SMI. They suggested that there is a need to prioritize in cash-limited health services and a need to aid the coordination of multiple agencies in planning, delivering and monitoring services targeted towards particularly vulnerable people. A definition of SMI is important to enable limited specialist mental health services to target those most in need. A number of definitions regarding SMI have been described. However, because the concept of SMI is not absolute and depends on its intended purpose, there is no universally applicable definition provided by American Psychiatric Association.

Although no universal definition of SMI was suggested, Barker and Gregoire (2000) developed an operational definition regarding SMI for general adult mental health services (Table 1).

Table 1

Example of a Determined Definition of Severe Mental Illness for General Adult Psychiatry (Barker and Gregoire, 2000)

One of A or B

A. One of the following:

i. Symptomatic psychotic illnesses: schizophrenia, persistent delusional disorder, schizo-affective disorder or psychotic symptoms that have lasted more than 1 week

ii. Symptomatic Bipolar Affective Disorder

iii. Receiving antipsychotic or mood stabilizing medication for diagnosis in (i) or (ii)

B. Unipolar depression; neurotic, stress-related and somatoform disorders; behavioral syndromes; organic disorders; and one of 1 or 2

1. Functional impact – the mental disorder is causing a severe disability in maintaining usual or expected roles and behaviors for at least 3 months. This may be seen in the following areas:

- maintaining accommodation by paying bills or maintaining basic living conditions
- caring for dependants
- applying for or holding down a job in open employment
- pursuing usual recreational activities
- maintaining socially acceptable personal hygiene
- maintaining a diet adequate for physical health
- recognizing and responding appropriately to household risks
- forming and / or sustaining interpersonal relationships

2. Significant risk of suicide or serious harm to others.

2. Incidence and Prevalence

In the United States, an estimated 22.1% of Americans aged 18 and older suffer from a diagnosable mental illness in a given year (Regier, Narrow, Rae et al., 1993). This refers to 44.3 million people according to the US Census in 1998. In mainland China, Chen (1995) estimated that the prevalence rate of mental illness was approximately 11 per 1,000 people. This number translates into a total of over 10 million people. In Hong Kong, the Health and Welfare Bureau (1999) estimated that there would be 96,005 people with mental illness requiring psychiatric services in 2002.

In Hong Kong, there is lack of statistics to report the prevalence of SMI. There is a need to refer to overseas prevalence for projecting the number of people with mental illness. As described, SMI includes schizophrenia and depressive disorders. In the United States, approximately 2.2 million American adults (Narrow, 1998) aged 18 and older in a given year have schizophrenia. Schizophrenia affects men and women with equal frequency (Robins & Regier, 1991). Schizophrenia often first appears earlier in men, usually in their late teens or early 20s, than in women, who are generally affected in their 20s or early 30s.

According to DSM-IV (American Psychiatric Association, 1994), depressive disorders encompass major depressive disorder, dysthymic disorder, and bipolar disorder. Approximately 18.8 million American adults (Narrow, 1998), or about 9.5 percent of the U.S. population aged 18 and older in a given year, have a depressive disorder. Nearly twice as many women (12.0 percent) as men (6.6 percent) are affected by a depressive disorder each year. These figure translated to 12.4 million women and 6.4 million men in the U.S.

Depressive disorders may appear earlier in life in people born in recent decades compared to the past (Klerman & Weissman, 1989).

Manderscheid and Sonnerschein (1992) reported that in the group of people with SMI, approximately half are adults between the ages of 25 and 44. These figures highlight the impact of severe mental illness on a large and significant portion of the working age population.

The Health and Welfare Bureau (1999) estimated that more than 1.2 million people or 17% of the population are suffering from functional psychoses, organics psychoses, neuroses, child and adolescent psychiatric disorders, and other types of mental illness in Hong Kong. If considering the people with SMI age 15 to 64, 14 482 Hong Kong adults, or about 0.3 percent of the population have schizophrenia and schizophreniform psychoses. Some 96 669 adults or around 4.0 percent of population have affective psychoses.

People with SMI are the largest group of psychiatric consumers receiving rehabilitation care and dominate the current provision of specialized psychiatric service. This group of consumers is in need of the most health care resources when compare with other types of psychiatric consumers.

Table 2

Prevalence of Mental Illness and Estimated Number of Mentally Ill Persons Requiring Rehabilitation Services in 1998 (Health and Welfare Bureau, 1999)

Form of Mental Illness	Age Group	Prevalence in the Age Group	Projected Number of Cases	Estimated % requiring Rehabilitation Services	Estimated Number of Mentally Ill Persons Requiring Rehabilitation Services
Functional Psychoses	15-64				
a) Schizophrenic and Schizophreniform Disorders		0.3%	14 482	70.0	10 137
b) Affective Psychoses		1.44% (Male) 2.60% (Female)	96 669	13.5	13 050
Organic Psychoses	65 or above	10%	67 920	50.0	33 960

Table 3

Estimated Number of People with Different Types of Mental Illness Requiring Rehabilitation Services between 1998 and 2002 (Health and Welfare Bureau, 1999)

Form of Mental Illness	1998	1999	2000	2001	2002
Functional Psychoses					
a) Schizophrenic and Schizophreniform Disorder	10 137	10 308	10 455	10602	10744
b) Affective Psychoses	13 050	13 299	13 513	13 718	13 908
Organic Psychoses	33 960	35 160	36 290	37 500	38 630
Neuroses	11 620	11 859	12 070	12 279	12 474
Others	4 769	4 871	4 961	5 052	5 136
Child and Adolescent Psychiatric Disorders	15 131	15 187	15 166	15 123	15 113
Total	88 667	90 684	92 455	94 274	96 005

3. Social and Vocational Impairments

People with SMI involve problems in one or more major areas of functioning, such as self-care, work, or interpersonal relations. People with SMI have significant deficits in social skills and social performance (Anthony & Liberman, 1986; Bellack, Morrison, Mueser, Wafe & Sayers, 1990; Bryant, Trower, Yardley, Urbieta, & Letermendia, 1976; Christoff & Kelly, 1985; Kerr & Neale, 1993; Wallace, 1986). Most people with SMI have difficulty expressing their emotions and feelings, such as anger, happiness, sadness, confidence, interest, etc., appropriately.

Deficits in social skills are one of the defining characteristics of people with SMI. The deficits make them difficult to establish and maintain social relationships and fulfill their life roles (Tsang & Pearson, 2001). People who lack sufficient interpersonal skills will have difficulties achieving goals necessary for independent living and employment (Liberman, DeRisi & Mueser, 1989). Poor social behavior is often the result of social skills deficits which does not allow consumers to reintegrate into the community. Social skills deficits make them difficult to establish and maintain social relationship and fulfill their social roles. They are unable to interact effectively with their friends and families which affecting their daily life.

Besides daily living, literature showed that an important employment problem of people with SMI is lack of social competence and social skills necessary in the workplace (Rudrud, Ziarnik, Bernstein & Ferrara, 1984; Tsang, 2003; Tsang & Pearson, 2000). Lack of gainful employment is one of the complaints related to poor quality of life among people with SMI. They usually experience deficits in social skills and social competencies that

affect their valued life and the performance in finding and keeping a job. Several research studies have shown a relationship between social skills deficits and poor vocational outcomes in SMI (Charisiou, Jackson, Boyle et al., 1989a & 1989b; Johnstone, Macmillian, Frith, Benn & Crow, 1990; Lysaker, Bell, Milistein et al., 1993).

Review and studies showed that employment problems, such as difficulties in finding and keeping a job of people with SMI could result when they lacked the social competence and social skills necessary in the workplace (Solinski, Jackson & Bell, 1992; Tsang, Lam, Dasari, Ng & Chan, 2000; Tsang, Lam, Ng & Leung, 2000). The 2-year follow-up study by Johnstone and colleagues (1990) showed that poorer vocational outcomes were associated with poorer social skills in a sample of people with SMI. Literature indicated that 75% to 90% of adults with SMI are unemployed (Bond, Becker, Drake et al., 2001; Dion & Anthony, 1987; Mueser, Saylers & Mueser, 2001; Trupin, Sebesta, Yelin et al., 1997; Unger & Anthony, 1984). In Hong Kong, available statistics showed that the competitive employment rate was around 30% in a sample of 325 people with psychiatric disabilities (Equal Opportunities Commission, 1997).

Another problem revealed by literature was that people with SMI had interpersonal difficulty in their workplace that might have led to their pre-mature job termination (Becker, Drake, Bond et al., 1998; Cook & Razzano, 2000; Tsang, Lam, Ng & Leung, 2000). They are reported to have serious employment problems which include getting and keeping a job resulting from inadequacy in social performance (Argyle, 1992; Tsang & Pearson, 2001; Wallace, Tauber & Wilde, 1999). The problems included not knowing how to deal with criticisms from supervisor, how to serve customers, and how to deal with stigmatizing attitude and discriminatory behaviors from co-workers. People with SMI usually

experience social skills deficits which may affect their valued life and cause pre-mature job terminations.

As the result of inadequacy in social performance, people with SMI have serious employment problems (Argyle, 1992; Rudrud, Ziarnik, Bernstein & Ferrara, 1984; Tsang & Pearson, 2000). People with difficulties relating to others at the workplace are associated with poor performance in work (Anthony & Jansen, 1984). It is a common cause of premature job termination (Becker, Drake, Bond et al., 1998) which affected their quality of life.

4. Review of Treatment Approaches

In view of different deficits of people with SMI, various treatment approaches have been developed, including the traditional medical model (pharmacological therapy), psychosocial treatments, and vocational rehabilitation.

Traditional medical model is the dominant mode of treatment. Psychiatric medications are mostly effective in controlling symptoms. However, they have serious side effects which often interfere consumers' living and cause poor drug compliance (Lenroot, Bustillo, Lauriello & Keith, 2003). Literature reveals that medication alone was not sufficient for the treatment of most people with SMI (Lenroot, Bustillo, Lauriello & Keith, 2003). Studies showed that 14 to 40 percent of consumers who were treated with adequate dosages of medication experienced relapses within 1 one-year period (Hogarty & Ulrich, 1998). Many consumers continued to have significant impairment in social and cognitive functioning (Liberman, 1994).

Although it is beyond doubt that medication is a necessary part of the management of our consumers, research has focused on how psychosocial interventions can improve outcomes in the context of ongoing pharmacologic treatment (Lenroot, Bustillo, Lauriello & Keith, 2003). Psychosocial treatments, including social skills training, family interventions, assertive community training, individual psychotherapy, and supported employment (Lauriello, Bustillo & Keith, 1999), give the best evidence of efficacy. Review studies showed that psychosocial treatments have clear effects on the prevention of psychotic relapse, improvements in social functioning, important effects on obtaining competitive employment, and improvements in delusions and hallucinations (Brenner & Pfammatter, 2000; Bustillo, Lauriello, Horan & Keith, 2001; Bustillo, Lauriello & Keith, 1999; Tomaras, Mavreas, Economou, Ioannovich, Karydi & Stefanis, 2000).

Integrated pharmacological treatment coupled with psychosocial intervention has therefore been the most evidence-based therapy as to the treatment outcome on social aspects (Lenroot, Bustillo, Lauriello & Keith, 2003). In view of the integrated treatment, the universal aim is to help our consumers reintegrate into the community and facilitate their independent living. In order to facilitate independent living of people with SMI, how to help our consumers to get a job is of prime importance. Vocational rehabilitation is one of the treatment approaches to help them reintegrate into job market.

Both foreign and local studies showed that vocational rehabilitation has become the important part in the psychiatric rehabilitation (Cook & Pickett, 1995; Mueser, Doonan, Penn et al., 1996; Archer & Rhodes, 1993; Tsang, 2003; Tsang, Ng & Chiu, 2002). Vocational rehabilitation aims to enable people with disabilities to secure, retain and

advance in suitable employment and thereby to further their integration into society (Health and Welfare Bureau, 1999). Different approaches of vocational rehabilitation have been used to improve employment outcomes for individuals with SMI. The most evidence-based approach is supported employment (SE), particularly the Individual Placement and Support (IPS) approach (Drake & Becker, 1996). The details of vocational rehabilitation and supported employment will be reviewed in the next part.

B. Vocational Rehabilitation in Severe Mental Illness

1. Overview of Vocational Rehabilitation

Work is therapeutic and essential for an individual's physical survival and psychological well-being (Chan, Reid, Kaskel et al., 1997; Dawis, 1987). It is an important part of a cultural role which occupied much of an individual's time, supplied a source of income, provided a basis of identity, and contributed to one's physiological and psychological well-being in society (Bond, Resnick, Drake et al., 2001; Dawis, 1987; Mowbray, Bybee, Harris & McCrohan, 1995; Osipow, 1968). Bryson and colleagues (2002) found that participation in paid work activity led to an increase in quality of life and improvement in motivation towards activities. In a ten-year follow up study conducted by Salyers and colleagues (2004), mental health consumers reported that work improved multiple areas of their lives which included feeling less bored and lonely, more self-confident and hopeful about the future. Despite the important functions served by work, people with SMI are usually incompetent to work productively and thus live independently.

Different approaches of vocational rehabilitation have been used to improve employment outcomes for individuals with SMI, including sheltered workshops, psychosocial rehabilitation, and supported employment (Bond & Boyer, 1998). The most evidence-based approach is supported employment (SE), particularly the Individual Placement and Support (IPS) approach (Drake & Becker, 1996). SE directly assists people with disabilities to obtain competitive employment based on consumers' preferences, skills, and experiences (Salyers, Becker, Drake et al., 2004). IPS approach is a specific model of SE for people with SMI. This model emphasizes the integration of vocational and clinical services; rapid job search; matching jobs to consumers' preferences, skills, experiences; and ongoing job supports (Drake & Becker, 1996). IPS has produced consistently better outcomes than traditional vocational rehabilitation in terms of both competitive employment and employment of any type (Twamley, Jeste & Lehman, 2003) However, there are still several limitations, and spaces to improve the vocational and non-vocational outcomes in IPS model.

2. Vocational and Non-vocational Outcomes

Traditional vocational rehabilitation components, such as vocational counseling, pre-vocational skills training, sheltered workshop, and job clubs, had shown little sustained impact on competitive employment for people with SMI. While supported employment, especially IPS approach, has been demonstrated to be effective in several studies (Bond, Drake, Mueser & Becker, 1997; Drake & Becker, 1996; Drake, Becker, Biesanz et al., 1994; Drake, McHugo, Bebout et al., 1999).

The first piece of evidence reported by Drake and colleagues (1994) showed that the vocational outcomes of day treatment consumers following IPS model improved significantly from 33% to 56%, while the comparison day center showed no significant change in employment. Bond, Drake, Mueser and Becker (1997) reviewed six randomized controlled trials on the effectiveness of supported employment, the results of the six studies have been consistent and showed that a mean of 58 percent of consumers in SE group achieved competitive employment over a 12 to 18 month follow-up period, which were significantly better than 21 percent in the controlled group participants. A review by Twamley and colleagues (2003) showed that 51% of the participants in IPS group obtained competitive work, versus 18% of those in the comparison group.

As to the non-vocational outcomes which included self-esteem, management of symptoms, new relationships, job satisfaction and other areas, the IPS participants showed that no advantage over the participants in the comparison group in these domains (Drake, Becker, Clark & Mueser, 1999).

3. Limitations in Vocational Rehabilitation

Although supported employment and IPS have shown consistently better vocational outcomes than traditional vocational rehabilitation, nearly half of IPS participants did not gain competitive work. In addition, there are limited studies on its long-term outcomes (Tsang, 2003; Twamley, Jeste & Lehman, 2003). Salyers and colleagues (2004) reported a study to examine the persistence of the employment outcomes over the ten-year follow-up after participation in IPS. The results showed that 33% of clients who worked at least five years during the ten-year period had an average job tenure of 32 months. There were

nevertheless nearly 70% of consumers who had difficulties in keeping their job after participated in IPS service.

IPS has been shown to be promising. Research efforts to demonstrate its long term outcomes in terms of job satisfaction, social competence and non-vocational outcomes are however limited. Although supported employment has been shown to be effective in boosting up the rate of job acquisition, a major limitation is that it showed no advantage over traditional vocational rehabilitation services in helping workers retain their jobs (Tsang, 2003; Wallace, Tauber & Wilde, 1999; Wallace & Tauber, 2004). As discussed by Drake, Becker, Clark & Mueser (1999), available evidence only demonstrates that IPS can improve short-term rates of competitive employment. Nevertheless, the long-term course of jobs and vocational careers in relation to IPS remains an unknown. Many individuals move on to other jobs, but little is known about the underlying reasons and their subsequent vocational patterns.

Literature shows that people with SMI had interpersonal difficulty in their workplace that might have led to their pre-mature job terminations (Becker, Drake, Bond et al., 1998; Cook & Razzano, 2000; Tsang, Lam, Ng & Leung, 2000). An important employment problem of people with SMI is lack of social competence and social skills necessary in the workplace (Rudrud, Ziarnik, Bernstein et al., 1984; Tsang, 2003; Tsang & Pearson, 2000). The problems included not knowing how to deal with criticisms from supervisor, how to serve customers, and how to deal with stigmatizing attitude from co-workers. People with SMI usually experience social skills deficits which may affect their valued life. Several research studies have shown a relationship between social skills deficits

and poor vocational outcomes in SMI (Johnstone, Macmillan, Frith et al., 1990; Charisiou, Jackson, Boyle et al., 1989a & 1989b; Lysaker, Bell, Milistein et al., 1993).

Although social skills training has been widely used as a treatment modality to counteract social deficits of people with SMI (Liberman, DeRisi & Mueser, 1989; Liberman, 1998; Mueser, Drake & Bond, 1997; Tsang & Pearson, 2001), existing training packages are too generic and do not place particular emphasis on work aspects. Given the important role played by social skills in the workplace, the recent trend is to apply social skills training in the vocational context. Researchers (Dauwalder & Hoffmann, 1992; Stuve, Erickson & Spaulding, 1991; Tsang, 2003; Wallace, Tauber & Wilde, 1999) suggested that future efforts of social skills training should be geared towards the development of workplace social skills training and the application of the latest cognitive behavioral therapy approaches. Trainings should therefore be emphasized on helping consumers with social skills deficits to improve their abilities in handling interpersonal challenges with coworkers and supervisors. The strategy involves helping consumers to achieve vocational goals in various stages of job seeking and actual employment.

However, even social skills were reported as an essential component that contribute to the success of employment, the theoretical models linking the relationship between social and vocational functioning of people with SMI are limited. Tsang (2003) stated that there are at least two reasons for this. First, there is neglect of the truth that accommodation in the workplace is a social process (Gates, 2000). Most of the traditional vocational rehabilitation approaches assumed work accommodation as technical changes to job tasks, job routines, or the physical environment, and neglected the interpersonal aspect. Second, there is little attempt to conceptualize social skills needed for job acquisition and retention

among people with SMI. Based on that, there is a need to apply social skills training in vocational rehabilitation for consumers in order to bridge the gap.

C. Social Skills Training in Vocational Rehabilitation

1. Overview of Social Skills Training

A variety of definitions of social skills has been proposed. Liberman and his colleagues (1989) described a broad definition of social skill as "all the behaviors that help us to communicate our emotions and needs accurately and allow us to achieve our interpersonal goals" (pp.3). According to stress-vulnerability-coping skills model (Liberman, DeRisi & Mueser, 1989), social skills are the actual behaviors consisted in successful social interactions, including accurate social perception, selecting suitable responses for achieving the goal of interaction, and the verbal, non-verbal, and paralinguistic behaviors performed in the encounter. Social skills are the specific behaviors in a person's repertoire; social competence is determined by the impact of the individual's use of skills on the social environment. When social skills are used appropriately in a receptive environment and key personal goals are achieved, the result is social competence. Proficient social skills play a critical role in enabling individuals to improve their social functioning and to remove the source of the stress, as well as to minimize its negative impact. In order to help consumers to address the problems of social skills deficits, social skills training has been developed and applied for the past twenty years which is well documented for its efficacy and effectiveness (Liberman, 1998).

Social skills training (SST) is rooted in behavior therapy and social psychology (Douglas & Mueser, 1990). It represents a structured application of behavioral learning

techniques aimed at helping and facilitating people with SMI to build a repertoire of skills that improve their ability to function adequately in the community (Corrigan, 1991). The standard components of social skills training include warm-up activities, instruction, demonstration, role-play, feedback, and homework assignments (Wallace, Nelson, Liberman et al., 1980; Wilkinson & Canter, 1982; Shepherd, 1983). Social skills training has been widely applied and well developed as a treatment modality to counteract the social deficits of people with SMI (Douglas & Museser, 1990; Liberman, DeRisi & Mueser, 1989). For examples, researchers at the UCLA Clinical Research Center for Schizophrenia and Psychiatric Rehabilitation have designed several modules for training social and independent living skills to people with SMI. The modules include basic conversation, recreation for leisure, community re-entry, and symptom self-management. The evidence shows that such training programmes can lead to the acquisition of targeted skills, generalization to real-world environments, and some degree of durability over time (Halford & Hayes, 1991).

Social skills training is essentially recommended for consumers who have persistent primary negative symptoms that affect their psychosocial functioning. The application of social skills training in psychiatric rehabilitation needs to be addressed by both researchers and rehabilitation professionals. Much research showed that many specific verbal and nonverbal behaviors were successfully acquired by people with SMI in skills training programmes (Morrison & Bellack, 1984; Wallace, Nelson, Liberman et al., 1980). Varieties of social skills training have been designed for people with SMI. Goldsmith and McFall (1975, p51) defined social skills training as:

> "... a general therapy approach aimed at increasing performance competence in critical life situations. In contrast to the therapies aimed primarily at the elimination of maladaptive behaviors, skills training emphasizes the positive educational aspects of treatment. It assumes that each individual always does the best he can, given his physical limitations and unique learning history in every situation. Thus, when an individual's best effort is judged to be maladaptive, this indicates the presence of a situation specific skills deficit (e.g., lack of experience, faulty learning, biological dysfunction), it often may be overcome or partially compensated through appropriate training in more skill response alternative."

