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Social Skills

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Introduction

A loss of function in individuals due to mental illness may prevent them from to participating in multiple societal events. Rehabilitation is thus an important process for individuals to resume their functions and roles for living in the community. Social skills are important keys for an individual to participate in community events. Training in social skills continues to be an important issue among researchers and clinicians in rehabilitation. This article reviews basic knowledge and research findings on social skills.

Definitions

There are different definitions of social skills available in the literature. Social skills have been defined as the "ability to express feelings or to communicate interests and desires to others" (Liberman et al. 1975). Some authors define it as "the ability to express both positive and negative feelings in the interpersonal context without suffering consequent loss of social reinforcement" (Hersen and Bellack 1977). It has also been defined as "the ability of an interactant to choose optimal communicative behaviors for successful accomplishing his own interpersonal goal during the interaction while maintaining the face and line of his fellow interactants" (Wiemann 1977) and "the process of generating skilled behavior directed to a goal" (Trower 1982).

Spence (1985) categorized social skills into three skill elements: non-verbal, verbal and conversational skills. Non-verbal skills include body posture, gestures, or physical proximity. Verbal skills include tone, pitch, and volume. Conversational skills refer to skills of initiating, maintaining and ending a conversation (Liberman et al. 1989).

Social skill is demonstrated in a wide variety of interpersonal contexts, which involve the coordinated delivery of appropriate verbal and nonverbal responses. Socially skilled individuals are attuned to realities of the situation and is aware when he/she is likely to be

reinforced for the efforts. Social skills are behaviors that help people communicate emotions and needs accurately and achieve interpersonal goals (Liberman et al. 1989). Social interaction may be further divided into a three-stage process (i.e., receiving, processing, and sending) that requires different sets of skill at each stage.

Although consensus on the definition of social skill is not obvious (Trower 1982), it is commonly agreed that social skills is the ability to interact with other people in a way that is both appropriate and effective (Segrin 1992; Segrin 2000; Spitzberg 1985**;** Spitzberg 1989). To achieve appropriateness, the actor's behavior needs to conform to social norms, values, or expectations and not be viewed negatively by others (Segrin 2003). This achievement requires the ability to perceive and analyze subtle cues that define the situation, as well as the presence of a repertoire of appropriate responses. To achieve effectiveness, the actors' behavior needs to attain their intended goal(s) (Segrin 2003) or maximization of reinforcement in that specific interaction. Successful fulfillment of appropriateness and effectiveness criteria requires complex coordination of different mental and physical abilities available by an individual in a specific interpersonal situation. Any deficit or disruption in the process may affect the outcome of "social skill" or social competence, which may lead to anxiety, frustration, and isolation of the individual.

Functions of Social Skills

Evidence confirms that the optimal use of social skills is necessary for maintaining social, psychological, and in many cases, occupational well-being (Segrin 2003). Socially, some evidence suggests that people with poor social skills are less popular among their peers than those with better social skills (Hartup 1967) and those with poor social skills are also less satisfied and less successful with their romantic relationships or marriages than those who have better social skills (Burleson 1995; Flora and Sergin 1999). Psychologically, literature reveals that people with poor social skills are at risk for some clinical problems such as depression (Segrin 2000), social anxiety (Leary 1995), loneliness (Jones et al. 1982) and alcoholism (Miller and Eisler 1977). Occupationally, persons with problematic social skills are usually associated with academic underachievement (Hughes and Sullivan 1988) and bad conduct discharges from the military (Roff 1961).

Components of Social Skill

Liberman et al. (1989) breaks social interaction into a three-stage process in which different sets of skills exist at each stage. These three skills are receiving skill, processing skill and sending skill. Receiving skill means the skill for recognizing environmental and interpersonal cues. Processing skill involves the ability to identify and allocate internal resources for interaction.

Sending skill controls the actual content and message flow in interaction. According to Bellack et al. (1997), social skill can be divided into two broad sets of skill: expressive skill and receptive skill. Expressive skill is further categorized into three groups of behavior that contribute to the quality of social performance: verbal behavior, paralinguistic behavior, and nonverbal behavior. Verbal behavior includes the form, structure, content and the amount of words used during conversation. Accurate use of verbal behavior allows mutual understanding and maintains sensible conversation. Paralinguistic behavior means the characteristics of voice during conversation, including volume, pace, and intonation and pitch. Appropriate use of paralinguistic behavior facilitates accurate communication of affection and emotion. Nonverbal behavior provides cues to an individual's emotional state during conversation. Facial expression, eye contact, posture and personal distance are included in nonverbal behavior. Different subtle muscle changes around mouth and eyes represent different moods and feelings. Hence, good coordination of nonverbal behavior provides appropriate signals to attract or reject people for conversation.

In addition to expressing skill, receptive skill helps an