Social skills and behaviors are learned and maintained through interacting with other people. Positive social reinforcement and repeated practice are used to encourage persons to participate in the training and strengthen their appropriate behaviors. A major goal of social skills training is to improve the individual with ability to function effectively in real-life settings (Corrigan, Schade & Liberman, 1993). Social skills training is the method that consumers can learn appropriate social skills in order to expand their behavioral repertories and succeed in social situations. Social skills training techniques are based on the presumptions that abilities to response in situations appropriately can be acquired through structured learning situations (Morrison & Bellack, 1984). Social skills training is a psychosocial intervention designed to equip the skills and needs of consumers with deficits in social functioning. According to Corrigan and colleagues (1993), social skills training represents a structured application of behavioral learning techniques aimed at helping consumers build a repertoire of skills that improve their ability to function adequately in the community.

Tsang and Cheung (in press) reviewed a number of meta-analyses and reviews regarding the effectiveness of social skills training and summarized the finding of the reviews by Benton & Schroeder (1990), Corrigan (1991), Dilk & Bond (1996), Brenner, Pfammatter & Andres (1998), Heinssen, Liberman & Kopelowicz (2000), Bustillo, Lauriello, Horan & Keith (2001), and Piling, Bebbington, Kuipers et al. (2002). The most consistent and unquestionable result is that social skills training has a strong and positive impact on acquisition of social skills as measured by behavioral scales and self-reported inventories. Six out of seven reviews reported significant effects. Five reported strong effect and one (Dilk & Bond, 1996) reported moderate to strong effect. It is no queries that consumers can learn and improve their social skills through social skills training.

Psychiatric rehabilitation is to help people with SMI to learn and equip necessary social skills in the community. Literature reviews that medication alone was not sufficient for the treatment of most people with SMI. Integrated pharmacological treatment coupled with psychosocial intervention has therefore been the most evidence-based therapy as to the treatment outcome on social aspects. Among the documented psychosocial intervention techniques, social skills training has been one of the most widely practiced and well documented for the past twenty years. Its effectiveness has been underpinned by a spate of research findings.

2. Conceptual Model of Work-related Social Skills Training (WSST)

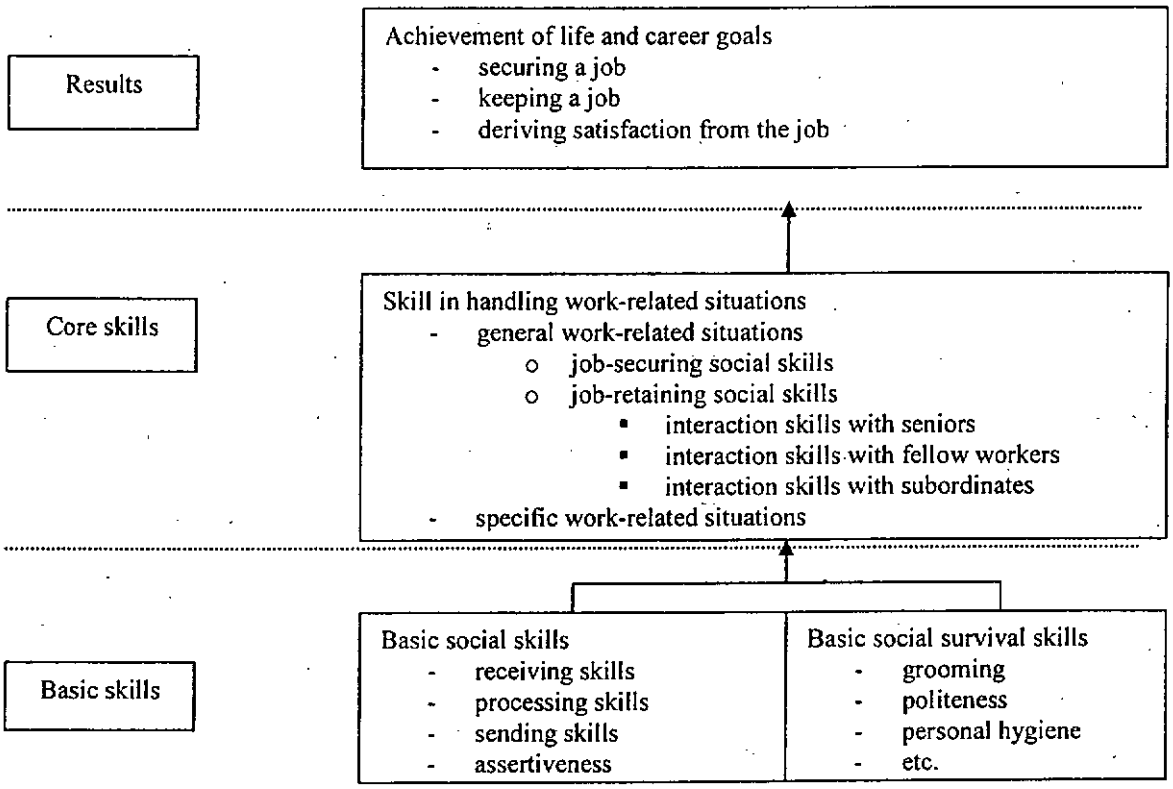
Vocational rehabilitation emphasizing on helping people with SMI to get and keep a job has been an essential aspect of psychiatric rehabilitation (Bond, 1992). The recent trend

is to apply social skills training in the vocational context. Researchers (Dauwalder & Hoffmann, 1992; Stuve, Erickson & Spaulding, 1991; Tsang & Pearson, 1996; Tsang, 2003; Wallace, Tauber & Wilde, 1999) suggested that efforts of social skills training should be geared towards the development of workplace social skills training and the application of some of the latest cognitive behavioral therapy approaches. Previous studies (Tsang & Pearson, 2001; Wallace, Tauber & Wilde, 1999) suggested that social skills training can be used to facilitate job search and job tenure for people with SMI.

Until early 90s, there have been few applications of the social skills training approach in the enhancement of vocational outcome for people with SMI due to the lack of well-defined conceptual framework (Tsang & Pearson, 1996). In recent years, both foreign and local studies have shown the potential of social skills training in vocational rehabilitation. Wallace and colleagues (1999) developed a module which focused on workplace fundamentals and aimed to teach people with SMI how to keep their jobs and facilitate their job adjustment. Tsang and Pearson (1996) developed and validated a conceptual framework to apply social skills training in the context of vocational rehabilitation for people with SMI. Such contribution facilitates the process to help people with SMI in work-related social skills training aspect. The conceptual framework of Tsang and Pearson (1996) is illustrated in Figure 1.

Figure 1

A Three-tier Model for Work-related Social Skills (Tsang and Pearson, 1996)



In this three-tier model for work-related social skills (WSS), WSS is conceptualized within a three-tier framework with a hierarchical relationship, which the first tier being more basic and the other two tiers being more advanced.

The first tier is included of basic social skills (BSS) and basic social survival skills (BSSS). Basic social skills refer to interpersonal communication which related to the receiving, processing, and sending information as defined by Liberman and colleagues (1986). Basic social survival skills are such skills like grooming, politeness, and personal hygiene. The second tier is referred to two clusters of core skills. The two clusters of skill components include 1) skills in handling general work-related situations and 2) skills in handling specific work-related situations. The first cluster includes those skills required for coping with job irrespective of its specific nature. General work-related social skills can be divided into job-securing social skills (JSSS) and job-retaining social skills (JRSS). The second cluster of core skills consists of skills needed for coping with situations specific to particular kind of job. For instance, a salesperson in a store has to know how to sell the store's products and how to cater to the needs of the customers. Finally, the third tier of the framework encompasses the results to which the basic and core skills, that is the benefits that a person can get by possessing these skills. The benefits include getting a job, settling into a job, and feeling a sense of achievement and satisfaction from the job.

3. Applying Social Skills Training in the Workplace

According to the conceptual model (Tsang & Pearson, 1996), Tsang (2001b) suggested that social skills training should become an integral part of vocational rehabilitation programmes for people with SMI in the psychiatric setting with a view to

enhancing the consumers' chances being employed in the community. In a randomized clinical trial conducted by Tsang and Pearson (2001), it was reported that the rate of competitive employment was up to 46.7% when work-related social skills training (WSST) was clinically applied to individuals with schizophrenia. The result is much better than the comparison group. Tsang and Pearson's study (2001) showed that participants in the training groups scored higher than the comparison group on the majority of the items at either the 0.01 or 0.05 levels of significance. The programme is currently being used by a lot of psychiatric setting by rehabilitation and health professionals.

Work-related Social Skills Training (WSST) (Tsang, 2001b)

The WSST programme is consistent with the configuration of the model shown in Figure 1. The layout and presentation of the materials follow the hierarchical structure of the model constructs. The first-level skills, consisting of basic social skills and basic social survival skills, are practiced prior to the core skills, which include job-securing and job-retaining social skills. The training programme consists of ten sessions, each lasting for one and a half or two hours. The format of training sessions follows the general format of typical social skills training and involves a combination of techniques or procedures described by pioneers in social skills training (Curran, 1979; Shepherd, 1983; Spence, 1985; Wallace Nelson, Liberman et al., 1980; Wilkinson & Canter, 1982). Each session includes warm-up activities, instruction, demonstration, role-play, feedback and homework. The content of the training sessions is presented in Table 4.

Table 4

Content of the WSST Module (Tsang, 2001b)

Session	Content
1	Introduction Review of basic social skills - nonverbal and verbal skills
2	Basic social survival skills - grooming, personal hygiene and politeness
3	Job securing social skills (1) - approaching potential employers - preparing for a job interview
4	Job securing social skills (2) - participating in a job interview - skills practice
5	Job retaining social skills (1) - interacting with supervisor - assertiveness skills - requesting urgent leave
6	Job retaining social skills (2) - interacting with supervisor - assertiveness skills - declining unreasonable requests
7	Job retaining social skills (3) - interacting with fellow workers - cooperative skills
8	Job-retaining social skills (4) - interacting with fellow workers - resolving conflicts
9	Skills in handling specific work-related situation
10	Problem solving skills and summary - identifying problem situation - generating and comparing alternatives - selecting the best alternatives - summary

Workplace Fundamentals Module (Wallace, Tauber & Wilde, 1999)

In United States, Wallace and colleagues (1999) have developed a module which focused on workplace fundamentals and aimed to teach people with SMI how to keep their jobs and facilitate the job adjustment of them. The workplace fundamentals module is a self-contained curriculum that teaches participants the skills of a major domain of functioning (Wallace & Tauber, 2004). The skills training module is produced in the social and independent living skills series of the University of California, Los Angeles (Liberman, Wallace, Blackwell et al., 1993). The workplace fundamentals module covered the following skill areas,

Skill areas covered in the workplace fundamentals module:

- Identifying how work changes participants' lives
- Learning about the expectations for performance on the job
- Identifying personal strengths and preferences and determining mismatches with the job
- Learning how to use a general problem-solving method to cope with stressors
- Using problem solving to manage symptoms and medications at the workplace
- Using problem solving to manage general health concerns and deal with substance use as it affects the workplace
- Learning how to interact with supervisors and peers to improve job task performance
- Learning how to socialize successfully and with low stress with coworkers
- Using problem solving to recruit social support on and off the job

The results of Tsang's study (Tsang & Pearson, 2001; Tsang, 2001a; Tsang, 2001b) and Wallace and colleagues' study (Wallace, Tauber & Wilde, 1999; Wallace & Tauber, 2004) suggested that social skills training and vocational rehabilitation are not two separate treatments entities for psychiatric rehabilitation of people with SMI. Researchers stated that social skills training should become an integrated part of vocational rehabilitation programmes for our consumers in order to enhance the chances of successful employment of consumers (Tsang & Pearson, 2001; Tsang, 2003; Wallace, Tauber & Wilde, 1999).

4. Effectiveness of Social Skills Training in the Workplace

As described, WSST (Tsang, 2001b) and workplace fundamentals module (Wallace, Tauber & Wilde, 1999) have been developed to facilitate our consumers in job seeking and retaining. For the Wallace and colleagues' study, two brief reports (Wallace, Tauber & Wilde, 1999; Wallace & Tauber, 2004) were published but the entire results are still under going. A randomized clinical trial was conducted by Tsang and the comprehensive results were reported to show the effectiveness of the training programme (Tsang & Pearson, 2001; Tsang, 2001a; Tsang, 2001b).

In Tsang's study (Tsang & Pearson, 2001; Tsang, 2001a; Tsang, 2001b), 97 participants were recruited from halfway houses, sheltered workshops or rehabilitation services of non-governmental organizations in Hong Kong in order to test the effectiveness of the WSST programme. Participants were unemployed men and women between the ages of 18 and 50 whose previous occupation was production, clerical or service-related work. All were diagnosed by a registered medical practitioner in Hong Kong as suffering from SMI and had been hospitalized for not less than one year. None suffered from mental

retardation and all were willing to participate in a WSST programme (Tsang & Pearson, 2001).

Participants were randomly assigned to one of the three groups: WSST treatment group with follow-up intervention (n=30), WSST treatment group without follow-up intervention (n=26), and control group (n=41). Those in the treatment group with follow-up intervention received WSST and a period of three months follow-up intervention. The treatment group without follow-up intervention participated in the WSST only but without any follow-up intervention after completed the training programme. The control group participants received standard treatment without any form of WSST and follow-up intervention.

The self-administered questionnaire on social skills competence and role-play exercise were used as the pre- and post-treatment assessments. A follow-up questionnaire was used to assess the participants' vocational outcome after three months post-treatment. This questionnaire was designed to assess the outcome of the participants in relation to their employment status after completion of the training programme.

In this randomized clinical trial, it was reported that the rate of competitive employment was up to 46.7% when WSST was clinically applied to individuals with SMI. The result is much better than the comparison group. Tsang & Pearson's study (2001) showed that participants in the training groups scored higher than the comparison group on the majority of the items at either the 0.01 or 0.05 levels of significance. The results suggest that WSST should become an integral part of rehabilitation programmes in psychiatric

hospitals, day facilities, sheltered workshops or halfway houses, so that our consumers' chances of being employed are enhanced.

D. Recent Trend of Social Skills Training in the Workplace

1. Job Nature for People with Severe Mental Illness in Hong Kong

As already discussed, recent trend of social skills training is toward specific social situations, especially a great extent related to work situations in vocational rehabilitation. Wallace, Tauber & Wilde's (1999) and Tsang & Pearson's (1996) models focus mainly on social skills which are generic in nature and applicable to various types of jobs. According to the conceptual model of Tsang and Pearson (1996), specific work-related situation is an important part of core skills level. However, there is lack of training module to facilitate our consumers to equip the specific work-related social skills in a specific job.

In order to identify the popular jobs that as most commonly held by people with SMI, interviews with rehabilitation professions, literature review and statistics from the Labor Department were processed to find out the top six occupations of people with SMI placed.

In United States, there are several classifications to provide information on different occupational titles, such as the Dictionary of Occupational Titles (DOT), O*Net, and Holland's Theory and Career Choice. In Hong Kong, there is no systematic classification or database to provide information on occupations, and there is no wonder that no

standardized classification of job placement for people with SMI. Wong and colleagues (2001) tried to define the type of placement of people with SMI into three categories: clerical (e.g. general clerk, office assistant), blue collar (e.g. factory worker), and service oriented (e.g. cleaning worker, salesperson, security guard, courier).

Tsang, Ng and Chiu (2002) explored the employment history and job profiles of people with SMI in Hong Kong in order to have a better understanding to provide appropriate vocational rehabilitation services to consumers. In the study, 64 consumers were recruited from two mental hospitals and the information including medical history, educational and training background and employment information for the past 5 years were collected. The results showed that most of the consumers worked in the conventional or social occupational groups, such as clerical work, retailing, and service-oriented jobs. Similar results were found in other study conducted by Wong and colleagues (2001). Both studies conducted by Tsang and colleagues (2002) and Wong and colleagues (2001) showed that service-oriented jobs and clerical-related jobs are the major job category for people with SMI in Hong Kong. According to these two relevant studies in Hong Kong (Tsang, Ng & Chiu, 2002; Wong, Chiu, Chiu & Tang, 2001), statistics from the Selective Placement Division of the Labor Department, and six rehabilitation professionals' experience, six jobs (salesperson, security guard, waitperson, cleaning worker, delivery worker, and clerk) were identified as most commonly held by people with SMI in Hong Kong.

2. Recent Trend of Social Skills Training in the Workplace

The goal of skills training, especially social skills training at work, is to help people with SMI get and keep a regular job (Bond, 1998). Wallace and colleagues (1999) developed the module on workplace fundamentals with a view to facilitating job adjustment of people with severe mental illness. Tsang and Pearson (2001) designed a work-related social skills training programme to help mental health consumers get and keep a job. However, these training modules focus mainly on social skills which are generic in nature and applicable to various types of jobs. Becker and her colleagues (1998) suggested that skills training programmes need to be specifically tailored in multiple dimensions for a specific job. For instance, a receptionist must possess skills necessary for handling inquiries from visitors or customers of a company; a waiter in a restaurant has to know how to serve customers with a good manner; and a salesperson in a store has to know how to sell the store's products and how to cater to the needs of the customers. Programmes that address the need to train job-specific social skills of people with SMI are not available to date. Job specific social skills training programme (JSST) aimed to fulfill this neglected needed.

In line with the trend to endorse best practices in vocational rehabilitation for people with SMI, researchers reviewed that consumers have better outcomes when their services are designed to coincide with their preferences (Becker, Bebout & Drake, 1998; Becker, Drake, Farabaugh & Bond, 1996; Cook & Razzano, 2000). Tailoring job development and support to the consumer's individual job preferences is a key to improve the vocational outcomes for our consumers. Twamley and colleagues (2003) suggested that job-related social skills training may be a useful component of a vocational rehabilitation intervention.

The development of the Job-specific Social Skills Training (JSST) continues the effort of WSST which purports to apply social skills training to increase vocational outcomes of people with SMI. Based on the trend of job natures of people with SMI in Hong Kong, JSST is developed to cater the needs and preferences of our consumers. If consumer have a vocational goal or job preference to be a salesperson, relevant JSST of salesperson would be introduced to him. Brief background information related to retailing including the job nature, qualifications, job duties, etc will be included in JSST in order to let consumer to have a clear understanding of the actual requirements and job demand. The important job-specific social skills of retailing which are relevant to Hong Kong and Chinese culture then will be taught in the training sessions. For example, the importance of non-verbal and verbal components when interacting with customers, the social skills components when selling products to customers, or the problem solving skills when facing complaints from customers. The aim of JSST is to introduce such important and relevant job-specific social skills of a specific job to consumers based on their job preferences and vocational interests in order to assist them in getting and keeping their jobs.

Chapter III: Factor Structure of Essential Job-specific Social Skills to be Salespersons in Retailing Service

A. Introduction

Six jobs (salesperson, security guard, waitperson, cleaning worker, delivery worker, and clerk) were identified as the most popular job that consumers in Hong Kong worked (Tsang, Ng & Chiu, 2002). According to the statistics from the Selective Placement Scheme in 1999 to 2002, some 23% people with severe mental illness (SMI) worked as salesperson which is one of the most popular jobs held by the consumers. In this phase, I intended to identify the factor structure of essential Job-specific Social Skills necessary of the job.

B. Method to Identify Job-specific Social Skills Components (JSSC)

1. Participants

In order to identify factor structure of Job-specific Social Skills Components (JSSC) required by a salesperson, a questionnaire survey was conducted which attempted to collect opinions from currently employed salespersons. The respondents for the questionnaire survey were recruited through convenient sampling. They were salespersons who had at least one year of experience working in the local retail market. The selection criteria were as follows:

(a) Age between 18 to 55

(b) Either sex

(c) Currently employed

(d) At least one year of experience working in frontline retailing

Two hundred and eighty questionnaires with a cover letter (Appendix 1) stating the purpose of the survey were distributed. Some 30 were sent to the Hong Kong Department Stores and Commercial Staff General Union (HKDS&CSGU) and 250 were sent to shopping stores by convenient sampling. A total of 106 validly completed questionnaires were returned which constituted a response rate of 37.9 percent. Respondents had a mean age of 26.8$\pm$6.91 and working experience of 5.46$\pm$5.18. According to the statistics from the Bureau of Employment and Vocational Training (1994), 70% of retail workers are aged below 30 with the mean age at 28. Demographic data of our sample suggested that the participants conformed to the norm of retail workers in Hong Kong. Table 5 presents the characteristics of the respondents.

Table 5

Descriptive and Frequency Statistics of the Respondents

Items	Respondents (n=106)
Age	
M	26.8
SD	6.91
Gender	
Male	23 (21.7%)
Female	73 (68.9%)
Missing	10 (9.4%)
Working experience (Years)	
M	5.46
SD	5.18
Education	
Primary	0 (0%)
F.1 – F.3	15 (14.2%)
F.4 – F.5	67 (63.2%)
Pre-Tertiary	7 (6.6%)
Tertiary	4 (3.8%)
Missing	13 (12.3%)
Salary (HK$)	
M	8201.37
SD	2783.71

2. Instrument

Questionnaire on Job-specific Social Skills Components

A self-administered questionnaire was designed for this study to tap relevant social skills from the workers' points of view in retailing. Items were first gathered by a review of the existing scales for measuring work-related social skills components of consumers, including the Vocational Social Skills Assessment Scale (VSSAS; Tsang & Pearson, 2000). The relevant literature on successful skills components for salesperson also suggested additional items (Ingram, Schwepker & Hutson, 1992). Then four rehabilitation professionals that included two salespersons and two supervisors selected from the retail market were interviewed by the present author and invited to suggest new items. An interview guide was tailor-made by the researcher in order to ensure a comprehensive list of items and the interviewee were invited to talk about their perceptions and views regarding to be a successful salesperson. The interview guides (English and Chinese) are attached in Appendices 2 to 7. Items were selected based on their importance of job-specific social skills in retailing and relevance to Hong Kong and Chinese culture. A pool of 46 items was generated and screened by the author and the supervisor who had a PhD and is a seasoned researcher in psychiatric rehabilitation. Twenty repetitive items were deleted from the pool leaving 26 items in the questionnaire.

The 26-item questionnaire was then translated from Chinese to English, and back-translated by another independent translator to verify that the Chinese and English versions of the items were linguistically equivalent. The respondents needed to read the instructions and rate each item regarding its relevance to salespersons on the job using a 7-point Likert-

type scale. Rating of 1 indicated "absolutely irrelevant" and 7 indicated "very relevant". The respondents knew from the instructions that the purpose of the questionnaire was to tap the respondents' view about the degree of relevance of each item to a salesperson in order to develop a Job-specific Social Skills Training (JSST) programme for people with SMI in retail market. The respondents were required to provide basic demographic characteristics information and identify additional social skills components that were important to their jobs.

Pre-testing of the questionnaire with three salespersons was conducted to ensure smooth completion by the actual target respondents. The pre-testing subjects were asked to fill in the questionnaire and give feedback as to the meaning and clarity of the wordings and instructions. Responses received showed that the instructions and items of the questionnaire were clear and easy to understand. Some items found to be unclear were revised. The revised questionnaire was pre-tested again with another three salespersons and found to be good enough for our purpose. The final questionnaire for use with our respondents consisted of 26 items on social skills components needed for salespersons working in retail market. The English and Chinese versions of the questionnaire and cover letter are attached in Appendices 8 to 9.

3. Procedures and Data Collection

The questionnaire was self-administered. Each questionnaire was sent accompanied by a cover letter explaining the purpose of the survey. Instructions for completing and returning the questionnaire were printed on the cover letter and the first page of the questionnaire. Respondents were asked to send the completed questionnaire to us by the

attached envelop within one month. Two hundred and eighty questionnaires with a cover letter stating the purpose of the survey were distributed. Some 30 were sent to the Hong Kong Department Stores and Commercial Staff General Union (HKDS&CSGU) and 250 were sent to shopping stores by convenient sampling. A total of 106 validly completed questionnaires were returned which constituted a response rate of 37.9 percent.

4. Data Analyses

Questionnaires found to be incorrectly and inappropriately rated items were deleted for analyses. There were a few questionnaires containing incomplete items. They were treated as missing data. The data were then analyzed using SPSS version 11.0. Descriptive statistics were computed for all variables. Based on the rating of the respondents on the 26 items, an exploratory factor analysis (EFA) using the varimax rotation was conducted to identify major factors in job-specific social skills. The Kaiser-Guttman rule (eigenvalue greater than one) and the Cattell's scree test were then applied to determine the number of factors to be retained (Gorsuch, 1983).

Table 6

Mean Ratings of Each Item of Questionnaire of Job-specific Social Skills Components of Salespersons (1 = Absolutely Irrelevant, 4 = Difficult to Say, 7 = Strongly Relevant)

	Mean	*S.D.*
1. Develop chat with colleagues during break	5.62	1.04
2. Explain the features, usage and price of a good to customers politely	6.27	.91
3. Accept and handle trouble customers	5.59	1.10
4. Know the promotional skills	6.01	.99
5. Clear understand the nature, price and target customers of a good	5.98	1.00
6. Able to solve problems, e.g. handle customer's complaint	5.70	.95
7. Handle suspended pick pocket in store	4.97	1.23
8. Help customers actively	5.84	1.30
9. Know the skills of introducing and explaining goods' natures to customers	5.91	1.07
10.Introduce and explain different goods to different types of customers accordingly	5.75	1.10
11.Introduce the good product to your customers objectively and in a neutral view	5.49	1.04
12.Understand and compare the nature of goods with different brand names	5.45	1.12
13.Able to be flexible during working hours	5.28	1.23
14. Contact with wholesale company	4.05	1.77
15.Arrange duties with colleagues clearly	5.40	1.32
16.Treat customers politely, e.g. say welcome and thank you	6.31	.91
17.Avoid arguing with trouble customers	5.17	1.27
18.Approach customers actively	6.05	1.02
19.Aware facial expression when communicating with customers	5.75	1.02
20.Show understanding on others' views	5.31	1.13
21.Understand customers are always right	5.82	1.06
22.Keep your temper and avoid conflict with trouble customers	5.72	1.28
23.Understand the reasons of customers' complaint and seek help from supervisor	5.58	1.16
24.Try the best to satisfy customers' requests	5.77	1.04
25.Keep a kindly smile to customers	6.12	.92
26.Endure with unreasonable complaint	4.74	1.59

C. Results

Descriptive Statistics

The mean scores and standard deviations for each item are presented in Table 6. Items with the lowest means were Item 14 "Contact with wholesale company" (*Mean* = 4.05, *S.D.* = 1.77). Items with the highest mean were Item 16 "Treat customers politely, e.g. say welcome and thank you" (*Mean* = 6.31, *S.D.* = .91).

Exploratory Factor Analysis (EFA)

The total number of valid respondents for this EFA was 106. The value of the Kaiser-Meyer-Olkin was 0.857, indicating that the sample size was adequate to conduct the factor analysis. Significant results from Bartlett's test of sphercity (χ^2 = 1452.307, p < 0.001) further supported the usefulness of the statistical procedure (Table 7). A principal components analysis was performed on the 26 items. Six factors were indicated with several trivial factors toward the end with eigenvalue greater than 1.0 (Table 8). Cattell's scree test suggested a five-factor solution accounting for 65.1% of the total variance (Figure 2). The final rotated solution was found to be in good structure and could be meaningfully interpreted (see the structure matrix and the main findings of the questionnaire in Table 9 and 10 respectively).

Factor 1: Social Skills when Interacting with Customers. There were eight items contained in this factor, which referred to the social skills required of a salesperson to interact with customers. Factor 1 consisted of Item 16 (Treat your customers politely, e.g.

say welcome and see you), Item 25 (Keep a kindly smile to your customers all the time), Item 5 (Clear understand the nature, price and target customers of the goods), Item 21 (Understand customers are always right), Item 2 (Explain the features, usage and price of a good to customer politely), Item 19 (Aware the facial expression when communicate with customers), Item 9 (Know the skills of introducing and explaining goods' natures to customers) and Item 18 (Approach customers actively).This factor explained 37.2% of the total variance. The alpha coefficient computed for the total sample was .91 which indicated high internal consistency of the items constituting this factor. The mean degree of relevancy was 6.05 (*S.D.* = .77). Respondents rated this factor as the most relevant as to the social skills required in retail-related job.

Factor 2: Problem Solving Skills. There were six items for this factor. Factor 2 consisted of Item 3 (Accept and handle trouble customers), Item 4 (Know the promotional skills), Item 6 (Able to solve problems, e.g. handle customer's complaint on the goods), Item 12 (Understand the nature of goods with different brand names, and compare), Item 7 (Handle the suspended pick pocket in store) and Item 8 (Help your customers actively). This factor explained 10.9% of the variance and reflected the problem solving skills required by a salesperson. The alpha coefficient computed for the total sample was .83, indicating high internal consistency of the items within this factor. The mean degree of relevancy among the respondents was 5.61 (*S.D.* = .81). This factor was ranked second by the respondents as to it's relevance to social competence as a salesperson.

Factor 3: Knowledge and Attitudes. Six items were included within this factor. Factor 3 was made up of Item 23 (Understand the reasons of complaint from customers and seek help from supervisor), Item 15 (Arrange your duties with colleagues clearly), Item 22

(Keep your temper when facing trouble customers to avoid conflict), Item 20 (Show understanding on the others' view), Item 24 (Try the best to satisfy customers' requests), Item 11 (Introduce the good to your customers objectively and in a neutral view) and Item 14 (Contact with the wholesale company). This factor represented the knowledge and attitudes necessary as a salesperson. Some 7.0% of the variance was accounted by this factor. The alpha coefficient was .82, indicating again a high internal consistency within this factor. The mean degree of relevancy among the respondents was 5.30 (*S.D.* =.89). This is regarded as the fourth relevant factor.

Factor 4: Flexibility. There were three items within this factor. Factor 4 comprised Item 1 (Develop chat and conversation with colleagues during break), Item 13 (Able to be flexible in the working hours) and Item 10 (Introduce and explain the goods to different types of customers accordingly), which reflected the flexibility. Some 5.4% of variance was accounted by this factor. This factor had an alpha coefficient of .56. The mean degree of relevancy among the respondents was 5.53 (*S.D.* =.82). This factor was ranked third by the respondents as to its relevancy to social skills as salesperson.

Factor 5: Skills for Conflict Prevention. There were two items within this factor. Factor 5 constituted by Item 26 (Endure with unreasonable complaint) and Item 17 (Avoid argue with trouble customers). This factor explained 4.6% of the variance and represented skills for conflict prevention. The alpha coefficient for this factor was .72, and the mean score for this factor was 4.95 (*S.D.* = 1.27). This factor was considered to be least relevant to the social skills components as salesperson.

Table 7

Results of KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.857
Bartlett's Test of Sphericity	Approx. Chi-Square	1452.307
	df	325
	Sig.	.000

Table 8

Factor Analysis on Items 1 to 26

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.660	37.155	37.155	9.660	37.155	37.155
2	2.833	10.897	48.052	2.833	10.897	48.052
3	1.818	6.994	55.045	1.818	6.994	55.045
4	1.413	5.434	60.480	1.413	5.434	60.480
5	1.197	4.603	65.083	1.197	4.603	65.083
6	1.031	3.965	69.048			
7	.985	3.788	72.837			
8	.827	3.182	76.019			
9	.769	2.956	78.975			
10	.629	2.419	81.394			
11	.596	2.293	83.687			
12	.496	1.906	85.593			
13	.484	1.860	87.454			
14	.420	1.615	89.068			
15	.408	1.568	90.636			
16	.364	1.402	92.038			
17	.334	1.283	93.321			
18	.301	1.156	94.477			
19	.265	1.018	95.495			
20	.248	.956	96.450			
21	.214	.822	97.272			
22	.180	.691	97.963			
23	.158	.609	98.572			
24	.142	.547	99.119			
25	.123	.475	99.593			
26	.106	.407	100.000			

Extraction Method: Principal Component Analysis.

Figure 2

Scree Plot

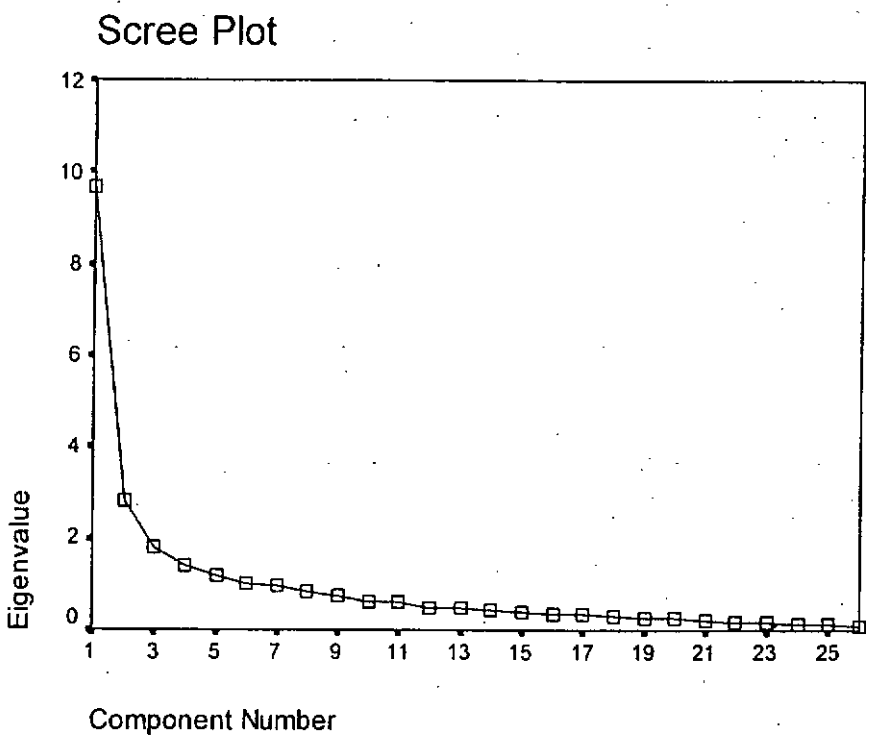


Table 9

Factor Structure and Factor Loadings of Essential Social Skills for Salespersons

Item	Factor				
	1	2	3	4	5
16.Treat customers politely, e.g. say welcome and thank you	**.794**	.124	.136	.105	.064
25.Keep a kindly smile to customers	**.779**	.321	.095	.180	.028
5. Clear understand the nature, price and target customers of a good	**.662**	.588	.060	.060	.013
21.Understand customers are always right	**.641**	.018	.503	.073	.232
2. Explain the features, usage and price of a good to customers politely	**.618**	.368	.142	.297	-.044
19.Aware facial expression when communicating with customers	**.604**	.265	.353	.318	-.053
9. Know the skills of introducing and explaining goods' natures to customers	**.574**	.436	.157	.363	.033
18.Approach customers actively	**.510**	.259	.093	.425	.202
3. Accept and handle trouble customers	.207	**.760**	.198	.172	-.055
4. Know the promotional skills	.308	**.714**	.062	.087	-.051
6. Able to solve problems, e.g. handle customer's complaint	.325	**.662**	.170	.088	-.075
12.Understand and compare the nature of goods with different brand names	.116	**.616**	.373	-.053	.360
7. Handle suspended pick pocket in store	-.070	**.578**	.058	.225	.352
8. Help customers actively	.498	**.524**	-.017	.157	.372
23.Understand the reasons of customers' complaint and seek help from supervisor	.186	.123	**.787**	.111	.047
15.Arrange duties with colleagues clearly	.033	.152	**.782**	-.023	.051
22.Keep temper and avoid conflict with trouble customers	.415	.011	**.726**	-.049	.169
20.Show understanding on others' views	.018	.210	**.724**	.134	.318
24.Try the best to satisfy customers' requests	.509	.037	**.577**	.075	.267
11.Introduce good/ product to customers objectively and in a neutral view	.228	.473	**.515**	.305	.043
14.Contact with wholesale company *(Cancelled)*	-.370	.301	**.419**	.111	.218
1. Develop chat with colleagues during break	.049	.144	-.077	**.697**	.070
13.Able to be flexible during working hours	.280	-.033	.106	**.669**	.075
10.Introduce and explain different goods to different types of customers accordingly	.217	.344	.247	**.604**	-.043
26.Endure with unreasonable complaint	.005	-.111	.265	.040	**.830**
17.Avoid arguing with trouble customers	.164	.159	.196	.073	**.805**

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 9 iterations.

Table 10
Main Findings of Exploratory Factor Analysis

	Factor Loading	*% of Variance*	*Mean*	*S.D.*	*Pearson Correlation*	*Alpha*
Factor 1: Social Skills when Interacting with Customers		37.2%	6.05	.77		.91
16.Treat customers politely, e.g. say welcome and thank you	.794		6.31	.91	.765**	
25.Keep a kindly smile to customers	.779		6.12	.92	.839**	
5. Clear understand the nature, price and target customers of a good	.662		5.98	1.00	.818**	
21.Understand customers are always right	.641		5.82	1.06	.734**	
2. Explain the features, usage and price of a good to customers politely	.618		6.27	.91	.794**	
19.Aware facial expression when communicating with customers	.604		5.75	1.02	.825**	
9. Know the skills of introducing and explaining goods' natures to customers	.574		5.91	1.07	.822**	
18.Approach customers actively	.510		6.05	1.02	.737**	
Factor 2: Problem Solving Skills		10.9%	5.61	.81		
3. Accept and handle trouble customers	.760		5.59	1.10	.820**	.83
4. Know the promotional skills	.714		6.01	.99	.740**	
6. Able to solve problems, e.g. handle customer's complaint	.662		5.70	.95	.738**	
12.Understand and compare the nature of goods with different brand names	.616		5.45	1.12	.686**	
7. Handle suspended pick pocket in store	.578		4.97	1.23	.691**	
8. Help customers actively	.524		5.84	1.30	.768**	
Factor 3: Knowledge and Attitudes		7.0%	5.30	.89		.86
23.Understand the reasons of customers' complaint and seek help from supervisor	.787		5.58	1.16	.823**	
15.Arrange duties with colleagues clearly	.782		5.40	1.32	.754**	
22.Keep your temper and avoid conflict with trouble customers	.726		5.72	1.28	.819**	
20.Show understanding on others' views	.724		5.31	1.13	.765**	
24.Try the best to satisfy customers' requests	.577		5.77	1.04	.776**	
11.Introduce the good product to your customers objectively and in a neutral view	.515		5.49	1.04	.703**	
Factor 4: Flexibility		5.4%	5.53	.82		.56
1. Develop chat with colleagues during break	.697		5.62	1.04	.699**	
13.Able to be flexible during working hours	.669		5.28	1.23	.742**	
10.Introduce and explain different goods to different types of customers accordingly	.604		5.75	1.10	.744**	
Factor 5: Skills for Conflict Prevention		4.6%	4.95	1.27		.72
26.Endure with unreasonable complaint	.830		4.74	1.59	.913**	
17.Avoid arguing with trouble customers	.805		5.17	1.27	.858**	

**Significant at the 0.05 level (2-tailed); ** Significant at the 0.01 level (2-tailed)*

D. Discussion

The findings of this chapter suggested the five-factor solution of essential job-specific social skills for salespersons working in retail market. All of the items except Item 14 (Contact with wholesale company, factor loading = .419) had factor loadings of at least .50 in one of the five factors to which they belonged. Items belonging to one factor had very little overlapping with other factors. One item was excluded by the factor analysis procedure: *Contact with wholesale company.* The total percentage of variance being explained by the five factors is fairly high (65.1%). This observation is substantiated by comparing results of similar studies based on exploratory factor analysis (Gerber & Prince, 1999; Jette & Portney; 2003; Tsang, Tam, Chan & Cheung, 2003) which explained less than 55% of the total variance.

The results showed that factor 1 *Social Skills when Interacting with Customers* is the most important factor. Non-verbal communication skills items such as *Treat customers politely* and *Keep a kindly smile to customers* are regarded as highly relevant. This is consistent with the job description in O*Net (a computerized database of information on occupations) which stated that basic non-verbal communication skills are essential to good salespersons (Farr, Ludden & Shatkin, 2002). This however contradicts results of a previous study conducted by Ingram and his colleagues (1992) in the marketing field. According to Ingram's report, non-verbal skills components were not essential for salespersons. This has not been surprising as their result referred mainly to employees at the executive or management level. We on the other hand focused skills necessary for frontline salespersons.

Factor 2 *Problem Solving Skills* was ranked the second important factor. This factor included items related to problem solving skills such as being able to handle customers' complaints, and being able to compare and promote different types of products based on customers' need. Clinical experience shows that many consumers worked as salespersons after discharge reported problems of this nature to their case managers. These included not knowing how to handle such problems or events in their job. The present result in this chapter therefore provided empirical evidence to such clinical observation.

The findings further suggested that consumers with a vocational goal as salespersons should pay attention to other factors such as knowledge and attitudes, flexibility, and skills for conflict prevention. Competent salespersons should be familiar with and understand the features of products, and being able to promote and communicate with customers in a positive manner. The results showed that flexibility and skills for conflict prevention are considered relevant factors contributing to salesperson success.

The five factors extracted and the related items in each factor resulting from this study were then used as the framework for the development of a Job-specific Social Skills Training (JSST) for individuals with SMI who express interests or show preference to work in the retail market. By means of factor analysis, the list of representative specific skill components was grouped and generated which form a pool from the corresponding items. The relevant items can be selected for formulating the training module. For instance, the items such as *Treat customers politely* and *Keep a kindly smile to customers* in factor 1 *Social Skills when Interacting with Customers* may be adopted as key points in the training modules. Similar item *Explain the features, usage and price of a good to customer politely* could be used as the role-play scenario in the module. The results of this part of this study

have been accepted for publication (Cheung & Tsang, in press). The details of the JSST are reported in the next chapter.

Chapter IV: Developing the Job-specific Social Skills Training (JSST) Programme in Retailing Service for People with SMI

A. Introduction

In this chapter, the general design, format, content and training protocol of Job-specific Social Skills Training (JSST) programme in retailing service (Module One: Salesperson) for people with severe mental illness (SMI) are described. The JSST is based on the conceptual framework of work-related social skills in psychiatric rehabilitation (Tsang & Pearson, 1996) in order to further improve employment outcomes of individuals with SMI in Hong Kong. The aim of JSST is to introduce the important and relevant job-specific social skills of a specific job to consumers based on their job preferences and vocational interests in order to assist them in getting and keeping their jobs.

B. General Design

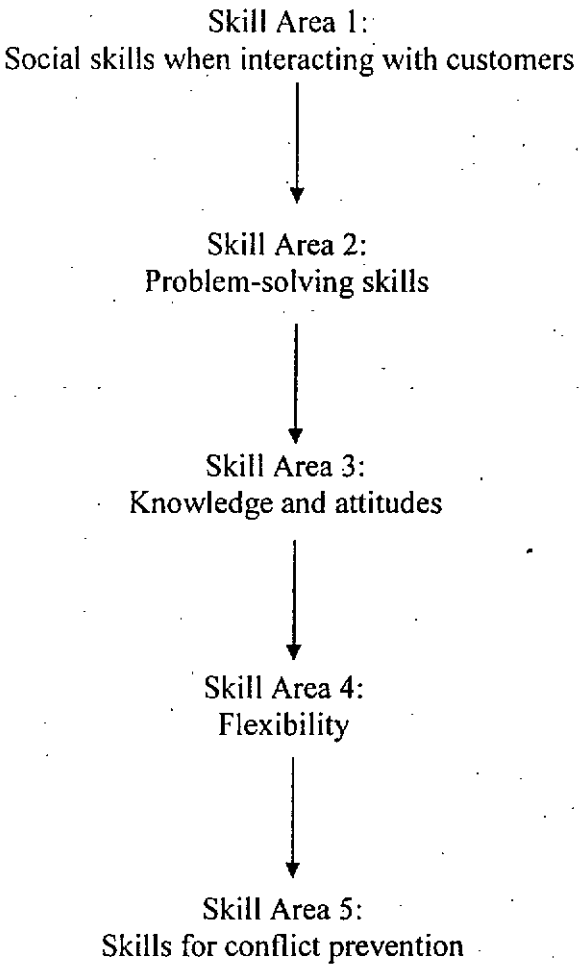
The layout and content of the JSST programme follows the factor structure resulting from the previous chapter in this study. The concept and presentation of the training format parallels the hierarchical structure of the constructs of the Work-related Social Skills model (Tsang & Pearson, 1996). Consumers who will participate in JSST are expected first of all to receive the ten sessions of Work-related Social Skills Training (WSST; Tsang & Pearson, 2001) which address social skills generic to all kinds of workplace. The module includes a revision of the basic social skills and basic social survival skills, teaching of core work-

related skills, for instance, job interviewing skills and skills to interact with supervisor and colleagues. After completion of WSST, JSST will then be introduced to consumers who have a preference in the retail market.

The JSST programme covers five main skill areas. Each skill area includes essential skill items based on the corresponding factor resulting from Chapter III. The training programme consists of five sessions, with each session lasting for about one and a half hours which is feasible and achievable within the clinical workload of most of the rehabilitation professionals in Hong Kong. The JSST may be flexibly implemented on consumers who are interested work as salesperson in the retail market either in individual or in a group format. The general design of the JSST (module one: salesperson) is described in Figure 3.

Figure 3

General Design of the Job-specific Social Skills Training Programme: Module – Salesperson (5 Skill Areas)



The module was written in a way which included a trainer's manual, a demonstration videotape or videodisc, and a participant's workbook to help participants learn the content. The trainer's manual has step by step instructions to guide trainer how to conduct each skill area session with the participants. The demonstration video has a series of scenes and scenarios of good and bad models of salespersons.

The training sequence of the module follows the results of the factor structure reported in chapter III. Although there is no evidence to show that a specific training sequence must be followed. However, it is preferable to follow the sequence of skill areas which is showed in Figure 3. As skill area one (Social skills when interacting with customers) and skill area two (Problem-solving skills) are rated as the two most relevant job-specific social skills components for salespersons in chapter III, these two skill areas will be taught to the participants first.

In the first session, a brief introduction regarding the job nature and duties of salespersons is introduced to the participants before introducing the skill area. Then skill area one (Social skills when interacting with customers) is presented. This skill area concerns the social skills when interacting with customers. The content includes the key points necessary to be a good salesperson, including being polite to customer, active use of non-verbal communication skills, and understanding and explaining clearly the features and usages of products. This set of skills is considered a prerequisite and foundation to be a good salesperson.

The second session concerns skill area 2 (Problem-solving skills in retail market). The content includes promotional skills and problem-solving skills, such as understanding

and comparing different brand names of goods, handling problems with customers, and handling complaints from customers.

The third and forth sessions focus on knowledge and attitude (skill area 3) and flexibility (skill area 4) necessary as salespersons respectively. In the third session, the knowledge and attitude needed for interacting with customers is covered. The content includes trying the best to satisfy requests from customers, maintaining a positive attitude when interacting with customers, and providing professional knowledge of products to customers. In the forth session, the situations that a salesperson is required to be flexible will be introduced to the participants and the importance of flexibility will be discussed.

The content of the fifth session focuses on the skills for conflict prevention (skill area 5). The reasons for causing conflicts with customers and the method to prevent conflict will be introduced to the participants. A brief summary of the five skill areas will be discussed as well.

C. Format of Individual Sessions

Each skill area session includes the standard components of social skills training: warm-up activities, instruction, demonstration, role-play, feedback, and homework assignments (Wallace, Nelson, Liberman et al., 1980; Wilkinson & Canter, 1982; Shepherd, 1983). The following is a brief description for each of these components in the training programme (Tsang, 1996).

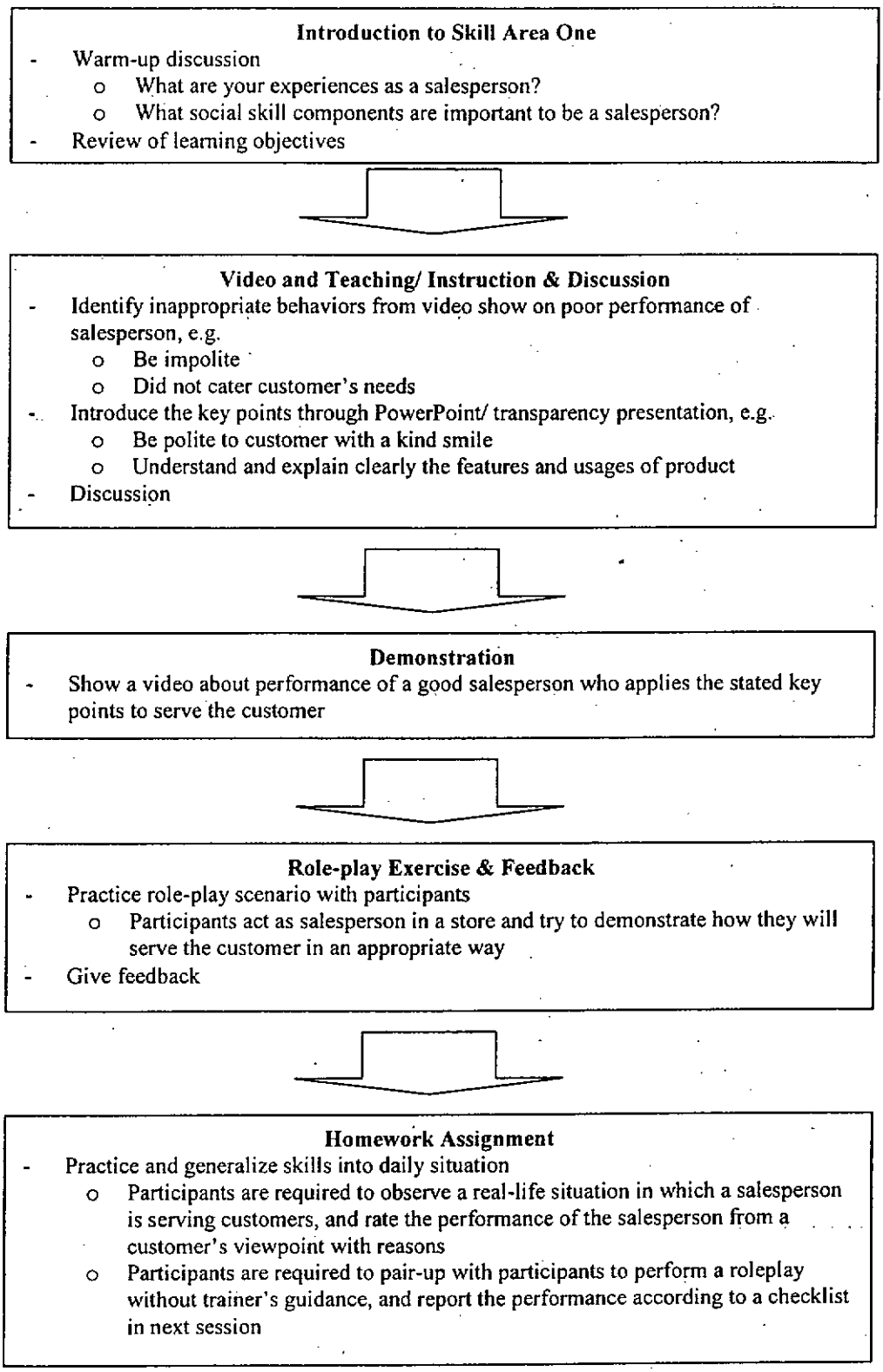
1. Warm-up activities:
    - activities prior to the core training content that are used to practise and review some aspects of social behaviors which learned from previous sessions.
2. Instruction:
    - brief lectures and notes or workbooks are presented and discussions are raised to discuss in this part.
3. Demonstration:
    - video will be showed or trainer demonstrates appropriate behaviors under specific social situations, participants learn by observation.
4. Role-play:
    - participants practice the skills with specific social situations by role-play exercise.
5. Feedback:
    - feedback will be given by trainer and other participants through playing back of taped role-play scenes.
6. Homework assignments:
    - homework assignments will be given to the participants to practise skills learned in each session after the training.

For example, skill area 1 *Social Skills when Interacting with Customers* begins with a warm-up activity. A video on poor performance of salesperson will be shown to the participants. The video scene presents a salesperson serving a customer in an electronic store with poor selling skills. The salesperson was not polite, did not know products' specifications, and did not cater for the customer's needs. After watching the video,

participants are required to identify the inappropriate behaviors of the salesperson. The key points necessary to be a good salesperson, including being polite to customer, active use of non-verbal communication skills, and understanding and explaining clearly the features and usages of products, will be presented to the participants through teaching and discussion. A video demonstration of good performance will be shown to the participants. They are then required to practice the skills through role-play exercise. Trainer and participants will give feedback to the role-player afterwards. At the end of the session, homework assignment will be given to them for practice which helps them generalize skills to their daily situations. The homework consists of two tasks. First, participants are required to observe a real-life situation in which a salesperson is serving customers and rate the performance of the salesperson from a customer's perspective with reasons. Second, they have to pair-up with other participants to perform a roleplay without trainer's guidance, and report the performance according to a checklist in next session. The training format of skills area one is illustrated by Figure 4.

Figure 4

Training Format of Skill Area One



D. Outline and Content

The outline and the content of the training module: WSST (Tsang, 2001b) and JSST are described as follows (Table 11).

Table 11

Content of the Training Module: WSST (Tsang, 2001b) and JSST

	Session	Content
WSST	1	Introduction Review of basic social skills - nonverbal and verbal skills
	2	Basic social survival skills - grooming, personal hygiene and politeness
	3	Job securing social skills (1) - approaching potential employers - preparing for a job interview
	4	Job securing social skills (2) - participating in a job interview - skills practice
	5	Job retaining social skills (1) - interacting with supervisor - assertiveness skills - requesting urgent leave
	6	Job retaining social skills (2) - interacting with supervisor - assertiveness skills - declining unreasonable requests
	7	Job retaining social skills (3) - interacting with fellow workers - cooperative skills
	8	Job-retaining social skills (4) - interacting with fellow workers - resolving conflicts

	9	Skills in handling specific work-related situation
	10	Problem solving skills and summary - identifying problem situation - generating and comparing alternatives - selecting the best alternatives - summary
JSST	11	Skill area one: Social skills when interacting with customers - brief introduction on job nature of salespersons - key points to be a good salesperson
	12	Skill area two: Problem-solving skills in retail market - promotional skills - problem-solving skills
	13	Skill area three: Knowledge and attitude - knowledge and positive attitude needed for interacting with customers
	14	Skill area four: Flexibility - importance of flexibility - situations that require flexibility
	15	Skill area five: Skills for conflict prevention - reasons causing conflicts - methods to prevent conflicts

A complete manual and participant's workbook for the JSST programme (Chinese and English versions) are attached in Appendix 10 to 13.

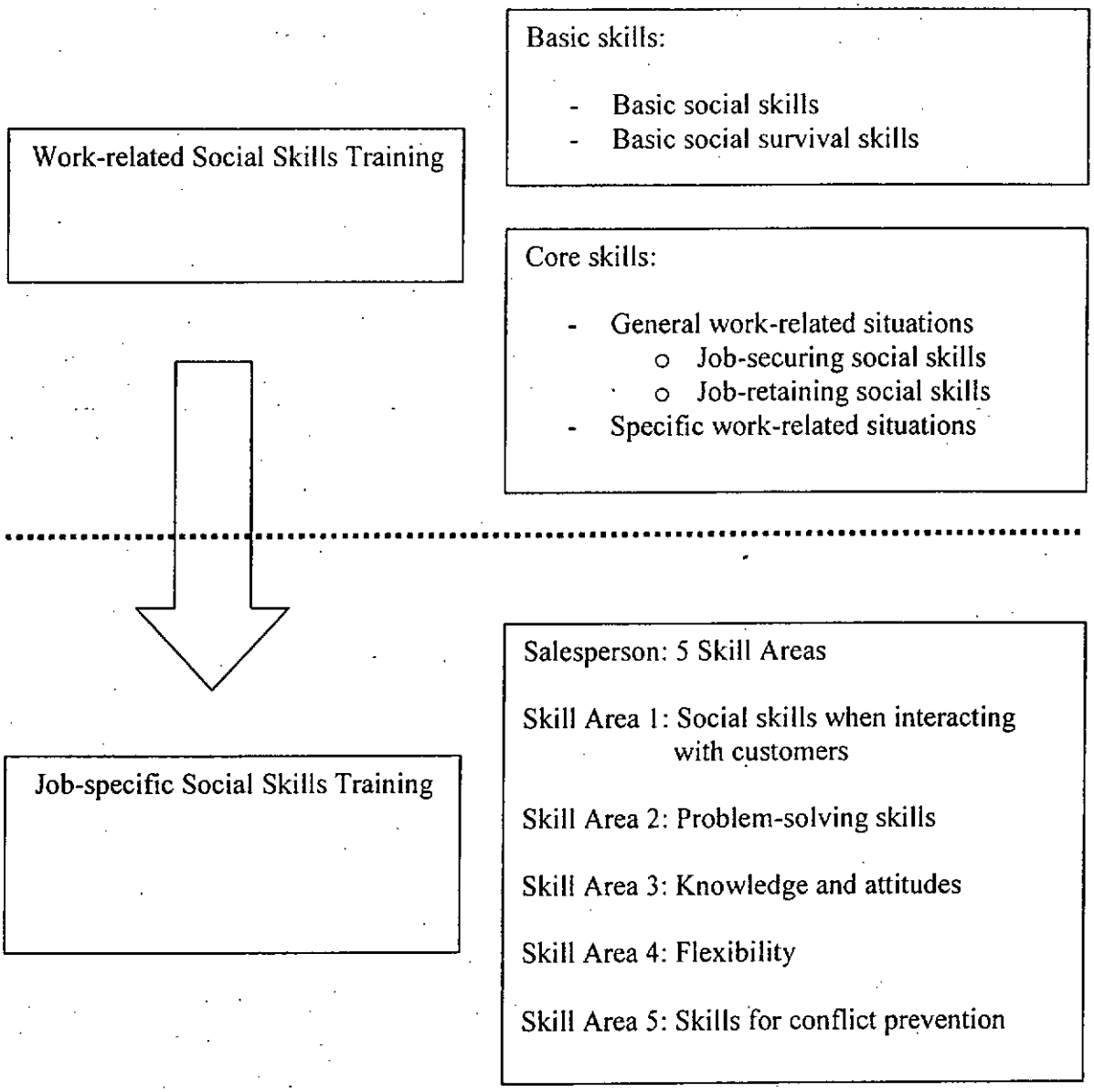
E. Training Protocol

JSST is based on Tsang's model (Tsang & Pearson, 1996) and the WSST programme (Tsang, 2001a & 2001b). Participants are expected first of all to receive the ten-session WSST which addresses social skills generic to all kinds of workplace, for instance, job interviewing skills and skills to interact with supervisor. After completion of WSST, the

JSST described above will then be introduced to our consumers who have a preference in the retail market (Figure 5). Controlled trial of WSST (Tsang & Pearson, 2001) showed that more than 40% of the participants were competitively employed at the three month follow-up period. JSST may be regarded as the supplementary training to the WSST model. If the above JSST module is used together with WSST to form an integrated social skills training programme, it is expected that the results will be more positive and the vocational outcome of participants would be better. In order to evaluate the effectiveness of the module, a clinical trial was conducted in Hong Kong and described in the next chapter.

Figure 5

Training Protocol of the Work-related Social Skills Training and Job-specific Social Skills Training



Chapter V: Implementing and Testing the Effectiveness of the Integrated Social Skills Training (Work-related Social Skills and Job-specific Social Skills Training) Programme

A. Introduction

This chapter describes a prospective clinical trial when applying the salesperson module of Job-specific Social Skills Training (JSST) with the Work-related Social Skills Training (WSST) to form an Integrated Social Skills Training (ISST) developed in Hong Kong for people with severe mental illness (SMI). The aim was improve their ability to find and keep a job. I have analyzed the data of ISST using the matched historical comparison groups (WSST group and control group) from the previous study (Tsang & Pearson, 2001).

The objectives of this study are:

1. To find out whether the self-perceived work-related social competence of work-related situations may be improved after consumers have completed the ISST when compared with the historical comparison groups.

2. To find out whether the work-related social skills in simulated work-related situations (role-play assessment) may be improved after consumers have completed the ISST when compared with the historical comparison groups.

3. To find out whether the success rate of job hunting may be enhanced and their job adjustment after consumers have completed the ISST when compared with the historical comparison groups.

The hypotheses of this study:

1. The self-perceived social competence in work-related situations of the ISST group would be higher than or similar to that of the WSST group, and higher than that the control group after receiving the ISST programme.

2. The work-related social skills of the ISST group would be higher than or similar to that of the WSST group, and higher than the control group after receiving the ISST programme.

3. The ISST treatment group would be more successful in job hunting than the WSST treatment group and control group.

4. The employed consumers of ISST treatment group would be satisfied with their job and able to develop better relationships with their supervisors and colleagues.

B. Method

1. Research Design

This study follows a three-group before-and-after historical experimental comparison design. The first group is the ISST treatment (WSST + JSST) with follow-up intervention. The second group is the WSST treatment with follow-up intervention and the third group is the control group. The second group and third group were conducted by Tsang and Pearson in 2001. The use of appropriate and matched historical comparison data provides an approach to compare the effectiveness of the treatment group for which data of concurrent comparison groups are not available. Such historical comparisons have been used in some areas like oncology, cardiovascular disease and osteoporosis (Rosner, 1987; Watts, Lindsay, Li, Kasibhatla & Brown, 2003). In order to minimize the problems of directly comparing the data between studies, selection criteria of participants of the ISST treatment group were matched to that of Tsang and Pearson's study (2001).

The research design of this study is presented by the following figure:

Figure 6

The Three-group Before-and-after Historical Experimental Comparison Design

Group 1: A1 → ISST (WSST + JSST) → A2 → 3 months follow-up intervention → A3

Group 2: A1 → WSST → A2 → 3 months follow-up intervention → A3

Group 3: A1 → Standard OT → A2 → A3

A1: Pretraining assessment

A2: Posttraining assessment

A3: Follow-up assessment

The assessment protocol of the ISST treatment group was followed by Tsang and Pearson's study (2001), all participants from ISST treatment group were assessed using the instruments described later before participated in the group. Thjs assessment is known as the pre-training assessment (A1). Then the ISST was given to the participants. After the training was completed, all the participants were assessed again (A2, post-training assessment). Follow-up assessment was implemented three months (A3) after completion of the intervention.

2. Participants

There were three groups of participants in this study. These three groups were the ISST treatment group with follow-up intervention, the WSST treatment group with follow-up intervention (Tsang & Pearson, 2001), and the control group (Tsang & Pearson, 2001). The first and second treatment groups with follow-up intervention were the groups of participants in the ISST training and the WSST training respectively. Follow-up intervention would be given to the participants for three months after the training. The

control group was the group of participants who received only standard treatment without any form of WSST or follow-up intervention.

All of the participants in the historical comparison groups were people with schizophrenia which is a major type of severe mental illness. For the ISST treatment group, all the participants were people with SMI including schizophrenia (81%) and depressive disorders (19%). All of the participants were selected from halfway houses, sheltered workshops or day centres of hospitals and Non-government organizations (NGOs) providing rehabilitation services to people with SMI. The participants were recruited by means of advertisement on newspaper, posters in universities and the Labour Department, and contacts with the supervisors or therapists in-charge in different hospitals and NGOs. The advertisements, posters, invitation letter and plan of investigation to hospitals and NGOs are attached in Appendix 14 to 17. The selection criteria of the participants in ISST treatment group were based on the previous study conduct by Tsang and Pearson in 2001. The selection criteria were as follows:

- Willing to participants in a WSST and JSST;
- Age between 18 and 50;
- Work status: unemployed but with a vocational goal and preferred to or interested in work as salesperson;
- Education level: at least primary education level;
- High functioning and free from serious role dysfunction for the past three months;
- Global Assessment of Functioning (GAF) > 50;
- Willing to give informed consent;

- No less than 1 cumulative year of hospitalization; diagnosis of mental illness made by a medical practitioner registered in Hong Kong; and
- No learning disability and not suffering mental retardation.

There was however one more criterion which required the participants to be interested working as salesperson in retail service.

The number of participants needed in the ISST treatment group was estimated by the use of effect size (*f*). Effect size is estimated by referring to previous research similar to the present one and Cohen's rule of classifying the size into small, medium, and large. Previous research showed that the effect size for the treatment effect is medium (Tsang & Pearson, 2001). With the help of the software Power Analysis and Sample Size (PASS) and the data of Tsang and Pearson's study (2001), the number of participants required in the ISST treatment group was 40, assuming an alpha value of 0.05 and Power of 0.8.

All together there were 37 participants recruited through day centres of hospital and NGOs. The demographic characteristics of the participants in each of the group are shown in Table 12. Chi-square tests showed that such demographic data such as education (Chi-square = 12.337, $p > 0.05$) and previous occupation (Chi-square = 15.531, $p > 0.05$) were not significantly different among the three groups of participants. One-way ANOVA showed that age ($F = 0.5603$, $p > 0.05$) and duration of unemployment ($F = 3.1042$, $p > 0.05$) were not significantly different among the three groups of participants. However, Chi-square tests showed that sex (Chi-square = 11.621, $p = 0.03$) was significantly different among the three groups of participants, but not significantly different among the ISST treatment group and the WSST treatment group (Chi-square = 3.963, $p > 0.05$). There were

more female participants in the ISST treatment group comparing with the historical comparison groups. According to the statistics from Asian society, some 60% salespersons are female (Taipei County Government Accounting and Statistics Office, 2004). It might imply that females may be more appropriate for salesperson work.

Table 12

Demographic Characteristics of Participants

Items	ISST treatment group with follow-up intervention (n = 37)	WSST treatment group with follow-up intervention (n = 30)	Control group (n = 41)
Sex			
Male	12 (32.4%)	17 (56.7%)	29 (70.7%)
Female	25 (67.6%)	13 (43.3%)	12 (29.3%)
Education			
Primary	1 (2.7%)	8 (26.7%)	13 (31.7%)
F1 – F3	15 (40.5%)	10 (33.3%)	11 (26.8%)
F4 – F5	18 (48.6%)	10 (33.3%)	16 (39.0%)
Above F5	3 (8.1%)	1 (3.3%)	1 (2.4 %)
Missing		1 (3.3%)	
Previous Occupation			
Unskilled or semi- skilled worker	19 (51.4%)	12 (40.0%)	32 (78.0%)
Skilled worker	4 (10.8%)	5 (16.7%)	4 (9.8%)
Clerical worker	5 (13.5%)	5 (16.7%)	1 (2.4%)
Sales	8 (21.6%)	4 (13.3%)	1 (2.4%)
Others	1 (2.7%)	1 (3.3%)	1 (2.4%)
Missing		3 (10.0%)	2 (4.9%)
Age			
M	32.9	34.8	34.9
SD	8.8	9.4	9.6
Duration of Unemployment (number of months)			
M	22.3	39.3	35.7
SD	12.5	36.7	35.7

3. Assessment Instruments

There were several sets of assessment instruments in this study. The details of the assessment instruments are described below:

3. 1. Medical history, work history, and demographic data (Tsang, Ng, Ip & Mann, 2000):

An instrument developed by Tsang and colleagues for use with research related to vocational aspects of people with mental illness in Hong Kong. (Appendix 18)

3. 2. Global Assessment of Functioning (GAF) Scale (American Psychiatric Association, 2000):

An instrument to assist in the enrollment exercise for considering psychological, social, and occupational functioning on a hypothetical continuum of mental illness. (Appendix 19)

3. 3. Vocational Social Skills Assessment Scale (Tsang & Pearson, 2000):

Two-part measure of work-related social competence. The first part is a self-administered checklist that assesses subjects' subjective perception of their competence in social skills related to job securing and job retaining. The checklist consists of ten items and was derived from the results of the survey questionnaire concerning situations that may be encountered by people with mental illness in the workplace and when they are looking for a job. The items consist of making an appointment for a job interview over the phone, participating appropriately in a job interview, and dressing appropriately to attend a job interview. The remaining seven items involve interaction

with the supervisor and colleagues which include requesting an urgent leave from the supervisor, resolving a conflict with the supervisor, resolving a conflict with a colleague, avoiding destructive gossip, co-operating with colleagues to perform a group task, refusing a request from a supervisor to work overtime, and helping to instruct or demonstrate a task to a new colleagues. Participants have to rate the ten items one by one according to the degree of difficulty they experienced in handling the situations. They are required to use a six-point scale which point 1 indicates continuous difficulty and point 6 indicates no difficulty.

The second part is a simple role-play exercise that assesses participants' social performance in simulated job-related situations. The participant is required to perform in the role-play test which comprises two simulated situations, one is participation in a job interview in retailing field and the other is to request an urgent leave from a supervisor. The performance of the participant is recorded with a video-camera and rated by an independent rater. The contents of rating include basic social survival skills, basic social skills that are further divided into voice quality, non-verbal components, and verbal components, and situation-specific items. The rater uses to rate the participant's performance based on a set of rating guidelines and a five-point rating scale which 4 indicates normal performance and 0 indicates poor performance.

The measure had acceptable reliability and criterion validity. The self-administered checklist has good internal consistency (Cronbach alpha coefficients .80, $p< .01$) and moderate to very good test-retest reliability (.35 to .78, $p< .01$). The role-play exercise has excellent internal consistency (.96, $p< .01$) and good to very good inter-rater reliability (.77 to .90, $p< .01$). (Appendix 20)

3. 4. Motivation Checklist (Tsang, 2001b):

An instrument to assess the motivation of the participants in joining the work-related social skills programme, their attitude toward the programme prior to join it, and their motivation to seek competitive employment. Motivation is not intended to be an outcome measure, it is intended to monitor for any differences in participants' motivation to get a job before the training. The checklist includes four questions. The first question relates to whether the participant freely decided to join the group or was persuaded to join so. The second question asks if the participant wants to join the group or not. The third question asks if the participant motivates to seek open employment or not. The fourth question relates to the feeling of the participants towards the group prior to participation. This question is consisted seven pairs of adjective describing feeling and attitudes, included anxious-relaxed, sad-happy, bored-excited, dull-challenging, easy-difficult, useless-useful, and pessimistic-optimistic. The participants are required to rate their responses according to a seven-point scale that representing the two extremes. (Appendix 21)

3. 5. Follow-up Questionnaire (Tsang, 2001b):

The questionnaire assesses the vocational outcome and adjustment of the participants in relation to their employment status. It was implemented to the participants three months after the completion of the training programme. The first part of this questionnaire is about the employment status of the participant as the time of filling in the questionnaire. There are four choices for the answer: currently employed, unemployed now but had been employed for some time during the past three months, never been employed in the past three months, and never been employed for the past three months but working in a sheltered workshop. Each answer leads to more follow-

up questions in section A to D respectively. If the participant is currently employed, questions in section A have to be answered. The questions in this section consist of the number of job interviews attended leading to the current job, duration of the job, any change of job during the part three months, total duration of being employed, degree of job satisfaction, relationship with supervisor and colleagues, problems at work, and plan to quit the job. If the participants is unemployed but has been employed for some time during the follow-up period, question in section B have to be answered. The questions consist of the number of jobs taken, the number of job interviews attended, reasons for job loss, motivation for further job hunting, confidence in further job hunting, degree of job satisfaction, and relationships with supervisor and colleagues. Questions in section C have to be asked if a participant has not been employed for the follow-up period. The questions are the number of job interviews attended, reason for not being employed, motivation for further job hunting, and confidence for further job hunting. Questions in section D have to be asked if a participant has never been employed but has worked in a sheltered workshop. The questions are willingness to work in a sheltered workshop, relationships with supervisor and colleagues, motivation for job hunting, and confidence for job hunting. (Appendix 22)

4. Procedures of Data Collection

4.1. Pre-training Assessment

After the participants of ISST group had been recruited from different centres, they were informed to go to The Hong Kong Polytechnic University for the pre-training assessment. Alternatively, the researcher went to the centres for conducting necessary

assessments. The assessments were conducted on an individual basis. Informed consent from the participants was sought prior to implementation. The English and Chinese versions of the consent form are attached as Appendix 23 and 24.

The assessment was taken by the researcher. It took about 30 minutes to complete for each participant. The assessment was processed in a quiet room with a table, two chairs and a video-camera for recording the role-play scene. A layout is shown in Appendix 25. The purpose of the study, the format of the assessments, and the aim of using the video-camera were explained to the participant, and formal consent was presented from the participant.

The demographic data such as sex, age, education, previous occupation were collected by using the instrument 3.1 developed Tsang and colleagues (Tsang, Ng, Ip & Mann, 2000). Then, the participant was required to complete the self-administered checklist (3.3) of the Vocational Social Skills Assessment Scale (Tsang & Pearson, 2000).

After finishing the checklist, the role-play assessment was started. The first role-play situation was that the participant was assigned to choose a job from the job lists related to retail market (Appendix 26). When the participant had chosen a job, the researcher explained the role-play procedure to the participant. In the role-play assessment, the participant acted as a job applicant for the job post previously chosen. The researcher acted as the interviewer and based on an interview question list (Appendix 27) to perform a simulated job interview with the participant. The role-play was processed with video-taped. After the first part of role-play, the detail of the second part of role-play was explained to the participant. The participant was to request an urgent leave from the supervisor

supposing that the participant had been employed for the job. The researcher acted as the supervisor and the performance of the participant was recorded by video-camera. The video-tapes for the role-play tested for all the participants were then given to the two independent raters for ratings. They were blinded to the research design, group status of the participants, and the time frame of the assessment.

Then, the participant was briefed about the purpose, format and content of the coming ISST group. After the briefing, the participant was required to complete the motivation checklist (3.4, Tsang 2001b).

4.2. Integrated Social Skills Training (ISST)

Within one week after the pre-training assessment, the ISST treatment group was given which included a course of 10 sessions of WSST and five sessions of JSST in groups of six to eight participants. The training was normally held four to five days per week. The whole training programme generally required three to four weeks to complete. The training took place in the group activity room of the centres or the university. The researcher worked as the trainer of the group. Each session lasted about one and a half hour with a few-minute break in between if necessary. Altogether a total of six series of training were given to the treatment group participants, with each containing from six to eight participants.

4. 3. Post-training Assessment

Within one week after the training group was finished, the Vocational Social Skills Assessment Scale (Tsang & Pearson, 2000) was given to the treatment group of participants. The procedures were similar to the pre-training assessment.

The process of video-tapes for the role-play assessment was similar to the pre-training assessment process. The video-tapes for the role-play tested for all the participants were given to the two independent raters for ratings. The raters were two qualified occupational therapists who had been trained in the use of the rating form. They were blinded to the research design, group status of the participants, and the time frame of the assessment.

4. 4. Follow-up Intervention

The participants in the ISST treatment group were given intervention similar to the procedure of WSST treatment group conducted by Tsang and Pearson (2001). They were informed that there would be a monthly post-training gathering or telephone contact for them.

The content of the gathering included sharing progress in job seeking or performance in the job, discussion of problems related to employment that they were encountered, and revision of the training contents. Problem solving approach as introduced in the training programme was used to solve the questions raised by the participants and

role-play the situations for practice. The participants were encouraged to contact the researcher if they had further problems or queries during the job hunting process.

If some of the participants could not to attend the gathering, telephone contacts were made to them and discussed the problems they encountered.

4. 5. Follow-up Assessment

Follow-up assessment was conducted three-month after the training programme was completed. A telephone call was given to each of the participants by an independent assessor who was blinded to the research design. In the telephone call, information for the follow-up questionnaire (3.5, Tsang, 2001b) was obtained by the assessor.

5. Data Analyses

The data were analyzed by the Statistical Package for the Social Science (SPSS) and statistical equations using Microsoft Excel. Descriptive and frequency statistics were used to summarize demographic characteristics of the participants in the ISST treatment group by SPSS. The demographic characteristics such as age and duration of unemployment of the participants between the ISST treatment group and historical comparison groups were compared by using one-way ANOVA. The demographic characteristics such as sex, education and previous occupation were compared by using Chi-square test in SPSS.

In order to compare the results of the ISST treatment group with the historical comparison groups, one-way ANOVA with Bonferroni adjustment were used to test if there

are any significant differences in scores of the self-administered checklist, role-play assessment and motivation checklist between the three groups in the pre-training assessment. In the post-training assessment, the change of mean scores (post-training score – pre-training score) of the outcome measures between three groups were also analyzed by one-way ANOVA. Post-hoc comparisons were used to further compare the data after running t-test. The successful rates of the employment between three groups were analyzed by Chi-square test in SPSS. The analyses of one-way ANOVA and Chi-square were based on an alpha value of 0.05.

The equations of running one-way ANOVA and t-test are attached in Appendix 28.

C. Results

1. Pre-training Assessment

1. 1. Checklist on motivation to join skills training

The pre-training assessment scores of the motivation checklist for the three groups of participants are presented in Table 13.

For participants of the ISST treatment group with follow-up intervention, the score ranged from 4.38 to 6.08. The item with the highest score was willingness to join ($M = 6.08$, $S.D. = 1.06$). The second ranked item was useless-useful axis ($M = 5.59$, $S.D. = 1.14$). The

item with the lowest score was the easy-difficult axis (M = 4.38, $S.D.$ = 1.36) and followed by the pessimistic-optimistic axis (M = 5.05, $S.D.$ = 1.29).

For participants of the historical WSST treatment group with follow-up intervention (Tsang & Pearson, 2001), the score ranged from 4.20 to 5.70. The item with the highest score was the useless-useful axis (M = 5.70, $S.D.$ = 1.08). The pessimistic-optimistic axis (M = 5.50, $S.D.$ = 1.19) ranked second. The item with the lowest score was the anxious-relaxed axis (M = 4.20, $S.D.$ = 1.51) followed by the easy-difficult axis (M = 4.40, $S.D.$ = 1.19).

For participants of the historical control group (Tsang & Pearson, 2001), the range of scores was from 3.69 to 5.47. The item with the highest score was useless-useful axis (M = 5.47, $S.D.$ = 1.46), the item sad-happy axis (M = 5.06, $S.D.$ = 1.63) ranked the second. The item with the lowest score was the anxious-relaxed axis (M = 3.69, $S.D.$ = 1.91).

One-way ANONA was used to compare the scores of motivation checklist between the three groups of participants, most of the scores were not significantly different among the groups except willingness to join, motivation to get a job, anxious-relaxed axis, and bored-excited axis. For willingness to join and motivation to get a job, post-hoc comparisons showed that the scores of the ISST treatment group with follow-up were only significantly higher than the control group but not the WSST treatment group with follow-up. For the other two items: anxious-relaxed axis and bored-excited axis, post-hoc comparisons showed that the scores of the ISST treatment group with follow-up were significantly higher than the other two groups.

Table 13

Scores from the Motivation Checklist to Join the Skills Training Group

Items	Group 1: ISST treatment group with follow-up intervention ($n = 37$)		Group 2: WSST treatment group with follow-up intervention ($n = 30$)		Group 3: Control group ($n = 41$)			Group 1 vs Group 2 (post-hoc comparisons)	Group 1 vs Group 3 (post-hoc comparisons)
	M	*S.D.*	*M*	*S.D.*	*M*	*S.D.*	*F*	*t*	*t*
Willing to join	6.08	1.06	5.20	2.04	4.94	2.37	3.68 *	1.87	2.62*
Motivation to join	5.14	1.72	4.60	5.63	4.81	2.18	0.21	0.64	0.42
Motivation to get a job	5.57	1.61	5.40	1.82	4.38	2.21	4.36*	0.36	2.74*
Anxious-relaxed	5.08	1.55	4.20	1.51	3.69	1.91	6.70*	2.13*	3.64*
Sad-happy	5.32	1.31	5.05	1.19	5.06	1.63	0.44	0.79	0.83
Bored-excited	5.44	1.18	4.45	1.28	4.28	1.87	6.52*	2.69*	3.41*
Dull-challenging	5.32	1.20	5.30	1.13	5.06	1.97	0.35	0.06	0.76
Easy-difficult	4.38	1.36	4.40	1.19	4.34	2.01	0.01	-0.05	0.11
Useless-useful	5.59	1.14	5.70	1.08	5.47	1.46	0.30	-0.34	0.44
Pessimistic-optimistic	5.05	1.29	5.50	1.19	5.00	1.60	1.27	-1.30	0.17

* $p < 0.05$

1. 2. Self-administered Checklist

The pre-training scores of the self-administered checklist on self-perceived work-related social competence for the three groups of participants are shown in Table 14.

For participants in the ISST treatment group with follow-up intervention, the range of the scores was from 2.84 to 4.43. The lowest scored item was resolve conflict with colleague ($M = 2.84$, $S.D. = 1.30$) and the highest scored item was dress appropriately at the job interview ($M = 4.43$, $S.D. = 1.04$).

For participants of the historical comparison group: WSST treatment group with follow-up intervention (Tsang & Pearson, 2001), the score ranged from 2.97 to 4.83. The item about resolving conflict with colleague scored lowest ($M = 2.97$, $S.D. = 1.33$). The item with the highest score was avoiding gossip ($M = 4.83$, $S.D. = 1.39$). The mean total score was 37.47 and standard deviation was 7.62.

The range of the scores for participants of the other historical comparison group: control group, was from 3.03 to 4.70. The highest scored item was cooperating in group tasks ($M = 4.70$, $S.D. = 1.45$) and the lowest scored item was arranging a job interview over phone ($M = 3.03$, $S.D. = 2.01$). The mean total score was 36.43 and standard deviation was 13.84.

One-way ANOVA was used to compare the scores among the participants of the three groups. Most of the items scores were not statistically different except resolve conflict with colleague, avoid gossip, and cooperate in group tasks. For item regarding resolve

conflict with colleague, post-hoc comparisons showed that the scores of the control group were significantly higher than the ISST treatment group with follow-up intervention but not the WSST treatment group. For the other two items: avoid gossip and cooperate in group tasks, post-hoc comparisons showed that the scores of the other two groups were significantly higher than the ISST treatment group with follow-up intervention.

Table 14
Comparisons of Pre-training Scores of Self-administered Checklist by One-way ANOVA

Items	Group 1: ISST treatment group with follow-up intervention ($n = 37$)		Group 2: WSST treatment group with follow-up intervention ($n = 23$)		Group 3: Control group ($n = 41$)			Group 1 vs Group 2 (post-hoc comparisons)	Group 1 vs Group 3 (post-hoc comparisons)
	M	*S.D.*	*M*	*S.D.*	*M*	*S.D.*	*F*	*t*	*t*
Arrange job interview over the phone	3.41	0.96	3.53	1.57	3.03	2.01	0.90	-0.29	1.04
Participate in a job interview	3.00	1.05	3.13	1.50	3.35	1.86	0.52	-0.32	-1.01
Dress appropriately at the job interview	4.43	1.04	4.47	1.57	4.20	1.88	0.31	-0.09	0.66
Request leave	3.51	1.26	3.57	1.48	3.33	1.73	0.23	-0.14	0.53
Resolve conflict with supervisor	3.14	1.23	2.97	1.33	3.12	1.76	0.10	0.42	0.04
Resolve conflict with colleague	2.84	1.30	3.33	1.49	3.80	1.86	3.55*	-1.16	-2.67**
Avoid gossip	3.95	1.15	4.83	1.39	4.68	1.75	3.43*	-2.26*	-2.20*
Cooperate in group tasks	3.24	1.09	4.47	1.41	4.70	1.45	12.94**	-3.50**	-4.87**
Refuse to work overtime	3.32	1.31	3.33	1.90	3.15	1.90	0.13	-0.01	0.45
Instruct new colleague	3.30	1.15	3.83	1.42	4.00	1.88	2.11	-1.30	-2.01

* $p < 0.05$ ** $p < 0.01$

1. 3. Role-play Assessment

As stated in data collection, the role-play performance of participants was rated by two independent assessors. The correlation coefficient of the rating rated by the two independent assessors ranged from 0.38 in situations-specific raining to 0.83 in basic social skills (verbal components). The correlation coefficient for the total score was 0.80. The coefficients were all significant at the 0.05 level. The pre-training scores of the role-play assessment for the three groups of participants are shown in Table 15.

Participants in the ISST treatment group with follow-up intervention scored the highest on the item proximity (M = 6.49, *S.D.* = 1.10) and both volume (M = 6.32, *S.D.* = 1.16) and orientation (M = 6.32, *S.D.* = 1.23) ranked the second highest. Questions (M = 4.97, *S.D.* = 1.46) scored the lowest. The sub-total mean score for basic social survival skills was 12.08 (*S.D.* = 1.95), voice quality was 30.62 (*S.D.* = 5.30), non-verbal components was 45.73 (*S.D.* = 6.77), verbal components was 37.27 (*S.D.* = 6.97) and situation-specific ratings was 12.38 (*S.D.* = 1.77). The total score was 138.08 (*S.D.* = 19.15).

For the participants in the WSST treatment group with follow-up intervention of historical comparison groups, the mean total score was 136.43 (*S.D.* = 21.87). The sub-total mean score for basic social survival skills was 10.52 (*S.D.* = 2.13), voice quality was 28.35 (*S.D.* = 5.19), non-verbal components was 47.09 (*S.D.* = 7.06), verbal components was 38.26 (*S.D.* = 7.05) and situation-specific ratings was 12.20 (*S.D.* = 3.95). For the individual items, the highest two were orientation (M = 6.74, *S.D.* = 0.96) and proximity (M = 6.48, *S.D.* = 1.24). The lowest two were the items humour (M = 5.00, *S.D.* = 1.00) and gesture (M = 5.04, *S.D.* = 0.93).

The total score for the control group was 129.36 (*S.D.* = 23.6). The sub-total mean score for basic social survival skills was 10.12 (*S.D.* = 2.19), voice quality was 28.32 (*S.D.* = 6.57), non-verbal components was 44.62 (*S.D.* = 7.71), verbal components was 36.54 (*S.D.* = 6.63) and situation-specific ratings was 10.12 (*S.D.* = 3.72). The item with the highest score was orientation (*M* = 6.63, *S.D.* = 1.02), and the item with the lowest score was length of speech (*M* = 4.93, *S.D.* = 1.19).

One-way ANOVA showed that most of the sub-total scores and the total score among the three groups were not significant different from each other, except basic social survival skills and situation-specific ratings. Post-hoc comparisons showed that the score of the basic social survival skills of the ISST treatment group was significantly higher than the other two historical comparison groups. For the situation-specific ratings, post-hoc comparisons showed that the score of the ISST treatment group was only significantly higher than the control group but not the WSST treatment group. For individual items, politeness, personal presentation, appearance, and feedback were showed a significant difference between the groups.

Table 15
Comparisons of Pre-training Scores of Role-play Assessment by One-way ANOVA

Items	Group 1: ISST treatment group with follow-up intervention (n = 37)		Group 2: WSST treatment group with follow-up intervention (n = 23)		Group 3: Control group (n = 41)			Group 1 vs Group 2 (post-hoc comparisons)	Group 1 vs Group 3 (post-hoc comparisons)
	M	*S.D.*	*M*	*S.D.*	*M*	*S.D.*	*F*	*t*	*t*
Basic social survival skills									
Politeness	5.89	1.39	5.30	1.22	5.04	1.34	4.08*	1.67	2.82*
Personal presentation	6.19	0.88	5.22	1.17	5.07	1.19	11.53**	3.38**	4.57**
Sub-total	12.08	1.95	10.52	2.13	10.12	2.19	9.13**	2.81**	4.14**
Basic social skills									
Voice quality									
Volume	6.32	1.16	5.96	1.07	6.05	1.50	0.70	1.06	0.94
Pitch	6.22	1.03	5.65	1.40	5.68	1.62	1.85	1.55	1.71
Clarity	6.03	1.32	5.57	1.24	5.41	1.36	2.21	1.30	2.06
Pace	6.05	1.39	5.74	1.48	5.83	1.76	0.34	0.75	0.63
Speech disturbance	6.00	3.35	5.43	1.31	5.34	1.46	0.87	0.93	1.26
Sub-total	30.62	5.30	28.35	5.19	28.32	6.57	1.81	1.47	1.74
Non-verbal components									
Proximity	6.49	1.10	6.48	1.24	6.34	1.58	0.14	0.02	0.48
Orientation	6.32	1.23	6.74	0.96	6.63	1.02	1.26	-1.44	-1.24
Appearance	6.14	1.32	5.61	1.23	5.20	1.50	4.49*	1.44	3.00*
Facial expressions	5.24	1.12	5.43	1.44	5.12	1.19	0.47	-0.57	0.44
Gaze	5.38	1.30	6.00	1.51	5.24	1.51	2.17	-1.63	0.43
Posture tonus	5.05	1.35	5.70	1.11	5.22	1.41	1.73	-1.83	-0.55
Posture position	5.95	1.22	6.08	0.95	5.68	1.52	0.80	-0.39	0.90
Gesture	5.16	1.09	5.04	0.93	5.10	0.99	0.11	0.45	0.27
Sub-total	45.73	6.77	47.09	7.06	44.62	7.71	0.87	-0.71	0.68

Verbal components									
Length	5.41	1.09	5.35	1.27	4.93	1.19	1.84	0.18	1.79
Variety	5.19	1.29	5.43	1.27	5.04	1.20	0.72	-0.73	0.53
Feedback	5.08	1.48	5.91	1.12	5.73	1.34	3.41*	-2.32*	-2.12*
Turn taking	5.35	1.38	5.74	1.10	5.54	1.27	0.67	-1.15	-0.65
Questions	4.97	1.46	5.17	1.40	4.98	1.10	0.19	-0.57	-0.02
Intelligibility	6.21	1.00	5.65	1.11	5.24	1.22	7.41	1.90	3.84
Humour	5.05	1.08	5.00	1.00	5.07	0.88	0.04	0.21	-0.07
Sub-total	37.27	6.97	38.26	7.05	36.54	6.63	0.47	-0.54	0.47
Sub-total	113.62	14.44	113.69	17.73	109.39	19.29	0.69	-0.01	1.04
Situation-specific ratings									
Chance of being employed	2.59	1.01	1.83	0.94	1.66	1.93	4.37*	1.99	2.85*
Request for urgent leave									
Success in the request	4.05	0.70	1.87	1.82	1.07	1.95	36.30**	5.23**	8.36**
Relationship with supervisor after the request	5.73	1.15	6.87	1.77	7.39	1.20	15.47**	-3.22**	-5.50**
Sub-total	9.78	1.44	8.74	2.42	8.46	2.30	4.28*	1.91	2.84**
Sub-total	12.38	1.77	12.20	3.95	10.12	3.72	5.69**	0.21	3.10**
Total	138.08	19.15	136.43	21.87	129.63	23.6	1.63	0.29	1.72

* $p < 0.05$ ** $p < 0.01$

2. Post-training Assessment

As some of the scores in the assessment instruments showed significant differences among the three groups of participants in the pre-training assessment condition, comparison of mean change of the pre- and post-training assessment results was performed in this section (Portney & Watkins, 2000). The following is a description of the comparisons of pre- and post-training assessment results.

2. 1. Self-administered Checklist

The changes of pre-and post-training mean scores of the self-administered checklist for the three groups of participants are shown in Table 16.

For participants in the ISST treatment group with follow-up intervention, all of the items in the post-training scores were above 4. The items with the highest score was avoiding gossip (M = 5.40, $S.D.$ = 0.91) and instructing new colleague (M = 5.26, $S.D.$ = 0.95) was ranked as the second. The item with the lowest score was resolve conflict with supervisor (M = 4.46, $S.D.$ = 0.98).

For participants in WSST treatment group of the historical comparison groups, all of the items in the post-training scores were above 4. The two items with the lowest score of 4.42 were participating in a job interview and requesting leave. The items with the highest scores included avoiding gossip (M = 5.58, $S.D.$ = 0.58) and dressing appropriately to attend a job interview (M = 5.42, $S.D.$ = 0.97).

For the participants in the control group as the historical comparison group, the scores of individual items were similar to that of pre-training scores.

In order to compare the effectiveness of the ISST treatment group with the two historical comparison groups, the mean differences of individual items and total between pre- and post-training scores were calculated by statistical equations described in previous section of data analysis. One-way ANOVA showed that almost all of the scores were significantly different among the three groups at the 0.01 level. Post-hoc comparisons further indicated that five of the individual items scores of the ISST treatment group were significantly higher than the WSST treatment group. Three items, namely participating in a job interview, resolving conflict with colleague, and avoiding gossip, were significant at the 0.05 level. The other two items, cooperating in group tasks and instructing new colleague were significant at the 0.01 level.

Table 16

Comparisons of Pre-and-Post-training Scores of Self-administered Checklist by One-way ANOVA

Items	Time	Group 1: ISST (n=37)		Group 2: WSST (n=23)		Group 3: Control group (n=41)			Group 1 vs 2 (post-hoc comparison)	Group 1 vs 3 (post-hoc comparison)
		M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*t*	*t*
Arrange job interview over the phone	Pre	3.41	0.96	3.53	1.57	3.03	2.01			
	Post	4.89	0.96	4.58	1.25	2.75	1.83	23.01**	1.37	6.55**
	Change	1.48	0.74	1.05	1.13	-0.28	1.50			
Participate in a job interview	Pre	3.00	1.05	3.13	1.50	3.35	1.86			
	Post	4.89	0.90	4.42	1.25	3.05	1.67	39.03**	2.00*	8.59**
	Change	1.89	0.77	1.29	1.09	-0.30	1.38			
Dress appropriately at the job interview	Pre	4.43	1.04	4.47	1.57	4.20	1.88			
	Post	5.11	0.90	5.42	0.97	4.20	1.96	5.70**	-0.85	2.54**
	Change	0.68	0.76	0.95	1.13	0.00	1.49			
Request leave	Pre	3.51	1.26	3.57	1.48	3.33	1.73			
	Post	4.63	0.97	4.42	1.32	2.90	1.52	21.01**	0.90	6.14**
	Change	1.12	0.91	0.85	1.09	-0.43	1.27			
Resolve conflict with supervisior	Pre	3.14	1.23	2.97	1.33	3.12	1.76			
	Post	4.46	0.98	4.29	1.00	3.00	1.84	19.65**	0.01	5.60**
	Change	1.32	0.89	1.32	0.95	-0.12	1.40			
Resolve conflict with colleague	Pre	2.84	1.30	3.33	1.49	3.80	1.86			
	Post	4.63	0.88	4.50	1.10	2.80	1.79	59.05**	1.98*	10.44**
	Change	1.79	0.93	1.17	1.07	-1.00	1.42			
Avoid gossip	Pre	3.95	1.15	4.83	1.39	4.68	1.75			
	Post	5.40	0.91	5.58	0.58	4.50	1.64	21.51**	2.40*	6.53**
	Change	1.45	0.83	0.75	1.07	-0.18	1.32			
Co-operate in group tasks	Pre	3.24	1.09	4.47	1.41	4.70	1.45			
	Post	5.17	0.79	4.92	1.18	3.85	1.84	63.91**	5.14**	11.31**
	Change	1.93	0.78	0.45	1.03	-0.85	1.32			
Refuse to work overtime	Pre	3.32	1.31	3.33	1.90	3.15	1.90			
	Post	4.69	0.68	4.50	1.25	3.15	1.90	12.45**	0.56	4.68**
	Change	1.36	0.97	1.17	1.36	0.00	1.47			
Instruct new colleague	Pre	3.30	1.15	3.83	1.42	4.00	1.88			
	Post	5.26	0.95	4.88	1.45	4.05	1.85	25.65**	2.91**	7.15**
	Change	1.96	0.83	1.05	1.11	0.05	1.44			

* $p < 0.05$ ** $p < 0.01$

2. 2. Role-play Assessment

The correlation coefficients of the post-training scores of the two independent assessors ranged from 0.49 in non-verbal components to 0.51 in basic social survival skills. The correlation coefficient for the total score was 0.50. All of the coefficients were significant at the 0.05 level.

The change of pre-and post-training mean scores of the role-play assessment for the three groups of participants are shown in Table 17.

For the ISST treatment group, all of the individual items scored above 6. The two items with the highest scores were proximity (M = 7.71, $S.D.$ = 0.52) and intelligibility (M = 7.63, $S.D.$ = 0.55). The sub-total mean score for basic social survival skills was 14.49 ($S.D.$ = 1.44), voice quality was 35.66 ($S.D.$ = 2.98), non-verbal components was 54.63 ($S.D.$ = 4.90), verbal components was 48.94 ($S.D.$ = 4.21) and situation-specific ratings was 21.17 ($S.D.$ = 2.06). The total score was 174.62 ($S.D.$ = 13.23).

For the participants in the WSST treatment group with follow-up intervention of historical comparison groups, the mean total score was 170.61 ($S.D.$ = 17.46). The sub-total mean score for basic social survival skills was 13.78 ($S.D.$ = 1.76), voice quality was 34.39 ($S.D.$ = 4.00), non-verbal components was 57.00 ($S.D.$ = 4.98), verbal components was 46.48 ($S.D.$ = 5.06) and situation-specific ratings was 18.96 ($S.D.$ = 3.91). For the individual items, the highest two were orientation (M = 7.87, $S.D.$ = 0.46) and proximity (M = 7.78, $S.D.$ = 0.52).

The total score for the control group was 133.21 (*S.D.* = 24.13). The sub-total mean score for basic social survival skills was 11.00 (*S.D.* = 2.48), voice quality was 28.86 (*S.D.* = 5.73), non-verbal components was 46.96 (*S.D.* = 8.44), verbal components was 34.64 (*S.D.* = 7.10) and situation-specific ratings was 11.75 (*S.D.* = 4.21).

The previous results of the historical comparison groups (Tsang & Pearson, 2001) showed that the post-training scores of the WSST treatment groups were significantly higher than the control group. When comparing the scores between the ISST treatment group and the two historical comparison groups in the present study, post-hoc comparisons were only used to compare the results of the ISST treatment group to the WSST treatment group and the control group respectively.

Comparisons of the change of the pre- and post-training mean scores of the role-play assessment showed that nearly all of the scores, except gaze, were significantly different among three groups of participants at the 0.01 level. Only the item on speech disturbance was significant at the 0.05 level. Post-hoc comparisons showed that near all scores of the ISST treatment group were significantly higher than the control group, except the items on volume, speech disturbance, and gaze.

Post-hoc comparisons showed that only the change of mean score of item on personal presentation of the WSST treatment group was significantly higher than that of the ISST treatment group. For other items, such as variety, feedback, turn taking, questions, relationship with supervisor after the request, sub-total of verbal components, and sub-total of situations-specific rating, the change of mean scores of the ISST treatment group were

significantly higher than that of the WSST treatment group at either the 0.05 or 0.01 level.

Table 17

Comparisons of Pre- and Post-training Scores of Role-play Assessment by One-way ANOVA

Items	Time	Group 1: ISST (n=37)		Group 2: WSST (n=23)		Group 3: Control (n=41)			Group 1 vs 2 (post-hoc comparison)	Group 1 vs 3 (post-hoc comparison)
		M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*t*	*t*
Basic social survival skills										
Politeness	Pre	5.89	1.39	5.30	1.22	5.04	1.34			
	Post	7.23	0.94	6.78	0.99	5.64	1.22	8.25**	-0.56	3.35**
	Change	1.34	0.99	1.48	0.88	0.60	1.00			
Personal presentation	Pre	6.19	0.88	5.22	1.17	5.07	1.19			
	Post	7.26	0.89	7.00	1.00	5.36	1.39	22.52**	-3.08**	3.94**
	Change	1.07	0.68	1.78	0.85	0.29	1.02			
Sub-total	Pre	12.08	1.95	10.52	2.13	10.12	2.19			
	Post	14.49	1.44	13.78	1.76	11.00	2.48	17.97**	-1.99	4.16**
	Change	2.40	1.39	3.26	1.54	0.88	1.83			
Basic social skills										
Voice quality										
Volume	Pre	6.32	1.16	5.96	1.07	6.05	1.50			
	Post	7.14	1.12	7.26	0.92	6.46	1.35	6.39**	-1.88	1.87
	Change	0.82	0.88	1.30	0.78	0.41	1.11			
Pitch	Pre	6.22	1.03	5.65	1.40	5.68	1.62			
	Post	7.14	0.69	6.52	1.34	5.36	1.54	17.15**	0.21	5.32**
	Change	0.93	0.74	0.87	1.06	-0.32	1.23			
Clarity	Pre	6.03	1.32	5.57	1.24	5.41	1.36			
	Post	7.34	0.76	7.04	0.98	5.79	1.10	13.43**	-0.61	4.33**
	Change	1.32	0.96	1.47	0.89	0.38	0.98			
Pace	Pre	6.05	1.39	5.74	1.48	5.83	1.76			
	Post	7.31	0.87	6.96	1.11	5.89	1.29	13.51**	0.13	4.70**
	Change	1.26	1.00	1.22	1.06	0.06	1.26			
Speech disturbance	Pre	6.00	3.35	5.43	1.31	5.34	1.46			
	Post	6.71	1.20	6.61	0.78	5.36	1.25	3.33*	-0.97	1.70
	Change	0.71	2.65	1.18	0.95	0.02	1.07			
Sub-total	Pre	30.62	5.30	28.35	5.19	28.32	6.57			
	Post	35.66	2.98	34.39	4.00	28.86	5.73	16.44**	-0.89	4.66**
	Change	5.04	3.85	6.04	3.72	0.54	4.83			

Non-verbal components										
Proximity	Pre	6.49	1.10	6.48	1.24	6.34	1.58			
	Post	7.71	0.52	7.78	0.52	6.75	1.27	8.91**	-0.27	3.64**
	Change	1.23	0.82	1.30	0.95	0.41	1.14			
Orientation	Pre	6.32	1.23	6.74	0.96	6.63	1.02			
	Post	7.34	0.87	7.87	0.46	7.03	1.04	8.24**	-0.52	3.37**
	Change	1.02	0.88	1.13	0.72	0.40	0.80			
Appearance	Pre	6.14	1.32	5.61	1.23	5.20	1.50			
	Post	7.43	0.81	7.17	0.98	5.61	1.47	11.80**	-0.98	3.81**
	Change	1.29	0.95	1.56	0.89	0.41	1.15			
Facial expressions	Pre	5.24	1.12	5.43	1.44	5.12	1.19			
	Post	6.09	1.07	6.61	1.12	5.32	1.29	9.13**	-1.35	3.01**
	Change	0.84	0.85	1.18	1.03	0.20	0.96			
Gaze	Pre	5.38	1.30	6.00	1.51	5.24	1.51			
	Post	6.29	1.27	6.96	1.15	5.75	1.51	1.81	-0.18	1.61
	Change	0.91	1.00	0.96	1.08	0.51	1.17			
Posture tonus	Pre	5.05	1.35	5.70	1.11	5.22	1.41			
	Post	6.23	0.97	7.00	1.31	5.64	1.28	7.98**	-0.47	3.33**
	Change	1.17	0.97	1.30	0.96	0.42	1.05			
Posture position	Pre	5.95	1.22	6.08	0.95	5.68	1.52			
	Post	7.11	1.08	7.30	0.97	5.89	1.42	12.22**	-0.20	4.32**
	Change	1.17	0.90	1.22	0.74	0.21	1.14			
Gesture	Pre	5.16	1.09	5.04	0.93	5.10	0.99			
	Post	6.43	0.81	6.30	0.70	4.96	1.04	41.56**	0.03	8.16**
	Change	1.27	0.78	1.26	0.67	-0.14	0.79			
Sub-total	Pre	45.73	6.77	47.09	7.06	44.62	7.71			
	Post	54.63	4.90	57.00	4.98	46.96	8.44	19.53**	-0.69	5.24**
	Change	8.90	4.84	9.91	5.04	2.34	6.29			
Verbal components										
Length	Pre	5.41	1.09	5.35	1.27	4.93	1.19			
	Post	7.34	0.64	6.86	0.92	5.07	1.22	43.90**	1.83	9.03**
	Change	1.94	0.79	1.51	0.91	0.14	0.93			
Variety	Pre	5.19	1.29	5.43	1.27	5.04	1.20			
	Post	6.69	0.93	6.35	0.71	4.96	1.17	29.20**	2.36*	7.55**
	Change	1.50	0.92	0.92	0.92	-0.08	0.92			
Feedback	Pre	5.08	1.48	5.91	1.12	5.73	1.34			
	Post	6.97	1.12	6.74	0.81	5.18	1.12			
	Change	1.89	1.06	0.83	0.80	-0.55	0.97	61.82**	4.11**	11.08**

Turn taking	Pre	5.35	1.38	5.74	1.10	5.54	1.27			11.97**
	Post	7.20	0.93	6.87	0.92	4.86	1.17	75.44**	2.90**	
	Change	1.85	0.99	1.13	0.80	-0.68	0.95			
Questions	Pre	4.97	1.46	5.17	1.40	4.98	1.10			
	Post	6.91	0.95	6.52	0.99	4.75	1.17	51.41**	2.29*	9.85**
	Change	1.94	1.05	1.35	1.00	-0.23	0.88			
Intelligibility	Pre	6.22	1.00	5.65	1.11	5.24	1.22			
	Post	7.63	0.55	7.00	1.00	5.18	1.36	33.47**	0.27	7.43**
	Change	1.41	0.73	1.35	0.82	-0.06	1.01			
Humour	Pre	5.05	1.08	5.00	1.00	5.07	0.88			
	Post	6.26	0.62	6.13	0.96	4.64	1.10	51.96**	0.39	9.25**
	Change	1.21	0.78	1.13	0.76	-0.43	0.79			
Sub-total	Pre	37.27	6.97	38.26	7.05	36.54	6.63			
	Post	48.94	4.21	46.48	5.06	34.64	7.10	71.88**	2.52*	11.60**
	Change	11.67	5.03	8.22	5.04	-1.90	5.34			
Sub-total	Pre	113.62	16.45	113.69	17.73	109.39	19.29			
	Post	139.03	10.56	137.87	12.70	110.46	19.23	39.06**	0.35	8.05**
	Change	25.41	11.79	24.18	12.67	1.07	14.92			
Situations-specific ratings										
Chance of being employed	Pre	2.59	1.01	1.83	0.94	1.66	1.93			
	Post	6.97	1.07	6.39	1.37	2.71	1.82	103.24**	-0.59	12.56**
	Change	4.38	0.89	4.56	0.98	1.05	1.45			
Request for urgent leave										
Success in the request	Pre	4.05	0.70	1.87	1.82	1.07	1.95			
	Post	6.91	1.22	4.87	2.47	1.86	2.43	24.54**	-0.35	6.10**
	Change	2.86	0.89	3.00	1.77	0.79	1.75			
Relationship with supervisor after the request	Pre	5.73	1.15	6.87	1.77	7.39	1.20			
	Post	7.29	0.62	7.70	0.64	7.18	1.39	27.39**	2.58*	7.36**
	Change	1.56	0.84	0.83	1.40	-0.21	1.02			
Sub-total	Pre	9.78	1.44	8.74	2.42	8.46	2.30			
	Post	14.20	1.39	12.57	2.79	9.03	2.91	51.13**	1.24	9.52**
	Change	4.42	1.10	3.83	2.05	0.57	2.09			
Sub-total	Pre	12.38	1.77	12.20	3.95	10.12	3.72			
	Post	21.17	2.06	18.96	3.91	11.75	4.21	76.71**	2.93**	2.93**
	Change	8.79	1.51	6.76	3.04	1.63	3.10			
Total	Pre	138.08	19.15	136.43	21.87	129.63	23.6			
	Post	174.62	13.23	170.61	17.46	133.21	24.13	47.53**	0.55	8.94**
	Change	36.54	13.68	34.18	15.77	3.58	18.49			

* $p < 0.05$ ** $p < 0.01$

3. Follow-up Assessment

The results of the follow-up assessment are summarized from Table 18 to Table 33.

3. 1. Vocational Outcome of the Three Groups of Participants

Table 18 shows the vocational outcome of the ISST treatment group and the historical comparison groups at the time of follow-up three-month after the completion of the training programme. There were 26 out of 37 participants who were gainfully employed in the ISST treatment group. This was the highest figure when comparing with the other two historical comparison groups. According to the results from the two historical comparison groups, there were 14 participants out of 30 who were gainfully employed in the WSST treatment group and the control group had only one participant who was employed. In the ISST treatment group, there was one participants who was now unemployed but had been employed for some time during the past three months and three participants were beginning or continuing to work in sheltered workshop. There were seven participants who were unemployed. In the WSST group and the control group, the number of participants who were unemployed was 7 and 32 respectively.

Chi-square test showed that the distribution pattern of the number of participants who were gainfully employed weighted to the total number of participants was statistically significant. When comparing the number of participants who were gainfully employed between the ISST treatment group and the two historical comparison groups, there was a significant difference among the three groups (Chi-square = 39.33, $p < 0.01$). Further comparison between the ISST and the WSST treatment groups showed that the number of

participants of the ISST treatment group who were gainfully employed was significantly higher than that of the WSST treatment group (Chi-square = 3.84, $p < 0.05$).

3. 2. Participants who were Currently Employed

The profile of the participants is described in more details in Table 19 to Table 27. There were 26 participants in the ISST treatment group, 14 in the WSST treatment group and 1 in the control group who were employed. The detailed follow-up assessment data of the ISST treatment group were available for descriptive statistical analysis. But for the historical comparison groups, the data of some participants were not available for description from the previous study.

Based on the available valid results from the ISST treatment group, there were 26 participants were gainfully employed. There were 15 (57.69%) participants who worked in retailing-related occupations. 5 (19.23%) participants worked as waitperson which is service-oriented. The other 6 (23.08%) participants were worked as other types of occupation (Table 19). Chi-square test showed that the number of participants who worked in retail market was significantly higher than those worked in other occupations among the ISST treatment group.

In Table 20, the number of job interviews attended leading to the present job of the three groups of participants was described. For the ISST treatment group, 10 of the participants who had attempted job hunting had attended only 1 interview. Some 8 and 6 of the other participants had attended 2 and 3 interviews respectively. For the WSST treatment group, 6 of the participants had attended 1 interview and 4 of them had attended 3

interviews leading to the present job. For the control group, one participant had attended only one interview which leaded him/her to the job.

In Table 21, the duration of the present job for the participants was tabulated. For the ISST treatment group, 16 participants had worked for 0 to 30 days, and 10 of them had worked for more than 30 days. For the WSST treatment group, 7 out of 14 participants had worked for 31-60 days, 4 of them had worked for less than 30 days, and 3 of them had worked for more than 60 days. The only participant in the control group had worked for less than 30 days. The total duration of gainful employment for the participants is summarized in Table 23.

Almost all participants (25 out of 26) in the ISST treatment group did not change their job during the follow-up. For the WSST treatment group, most of the participants (12 out of 14) did not change their job during follow-up. For the only one participant in the control group, he/she had changed the job.

The degree of job satisfaction for the three groups of participants is shown in Table 24. Nearly all of the participants in the ISST treatment group expressed satisfaction with their job. Some 25 out of 26 scored 4 or above, among the 25 participants, more than half (15) of them scored 5. Only one of them showed being neutral to slightly dissatisfaction. Similar results were shown in the WSST treatment group as historical comparison, 13 out of 14 participants scored 4 or above. The only one participant in the control group scored 5. Similar distributions of the degree of relationship with supervisor and colleagues are shown in Table 25 and 26.

The plan of the participants to change job is shown in Table 27. For the ISST treatment group, 20 of them did not plan to change job while the remaining 6 did. For the WSST treatment group, 12 of them did not plan to change job while 2 did. The one in the control group did not want to change job.

According Table 18, only one participant was employed in the historical control group. As a result, the interpretations regarding the adjustment situation of the participants who were gainfully employed are based on the results of the participants from the ISST treatment group and the historical WSST treatment group. The adjustment issues included number of job interview attended, duration of the present job, idea to change the job, and job satisfaction. Chi-square test showed that there was no significant difference in the distribution pattern of the number of participants who were gainfully employed.

3. 3. Participants who were Unemployed

The profile of the three groups of participants who were unemployed during the three-month follow-up is shown from Table 28 to Table 30. For the ISST treatment group, there were 8 participants who were currently unemployed and were not working in sheltered workshop. However, only three of them could be contacted for follow-up assessment.

One of the participants in the ISST treatment group did not attend any job interview at all. The other two participants tried to attend one job interview. Of the six participants in the WSST treatment group, three of them did not attend any job interview at all. One attended one and two attended two job interviews. For the control group, most of them (20)

did not attend any job interview, and the other four participants attended one to four interviews.

In Table 29, the motivation for further job hunting of the three groups of participants who were currently unemployed was summarized. The three participants from the ISST treatment groups showed that they were motivated for further job hunting. Participants in the WSST treatment group were not very motivated. In the control group, 17 out of 40 participants were not motivated and the other five were showed motivated.

Results regarding the confidence of the participants for further job hunting were summarized in Table 30. Most of the participants in the three groups showed no confidence or slightly confident about further job hunting.

3. 4. Participants Beginning or Continuing to Work in Sheltered Workshop

The results for the participants working in sheltered workshop are shown from Table 31 to Table 33.

Results regarding willingness to work in sheltered workshop of the participants are summarized in Table 31. The two participants in the ISST treatment group were unwillingness to work in sheltered workshop. For the historical comparison groups, most of them were willingness to work in sheltered workshop.

In Table 32 and 33, the motivation and confidence for job hunting for the three groups of participants are shown. For the ISST treatment group, the two participants were

motivated and slightly confident to find a job. For the historical comparison groups, most of the participants working in sheltered workshop were not too motivated and not confident to find a job.

Table 18

Vocational Outcome of the Three Groups of Participants at Three-month Follow-up Assessment

Vocational outcome	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Gainfully employed* **	26	14	1	41
Currently unemployed, but employed for some time for the past three months	1	3	0	4
Beginning or continuing to work in sheltered workshop	3	2	8	13
Unemployed for the past three months	7	7	32	46
Unknown	0	4	0	4
Column Total	37	30	41	108

* Comparison among three group: Chi-square = 39.33, p <0.01
** Comparison between ISST and WSST: Chi-square = 3.84, p < 0.05

Table 19

Occupations of Participants who were Currently Employed in the ISST Treatment Group

Occupations	Number of participants (percentage)
Retail-related	15 (57.69%)
Waitperson	5 (19.23%)
Others	6 (23.08%)
Column total	26

Table 20

Number of Job Interviews Attended Leading to the Present Job of the Three Groups of Participants

Number of job interviews	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
1	10	6	1	17
2	8	1	0	9
3	6	4	0	10
4	2	1	0	3
5	0	0	0	0
6 or above	0	2	0	2
Unemployed	11	16	40	67
Employed	26	14	1	41

Table 21

Duration of the Present Job of the Three Groups of Participants

Duration of the present job (number of days)	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
0 – 30	16	4	1	21
31 – 60	8	7	0	15
61 – 90	2	3	0	5
Unemployed	11	16	40	67
Employed	26	14	1	41

Table 22

Change of Job of the Three Groups of Participants over the Past Three Months

Change of job	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Yes	1	2	0	3
No	25	12	1	38
Unemployed	11	16	40	67
Employed	26	14	1	41

Table 23

Duration of Gainful Employment of the Three Groups of Participants for the Three-month Follow-up

Duration (number of days)	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
0 – 30	15	4	1	20
31 – 60	9	6	0	15
61 – 90	2	3	0	5
Unknown	0	1	0	1
Unemployed	11	16	40	67
Employed	26	14	1	41

Table 24

Degree of Job Satisfaction of the Three Groups of Participants for the Three-month Follow-up

Degree of job satisfaction	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Very dissatisfied				
1	0	0	0	0
2	0	0	0	0
3	1	1	0	2
4	6	4	0	10
5	15	7	1	23
6	4	2	0	6
Very satisfied				
Unemployed	11	16	40	67
Employed	26	14	1	41

Table 25

Relationship with Supervisor of the Three Groups of Participants for the Three-month Follow-up

Relationship with supervisor	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Very poor				
1	0	0	0	0
2	0	0	0	0
3	1	1	0	2
4	7	7	1	15
5	16	6	0	22
6	2	0	0	2
Very good				
Unemployed	11	16	40	67
Employed	26	14	1	41

Table 26

Relationship with Colleagues of the Three Groups of Participants for the Three-month Follow-up

Relationship with colleague	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Very poor				
1	0	0	0	0
2	0	1	0	1
3	0	1	0	1
4	8	5	1	14
5	16	6	0	22
6	2	1	0	3
Very good				
Unemployed	11	16	40	67
Employed	26	14	1	41

Table 27

Plan to Change Job of the Three Groups of Participants

Plan to change job	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Yes	6	2	0	8
No	20	12	1	33
Unemployed	11	16	40	67
Employed	26	14	1	41

Table 28

Number of Participations in Job Interview of the Three Groups of Participants who were Unemployed for the Past Three Months

Number of job interview	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
0	1	3	20	24
1	2	1	1	4
2	0	2	1	3
3	0	0	0	0
4	0	0	2	2
Unknown/ not applicable	8	10	16	34
Employed	26	14	1	41
Unemployed	11	16	40	67

Table 29

Motivation for Further Job Hunting of the Three Groups of Participants who were Unemployed

Motivation	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Not motivated				
1	0	1	5	6
2	0	1	5	6
3	0	2	7	9
4	0	1	3	4
5	3	0	0	3
6	0	0	2	2
Motivated				
Unknown/ Not applicable	8	11	18	37
Employed	26	14	1	41
Unemployed	11	16	40	67

Table 30

Confidence for Further Job Hunting of the Three Groups of Participants who were Unemployed

Confidence	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Not confident				
1	0	1	5	6
2	0	1	9	10
3	0	1	3	4
4	2	2	2	6
5	1	0	3	4
6	0	0	0	0
Confident				
Unknown/ Not applicable	8	11	18	37
Employed	26	14	1	41
Unemployed	11	16	40	67

Table 31

Willingness to Work in Sheltered Workshop of the Three Groups of Participants who were Working in Sheltered Workshop

Willingness	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Willing	0	2	4	6
Not willing	2	0	2	4
Unknown/ Not applicable	1	0	0	1
Unemployed	11	16	40	67
Employed	26	14	1	41
Sheltered workshop	3	2	6	11

Table 32

Motivation for Job Hunting of the Three Groups of Participants who were Working in Sheltered Workshop for the Three-month Follow-up

Motivation	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Not motivated				
1	0	0	4	4
2	0	0	2	2
3	0	1	1	2
4	1	1	1	3
5	1	0	0	1
6	0	0	0	0
Motivated				
Unknown/ Not applicable	1	0	0	1
Unemployed	11	16	40	67
Employed	26	14	1	41
Sheltered workshop	3	2	6	11

Table 33

Confidence for Job Hunting of the Three Groups of Participants who were Working in Sheltered Workshop

Confidence	Group1: ISST (n = 37)	Group 2: WSST (n = 30)	Group 3: Control (n = 41)	Total (n = 108)
Not confident				
1	0	1	1	2
2	0	0	5	5
3	0	0	0	0
4	2	1	0	3
5	0	0	0	0
6	0	0	1	1
Confident				
Unknown/ Not applicable	1	0	0	1
Unemployed	11	16	40	67
Employed	26	14	1	41
Sheltered workshop	3	2	6	11

D. Discussion

1. Attitude of the Participants towards the Training Programme before Implementation

Table 13 presents the scores of the participants on the motivation checklist towards the ISST group. Most of the scores were not significantly different among the groups, except the anxious-relaxed axis and bored-excited axis. For these two items, post-hoc comparisons showed that the scores of the ISST group were significantly higher than the other two historical comparison groups. This difference might be simply a matter of chance in the sampling process.

All of the scores on willingness to join, motivation to join and motivation to get a job were above 5. This means that all participants had a positive attitude towards the Integrated Social Skills Training programme before they actually joined. Although among the three groups, there were significant differences in willingness to join and motivation to get a job. However, the significant difference only occurred between the ISST group and the control group, this difference might be simply a matter of chance. What is more important is that it did not affect the comparison of the vocational outcome between the ISST group and the WSST group.

The ISST participants had similar scores to the two historical comparison groups on most of the items. The results showed that the motivation level of participants in the prospective ISST group was similar to the other two comparison groups. Compared with the previous results from the historical comparison data, the ISST participants had high scores on the useless-useful axis but had low scores on the easy-difficult axis. This implied

that in general the participants had a fairly positive attitude and perception that the group was useful to them.

However, the participants were felt slightly difficulty about the group as none of them had participated in similar kind of programme before. They were not familiar with the format and details of the group. They might think that the group had many homework assignments and was very demanding. Some participants even expressed wonder whether there was an examination after the group. Such mild level of felt difficulty is unlikely to have any effect on the participants once they had actually joined the group and understood the demands were within their abilities.

2. Improvement in Self-perceived Social Skills Competence

Table 14 shows that most of the pre-training scores were not statistically different except resolving conflict with colleague, avoiding gossip, and cooperating in group tasks. For the item regarding resolving conflict with colleague, post-hoc comparisons showed that the scores of the control group were significantly higher than the ISST treatment group but not the WSST treatment group. For the other two items on avoiding gossip and cooperating in group tasks, post-hoc comparisons showed that the scores of the other two groups were significantly higher than the ISST treatment group. The failure of the sampling process to achieve pre-training constancy was counteracted by the statistical technique of comparing the mean change of pre- and post-training scores among the three groups (Portney & Watkins, 2000). As the pre-training scores of the ISST treatment groups in the corresponding three items were significantly lower than that of the historical comparison groups, this result indicated that the self-perceived competence in work-related situations of

the participants of the ISST treatment group had obviously improved after joining the treatment when comparing the mean change scores among the groups.

Table 16 shows that all of the mean changes of the pre- and post-training scores of the ISST group were significantly higher than those of the control group at 0.01 level. This was a further protection of Type I error consequent to a series of ANOVA tests being processed. In addition, half of the mean changes of the pre- and post-training item scores of the ISST group were significantly higher than those of the WSST group at the 0.05 level, the differences of co-operating in group tasks and instructing new colleague were significant at 0.01 level. By observing the mean change scores, the control participants did not show any improvement in the self-perceived competence, while the ISST participants and the WSST participants showed an obviously improvement, especially in the ISST group. It shows that the improvement in the self-perceived competence was due to the effect of the training programme given to the participants.

The improvement of the ISST treatment group was found in all items when comparing with the historical control group. This is easily explained as all of these areas were focuses of the WSST which a part in the ISST was and the efficacy of WSST was supported by previous study (Tsang & Pearson, 2001). The better improvement of the ISST treatment group was most obvious in participating in a job interview, resolving conflict with colleague, avoiding gossip, co-operating in group tasks, and instructing new colleague when comparing that with the historical WSST group. It is likely that extra-training on job-specific social skill components were contributed further to the improvement. For instance, the five sessions of JSST were given to the important components on interacting with customers, problem solving skills, attitudes and knowledge, flexibility, and conflict

prevention. During the job interview, most of the employers asked the related questions to the interviewees who were interested to be a salesperson, such as how they would serve the customers and what the important manners are to be salespersons. The answers to such questions were covered in the five skill areas of JSST. As a result, this is no wonder that the participants had improved their self-perceived competence in participating in a job interview in retailing field. For improvement in avoiding gossip, resolving conflict with colleague, co-operating in group tasks, and instructing new colleague, this is easily understood as the sessions of JSST about conflict prevention, flexibility, and problem solving skills were focused on the methods of solving and preventing conflicts between customers and colleagues, co-operating with colleagues and team building. All these skills are on job maintaining.

Regarding the non-significant improvement of the participants of the ISST treatment group in other items when comparing with that of the WSST group, the reason may be due to the fact that this was not a major focus of the JSST programme. For example, there was no further content in JSST related to arranging job interview over the phone, appropriate dressing at the job interview, or requesting leave.

3. Improvement in Social Skills by Role-play Assessment

Some of the items showed significant differences in the pre-training scores with historical comparison. This was counteracted by the statistical technique of comparing the mean change of pre- and post-training scores among the three groups (Portney & Watkins, 2000).

Table 17 shows that nearly all of the mean changes of the individual items, sub-totals, and total of the ISST treatment group were significantly higher than those of the control group. Nearly all of the significance levels are at the 0.01 level. This implies that the social skills of the participants of the ISST treatment group had improved when compared with the control group after being trained by the work-related social skills and job-specific social skills programme.

Post-hoc comparisons of the mean changes of the pre- and post-training scores indicated that there were significant differences in several items between the ISST treatment group and the WSST group. Most of the items were under verbal components which included variety, feedback, turn taking, questions, sub-total of verbal components, and situations-specific ratings. The changes of mean scores of the ISST treatment group were significantly higher than that of the WSST treatment group at either the 0.05 or 0.01 level. This result is a logical consequence of the nature and content of the ISST group. The focus of the ISST treatment group is on job-specific situations which included preparing the participants to have more understandings in the job nature, the relevant social skills and techniques related to conversation in retail market. As a result, it is no surprise that the participants in the ISST treatment group had improved most significantly in areas concerning skills in verbal components and situations-specific ratings.

Although post-hoc comparisons showed that only the change of mean score of item on personal presentation of the WSST treatment group was significantly higher than that of the ISST treatment group. However, the post-training score of item on personal presentation of the ISST treatment group was still higher than that of the two historical comparison groups. The significant difference between the ISST and the WSST treatment

groups is due to the unexpected pre-training score difference in the item. Such difference might commonly occur in the historical comparison study (Cleophas & Zwinderman, 2000).

4. Employment Status at the Follow-up Period

Interpretation of the results of social skills training would not be satisfied if positive results of the social skills competence are reported only at the post-training level. As researchers and mental health professions, one of the major concerns is whether the improvement could be generalized to and sustained in real life situations (Corrigan, Schade & Liberman, 1993; Liberman, Eckman & Marder, 2001; Tsang & Pearson, 2001). In this study, the employment status of the participants at the three-month follow-up period is the most important generalization measure of the effectiveness of the ISST treatment group.

Table 18 presents the result of the generalization measure. Chi-square test shows that the employment status of the participants was significantly related to the group status. In the ISST treatment group with follow-up intervention, 26 out of 37 participants (70.3%) who were gainfully employed, whereas there were only 14 out of 30 (46.7%) who were gainfully employed in the historical WSST treatment group with follow-up intervention and only one participant who was employed in the historical control group. Chi-square test showed that the distribution pattern of the number of participants who were gainfully employed weighted to the total number of participants was statistically significant. The success rate of employment of the ISST treatment group with follow-up intervention was significantly higher than the historical WSST treatment group with follow-up intervention and the historical control group.

Literature shows that the implication of WSST was most effective in generalizing the behaviors of the participants to real life situations if there was continuous follow-up intervention in terms of sharing and support among peers, discussion and advice on problems solving and encouragement from others (Tsang, 1996; Tsang & Pearson, 2001). In this prospective study, three-month follow-up intervention was given to the participants of the ISST treatment group which was consistent to the WSST treatment group in the research design conducted by Tsang and Pearson (2001). As a result, the difference of the effect in successful employment rate of the ISST treatment group was most likely due to the job-specific content of the treatment group rather than the effect from the follow-up intervention.

Based on the available results from the ISST treatment group, there were 26 participants were gainfully employed. There were 15 (57.69%) participants who worked in retailing-related occupations. Five (19.23%) participants worked as waitperson which is service-oriented. The other six (23.08%) participants worked as other types of occupation (Table 19). Although the results from the historical WSST group was not available to compare the types of occupation at the follow-up period, it shows based on the results of the ISST treatment group that near 60% of the participants worked in retailing-related occupations after the job-specific social skills training module in salesperson. It indicates that more than half of participants found a job as salespersons which coincided to their job preferences after the JSST programme.

According Table 18, only one participant was employed in the historical control group. As a result, interpretation regarding job adjustment of the participants who were gainfully employed is based only on the results of the ISST treatment group and the

historical WSST treatment group. Chi-square test showed that there was no significant difference in the distribution pattern of the number of participants in different aspects of job adjustment. This makes good sense as the effect on job adjustment such as job satisfaction would not show obvious improvement in a short period of time. Literature shows that the effects of work in non-vocational outcomes such as job satisfaction or self-esteem require a long period of time to be generated (Bond, Resnick, Drake et al., 2001; Greden, 1998). Although the result showed that there was no significantly different among the two groups in terms of job adjustment, results still show that participants in the ISST group were fairly steady in their job as most of them did not change their job for the three-month follow-up period. Also, the majority of them were satisfied with their jobs, and relationships with their supervisors and colleagues. Most of them did not show any intention to change their job. All of these provide support to the evidence that the ISST group is not only able to help our mental health consumers to get a job, but also effective to facilitate them to settle and maintain good interpersonal relationships in the workplace.

5. Implication of the Historical Comparison Design

Although randomized double-blind clinical trial is the most commonly used design for preventing bias and distributing unknown variables between the treatment and control groups, the use of appropriate and matched historical comparison data provides an alternative approach to compare the effectiveness of the treatment group (Cleophas & Zwinderman, 2000). Such historical comparisons have been used in areas like oncology, cardiovascular disease and osteoporosis (Gehan & Freireich, 1981; Rosner, 1987; Watts, Lindsay, Li, Kasibhatla & Brown, 2003). Watts and colleagues (2003) stated one of the advantages is that using historical comparison allows the further analysis of the treatment

effect without requiring additional participants to undergo placebo or control treatment. They stated that the analysis method using historical data is valid if the overall baseline characteristics of both current treatment group and historical comparison group are similar. Regarding the validity of using historical comparison groups, Pocock (1976) has stated the requirements for a valid historical comparison study. Firstly, the historical comparison group should have received a precisely defined treatment in a recent previous study. The criteria for eligibility of participants, diagnostic and staging workups, and other features related to the outcome of treatment should be the same and controlled in both groups. Finally, there should be no unexplained indications leading one to expect different results between the groups.

In this study, the data of ISST treatment group was analyzed using the matched historical comparison groups (WSST group and control group) from the previous study (Tsang & Pearson, 2001). In order to provide evidence to support the validity of this study method, the requirements suggested by Pocock (1976) and Watts and colleagues (2003) were adapted. Firstly, the historical comparison groups (Tsang & Pearson, 2001) had received precisely defined treatment in recent previous study. The conceptual framework adapted by ISST treatment group was based on the same Work-related Social Skills model of the historical comparison groups suggested by Tsang and Pearson (2001). Secondly, the criteria of eligibility of participants, diagnostic and staging workups, and other features related to the outcome of the treatment were similar in both ISST treatment group and historical comparison groups. The selection criteria of the participants in ISST treatment group were based on the historical study conduct by Tsang and Pearson (2001). The distributions of participants' characteristics in the ISST treatment group were comparable with those in the historical groups. All assessment instruments, procedures of data

collection, and methods of treatment evaluation used in ISST treatment group were the same as the one used in the historical study. Finally, there were no unexplained indications leading one to expect different results between the groups. As chi-square test and one-way ANOVA showed that the demographic data were not significantly different among the groups. Furthermore, most of the scores were not significantly different among the ISST group and the historical WSST group in the motivation checklist which indicated that it did not affect the comparison of the vocational outcome between these two groups.

Review shows that historical control designs offer relevant scientific, ethical, and financial advantages (Cleophas & Zwinderman, 2000; Gehan & Freireich, 1981; Gehan, 1984; Pocock, 1976; Rosner, 1987; Watts, Lindsay, Li, Kasibhatla & Brown, 2003). In this study, a prospective and retrospective historical comparison design was used instead of the randomized clinical trial. It was because the ISST includes the WSST which has already been well-documented as to its efficacy. Once the supplemented JSST is implemented with WSST to form ISST, its efficacy should be at least as good as or possibly better than WSST only. Considering the ethical issue, using randomized controlled trial induced the ethical problem of allowing a random event to determine treatment of consumers. Comparison of a new treatment with placebo or concurrent control is unethical as there is a standard training or treatment available (Rothman & Michels, 1994). Literature supported that when a new treatment programme is developed and based on the well-documented historical treatment, the new treatment is believed to be more effective than the historical treatment, or at least as good as or possibly better than the historical comparison treatment. It will hardly be ethical to use the active comparison treatment or concurrent control group because half of the consumers will be treated with an inferior treatment (Cleophas & Zwinderman, 2000; Freirich, 1983; Gehan, 1984; Rosner, 1987). As similar previous study had been done in the

local context, the historical data was available for comparison. So, the historical comparison design used in this study could avoid half of the participants from being tested with an old treatment and all participants in the trial would receive the new treatment which the investigator believes to be superior.

Besides the ethical argument for using historical comparison instead of parallel-group comparison, requiring smaller numbers of participants and shorter time periods are the other advantage when using historical comparison groups compared with using randomized control study designed to meet equivalent objectives (Genhan, 1984). The historical comparison design used in this study therefore can serve not only to shorten the length of the study, due to the fact that all participants were assigned to the new treatment group, but also avoid half of the participants from being tested with an old treatment. There are both financial and ethical arguments for using historical comparison instead of parallel-group comparison.

On the other hand, literature shows that there were weaknesses when using historical comparison study design. Literature shows that non-classical trial design likes historical controls designs might include main problems of the increased risks of type I and type II errors and the loss of validity criteria. Although there is the risk to loss of validity factors in the historical comparison design because it is hard to randomize and blind a historical control study (Freirich, 1983), the increased risks of type I and type II errors should be accounted for in the design stage of the trial (Cleophas & Zwinderman, 2000). Several strategies are used as mechanisms for ensuring comparability of the historical treatments. For example, to make randomization less necessary and adjust the selection criteria of the participants based on the historical data (Cleophas & Zwinderman, 2000;

Pocock, 1976). As discussed before, in this study, all the selection criteria of the participants are based on the historical study conducted by Tsang and Pearson (2001), and all of the demographic data of the ISST treatment group and the WSST treatment group were not showed significantly different. Furthermore, the assessment instruments used as outcome measures in this study were the same as that in the historical comparison study and the assessors were blind to the research design. All of these further assured that the prospective results from the ISST group are feasible to compare with the historical data.

In this study, the results of the ISST treatment group, included social skills competence and vocational outcome. Most of the outcome measures were statistically better than the historical control groups. In order to further validate the positive results from this study, as well as to avoid and deal with 'false-positive' results (Gehan, 1984), it is recommended that confirmatory studies should be conducted by other investigators who treat the same types of participants in the same manner to further confirm the efficacy of the study.

E. Conclusion

The hypotheses as set out previously have been supported by this study. The hypotheses and the corresponding conclusions are summarized as follows:

Hypothesis 1:

The self-perceived social competence in work-related situations of the ISST group would be higher than or similar to that of the WSST group, and higher than that the control group after receiving the ISST programme.

Conclusion 1:

The self-perceived social competence in work-related situations of the ISST group was some higher than and some similar to that of the WSST group, and all higher than the control group after receiving the ISST programme.

Hypothesis 2:

The work-related social skills of the ISST group would be higher than or similar to that of the WSST group, and higher than the control group after receiving the ISST programme.

Conclusion 2:

The work-related social skills of the ISST group was some higher than and some similar to that of the WSST group, and nearly all higher than the control group after receiving the ISST programme.

Hypothesis 3:

The ISST treatment group would be more successful in job hunting than the WSST treatment group and control group.

Conclusion 3:

The ISST treatment group was more successful in job hunting than the WSST treatment group and control group.

Hypothesis 4:

The employed consumers of ISST treatment group would be more satisfied with their job and able to develop better relationships with their supervisors and colleagues.

Conclusion 4:

The employed consumers of ISST treatment group were in general satisfied with their job and able to develop better relationships with their supervisors and colleagues.

A culturally relevant training package for job-specific social skills has been developed based on the Work-related Social Skills model (Tsang & Pearson, 1996). The Integrated Social Skills Training formed by Work-related Social Skills Training and Job-specific Social Skills Training that is found to be efficacious in improving the self-perceived social competence and social skills under work-related situations of mental health consumers. Furthermore, the integrated training is able to increase the rate of success in job acquisition of people with SMI and facilitate them to settle down and develop better working relationship with supervisors and colleagues in the workplace.

Chapter VI: Discussion and Recommendation

A. Summary of the Findings

1. Factor Structures of Job-specific Social Skills for Salespersons

The factor structure of essential Job-specific Social Skills to be salesperson in retailing has been identified by means of questionnaire survey in Chapter III. Exploratory factor analysis of the results of a 26-item questionnaire survey suggested a five-factor solution: social skills when interacting with customers, problem-solving skills, knowledge and attitudes, flexibility, and skills for conflict prevention, which accounted for 65.1% of the total variance. The final rotated solution was in good structure and it could be meaningfully interpreted.

While identifying the factor structure of the Job-specific Social Skill components, the opinions of salespersons who were working in retail market were collected by means of questionnaire survey. The theory of community integration of consumers is becoming the focus of psychiatric rehabilitation (Drake, Green, Mueser & Goldman, 2003; Tsang, Chan & Bond, 2004; Yip & Ng, 1998). People with severe mental illness (SMI) are required to face the challenge of the actual job demands in the community after discharge from hospitals and compete with persons without disability under open employment. What they are required to learn is the same as the salespersons who are working in retail market. Therefore, the selection of participants in this study for identifying the factor structures of

job-specific social skills in retail market and the opinions from the respondents were sufficiently comprehensive to assess the validity of the module.

The findings of exploratory factor analysis in phase one suggested the five-factor solution of essential job-specific social skills for salespersons working in retail market. All of the items except Item 14 (Contact with wholesale company, factor loading = .419) had factor loadings of at least .50 in one of the five factors to which they belonged to. Items belong to one factor had very little overlapping with other factors. The total percentages of variance were explained by the five factors is fairly high (65.1%). This observation is substantiated by comparing results of similar studies based on exploratory factor analysis (Gerber & Prince, 1999; Jette & Portney, 2003; Tsang, Tam, Chan & Cheung, 2003) which explained less than 55% of the total variance. This means that the factor structures found in this study are valid and interpretable.

2. Development of Job-specific Social Skills Training Programme

A culturally relevant and client-centered package of Job-specific Social Skills Training (JSST) module for people with SMI in Hong Kong was developed. The design of the programme is based on the conceptual framework of work-related social skills in psychiatric rehabilitation (Tsang & Pearson, 1996) to further improve the employment outcomes of individuals with SMI in Hong Kong. The layout and content of the JSST programme follow the factor structure resulting from Chapter III in this study. The concept and presentation of the training format parallel the hierarchical structure of the constructs of the Work-related Social Skills model (Tsang & Pearson, 1996). Consumers who would

participate in the Integrated Social Skills Training (ISST) would first of all receive the ten sessions of Work-related Social Skills Training (WSST; Tsang & Pearson, 2001) which addresses the social skills generic to all kinds of workplace, and followed by the JSST. The JSST programme covers five main skill areas. Each skill area includes the essential skill items based on the corresponding factor resulting from Chapter III. The training programme consists of five sessions, with each session lasting for about one and a half hour. The programme is feasible and achievable within the clinical workload of most of the rehabilitation professionals in Hong Kong. The JSST will be flexibly implemented on consumers who are interested to work as salespersons in the retail market either in individual or in group format. The module was developed as a package which includes a trainer's manual, a demonstration videotape or videodisc, and a participant's workbook to help participants learn the content. The format of each session follows the traditional approach which consists of warming up, instruction, demonstration, role-play, feedback, and homework assignment (Wallace, Nelson, Liberman et al., 1980; Wilkinson & Canter, 1982; Shepherd, 1983).

Apart from the development of the package, Chapter V describes a prospective clinical trial and historical comparison study to evaluate its effectiveness in improving social competence in getting and keeping jobs for people with SMI in Hong Kong.

3. Outcomes of the Retrospective and Prospective Comparison Study

Chapter V describes a prospective clinical trial when applying the salesperson module of JSST with the WSST to form an Integrated Social Skills Training (ISST)

developed in Hong Kong for people with SMI in order to improve their ability of finding and keeping a job. The data of ISST was analyzed by using the matched historical comparison groups (WSST group and control group) from previous study (Tsang & Pearson, 2001). The use of appropriate and matched historical comparison data provides an approach to compare the effectiveness of the treatment group for which data of concurrent comparison groups are not available. In order to minimize the problems of directly comparing the data between prospective and retrospective studies, several strategies were used as mechanisms for ensuring comparability of the treatments and provided further evidence to construct the historical comparison study was valid, which has already been discussed in the previous chapter.

According to the results in Chapter V, the efficacy of the ISST in improving the self-perceived competence and social skills of participants related to work situations was demonstrated. After the three-month follow-up intervention, results show that the participants in the prospective treatment group with follow-up intervention were most successful in getting jobs compared with the historical comparison groups. The successful employment rates of participants in the ISST treatment group (70.3%) were significantly higher than that of the historical WSST treatment group (46.7%). Previous studies stated that the results of successful employment of people with SMI may also be attributed to the current economic conditions (Munk-Jorgenson & Mortensen, 1992; Tsang & Pearson, 2001). During the period of Tsang and Pearson's study (2001), the economic performance of Hong Kong was very successful and the unemployment rate was below 3.0%. Their results showed that 46.7% participants were successfully employed in open employment. Tsang and Pearson (2001) stated that if their study had been repeated in the period when the unemployment rate was higher, success rates in securing a job might have been lower.

Moreover, Munk-Jorgenson and Mortensen (1992) stated that those people with SMI seeking job during periods of maximal labor force participation may be more successful than those looking for job during the periods of high unemployment rate. However, the unemployment rate of 6.9% while the present study was conducted was higher than that below 3.0% in Tsang and Pearson's study (2001). It is a surprise to see that a higher employment rate (70.3%) among the ISST participants was obtained. The main reason of course is based on the effectiveness of the training programme. Another explanation is that nearly 60% of the participants of ISST group worked in retailing-related occupations after the JSST module was provided. The obvious high employment rate of the present study may due to many service-oriented organizations in retail markets had to recruit additional manpower after the improving worldwide outbound market situations and the continual expansion of the Individual Visit Scheme in Hong Kong. Furthermore, the dual-labor-market model (Fine, 1987) assumes that most regional economies consisting of primary labor market and secondary labor market. The primary market comprising professional and semi-professional jobs shrinks obviously during economic recessions. The secondary labor market comprising entry-level in the service industry and high turnover jobs is more elastic and less vulnerable to economic downturns. In this study, most of the participants of ISST group gained a job in service industry under the secondary labor market which less vulnerable to economic downturns. It further explains a higher employment rate (70.3%) among the ISST participants was obtained.

Based on the results obtained, all of the hypotheses set out in Chapter V were substantiated. When the JSST package was used with the WSST to form an ISST programme, it was found to be effective in enhancing most of the self-perceived social competence and social skills of people with SMI under work-related situations. The

integrated training is efficacious in helping them to find and keep a job. Moreover, the participants can develop better working relationships with people in the workplace.

B. Implications of the Study

1. Implications for Clinical Practice

Application of social skills training programme in psychiatric rehabilitation is becoming popular among rehabilitation professionals in Hong Kong. However, the programmes being adopted are usually general in nature and not applicable to the workplace. Tsang and Pearson (1996, 2001) developed social skills training specific to vocational adjustment for people with SMI which open up a new way to generalize social skills training in the workplace.

Literature reviewed in Chapter II (Becker, Bebout & Drake, 1998; Becker, Drake, Farabaugh & Bond, 1996; Becker, Drake, Bond et al., 1998; Cook & Razzano, 2000; Twamley, Jeste & Lehman, 2003) states that skills training programs need to be specifically tailored in multiple dimensions for a specific job and coincided to the job preference is a key to improve the vocational outcomes of our consumers. Although WSST (Tsang & Pearson, 1996 & 2001) has already been well incorporated into psychiatric rehabilitation in Hong Kong, the training content is generic in nature and not specific to a particular job. Based on the literature, it is suggested that JSST as proposed in this study should be incorporated as an integrated part of the WSST to form an ISST in psychiatric rehabilitation. Based on the hierarchy of Work-related Social Skills model (Tsang & Pearson, 1996),

consumers should firstly be trained with WSST (Tsang & Pearson, 2001) which addresses social skills generic to all kinds of workplace. After completion of WSST, JSST will then be introduced to consumers who have a preference in the retail market.

The JSST module is distributed as a package of three components include a trainer's manual that specifies what the trainer is require to do and teach with specific guideline and individual session content, a demonstration videotape or videodisc that demonstrates the bad and good models of being a salesperson, and a participant's workbook that helps participants learn the skills. Both English and Chinese versions of the trainer's manuals and participant's workbooks are user-friendly and ready to be used by people who are interested in psychiatric rehabilitation. The implications of the integrated training programme in psychiatric hospitals, psychiatric day training centers, sheltered workshops, and halfway houses would improve the chances being gainfully employed of our consumers.

As the training format of JSST module is based on the WSST programme that has already been well received by psychiatric settings in Hong Kong. As most frontline workers, including occupational therapists, social workers, nurses, and vocational specialists, have already possessed necessary basic foundation of knowledge and skills in conducting similar type of programmes, comprehensive training regarding how to run the JSST might not be a must to them. However, a brief training should be provided to mental health professionals in order to introduce and facilitate the implications of JSST module in the most cost-effective approach.

The concept of community integration for people with SMI is becoming an essential part of rehabilitation (Drake, Green, Mueser & Goldman, 2003; Tsang, Chan & Bond, 2004;

Yip & Ng, 1999). The government becomes aware of and puts emphasis on community integration (Health and Welfare Bureau, 1999). However, the resources and services regarding to the application of social skills training in vocational rehabilitation and community integration are limited. Open employment is seen as the most important outcome indicator of psychiatric services to show that people with SMI have competence to contribute themselves and integrate into community (Cook & Razzano, 2000; Tsang, Chan & Bond, 2004; Yip & Ng, 1998). This study empirically shows the effectiveness of an ISST programme in enhancing the chances of people with SMI to attain gainful open employment. The training programme is in line with the rehabilitation trend in facilitating the integration of consumers into the community. Government should therefore incorporate the importance of this type of psychosocial programme into the official policy so that additional resources may be allocated to organizations providing psychiatric rehabilitation services.

Besides application in Hong Kong, the module has great potential to be applied in clinical and community settings in mainland China. In China, there has been rapid growth in social, organizational, and economic aspects (Tsang, Tam, Chan & Cheung, 2003; Tseng, Ebata, Kim et al., 2001). As improvement in economic conditions and people's quality of life have been observed in China, development of rehabilitation services becomes important in psychiatric practice (Shinfuku, 1998; Tseng, Ebata, Kim et al., 2001). Chen (1995) estimated that the prevalence rate of mental illness was approximately 11 per 1,000 people. This number translates into a total of over 10 million people in mainland China. People with SMI are not a small group of disabilities in China. A wide range of psychiatric services should be provided for them to re-adjust and reintegrate into the community. The JSST programme developed in this study includes a trainer's manual and participant's

workbook in Chinese and suites to Chinese culture. This should make it a valuable resource not only in Hong Kong but also in China. If people with SMI in mainland China are trained by the programme developed in this study, their chance of being gainfully employed will be enhanced. The training programme and protocol presented in this dissertation can serve as a reference for developing similar services of psychiatric rehabilitation in China.

2. Implications for Further Research Studies in Psychiatric Rehabilitation

Work is a major issue affecting health and well-being (Kirsh, 2000). It is therapeutic and essential for an individual's physical survival and psychological well-being (Chan, Reid, Kaskel et al., 1997; Dawis, 1987). Surveys of people with SMI indicated that a majority of them want to work, and present preferences for specific work situations (Becker, Bebout & Drake, 1998; Holley, Hodges & Jeffers, 1998). Literature reviewed in Chapter II (Becker, Drake, Farabaugh & Bond, 1996; Becker, Bebout & Bond, 1998; Becker, Drake, Bond et al., 1998; Cook & Razzano, 2000; Dauwalder & Hoffmann, 1992; Stuve, Erickson & Spaulding, 1991; Tsang & Pearson, 1996; Tsang & Pearson, 2001; Tsang, Ng & Chiu, 2002; Twamley, Jeste & Lehman, 2003) shows that tailoring job development and specific skills training for a specific job to the consumer's individual job preferences is a key to improve the vocational outcomes for our consumers. This is the major aim to develop the JSST and to continue the effort of WSST which purports to apply social skills training to increase vocational outcomes of people with SMI. Based on the trend of job natures of people with SMI in Hong Kong, JSST has been developed to cater for the needs and preferences of our consumers.

There are six types of job (salesperson, security guard, waitperson, cleaning worker, delivery worker, and clerk) which were identified as most commonly held by people with SMI in Hong Kong as described in Chapter II. In this dissertation, one of the six jobs have been chosen, salesperson as the 'pioneer', to identify the factor structure of essential job-specific social skills of salesperson in retail market. Based on the factor structure, the JSST module for people with SMI who have a vocational goal to be salespersons has been developed. The effectiveness of the training module has been tested as well by means of the retrospective and prospective studies comparison. This study demonstrates a feasible and empirical method to develop other JSST modules. These may include modules to train consumers to work as waitpersons or cleaning workers.

Regarding the duration of follow-up period of the training programme, although the results of vocational outcome of the follow-up study are positive, the three-month follow-up period is not long enough to determine whether the effects are long lasting. Maintaining a job is often more difficult than acquiring a job (Becker, Drake, Bond et al., 1998). Although job maintenance is considered as an important area of people with SMI, it is largely neglected (Anthony & Blanch, 1987; Black 1988; Bond & McDonel, 1991; Cook, 1992; MacDonald-Wilson, Revell, Nguyen & Peterson, 1991). Several studies also indicated that job tenure of people with SMI is brief. Fabian and Wiedefeld (1989) studied 59% of people with SMI who held their first job for less than 6 months. MacDonald-Wilson and colleagues (1991) found a 47% rate of job tenure at 6 month. Cook (1992) found an average job tenure of 215 days, and Gervey and Bedell (1994) reported that consumers receiving supported employment services averaged 80 and 117 days of employment in two separate study groups. In the study examined job tenure among 85 individual with SMI who were participating in supported employment programmes, the

average job tenure lasted 70 days (Haiyi, Dain, Becker & Drake, 1997). It is therefore essential to carry out more extensive follow-up studies investigating the duration of job tenure of consumers in open employment. The aims of the extensive follow-up studies may address the long-term effects of the training programme in term of the duration of employment and examine the reasons of termination of competitive jobs among consumers who were participating in the training programme. Considering the above issues, follow-up studies with more participants and a longer follow-up period should be carried out so as to investigate the long-term outcomes of job maintenance situation in more details.

Literature reviewed in Chapter II (Bond & Boyer, 1998; Drake & Becker, 1996; Salyers, Becker, Drake et al., 2004; Twamley, Jeste & Lehman, 2003) states that supported employment, particularly the Individual Placement and Support (IPS) approach has been shown to be effective in enhancing the rate of job acquisition of people with SMI. However, a major limitation is that it did not improve the length of time the employed consumers retain their job (Tsang, 2003; Wallace, Tauber & Wilde, 1999; Wallace & Tauber, 2004). Researchers recent becomes aware of that social functioning plays a crucial role in determining vocational adjustment and failure of people with SMI in maintaining their jobs may be due to problems related to their social functioning (Becker, Drake, Bond et al., 1998; Penn & Mueser, 1996; Tsang, Lam, Ng & Leung, 2000; Tsang, 2003). In order to overcome this limitation, researchers suggested an integrated treatment model by merging social skills training with supported employment (Tsang, 2003; Wallace, Tauber & Wilde, 1999; Wallace & Tauber, 2004). In fact, one of the aims of JSST is designed to teach people with SMI how to keep their jobs in a specific occupation. It is recommended merging the JSST programme with supported employment to form an integrated model to produce better employment outcomes among individuals with SMI. Furthermore, it is

expected that the vocational outcome of consumers following the integrated approach would be better and the strategy may become a new model for psychiatric organizations to improve people with SMI in getting and maintaining their jobs.

Chapter VII: Conclusion

A culturally relevant package of Job-specific Social Skills Training (JSST) programme for people with severe mental illness (SMI) in Hong Kong was developed. In the first phase of this study, the factor structure of essential Job-specific Social Skills to be salespersons in retailing was identified by means of questionnaire survey in Chapter III. Exploratory factor analysis of the results of a 26-item questionnaire survey suggested a five-factor solution: social skills when interacting with customers, problem-solving skills, knowledge and attitudes, flexibility, and skills for conflict prevention, which accounted for 65.1% of the total variance. The final rotated solution was in good structure and it could be meaningfully interpreted.

With the factor solution identified in Chapter III, the five factors extracted and the related items in each factor were then used as the framework for the development of a JSST for individuals with SMI who express interests or show preference to work in the retail market. The general design, format, content and training protocol were described in Chapter IV. The structure and sessions design followed the basic format of a typical social skills training program. The JSST program covers five main skill areas. Each skill area includes essential skill items based on the corresponding factor resulting from Chapter III. The training program consists of five sessions, with each session lasts for about one and a half hour. The training format of each session follows the traditional approach that consists of warming up, instruction, demonstration, role-play, feedback, and homework assignment (Wallace, Nelson, Liberman et al., 1980; Wilkinson & Canter, 1982; Shepherd, 1983). Firstly, participants participated in the ten-session Work-related Social Skills Training

(WSST: Tsang & Pearson, 2001) which addresses social skills generic to all kinds of workplace; for instance: job interviewing skills and skills of interacting with supervisor. After completion of WSST, the JSST described above was then introduced to our consumers who have a preference in the retail market.

Apart from the development of the JSST package and training protocol, Chapter V describes a prospective clinical trial when applying the salesperson module of JSST with the WSST to form an Integrated Social Skills Training (ISST) developed in Hong Kong for people with SMI and to evaluate its effectiveness in improving social competence in securing and retaining jobs by using the matched historical comparison groups (WSST group and control group) from previous study (Tsang & Pearson, 2001). Using appropriate and matched historical comparison data provides an approach to compare the effectiveness between the prospective treatment group and the historical comparison groups.

According to the results in Chapter V, the efficacy of the Integrated Social Skills Training in improving the self-perceived competence and social skills of participants related to work situations has been demonstrated. After the three-month follow-up period, the results showed that the participants in the prospective treatment group with follow-up intervention were more successful in getting jobs in comparing with the historical comparison groups. Based on the results obtained, all of the hypotheses set out in the chapter were substantiated. Finally, the implications of the study and recommendations were discussed in Chapter VI which suggested potential areas of implications and improvement of this study. I hope that the training programme and training protocol developed in this study can help the people with SMI in Hong Kong in getting and keeping a job.

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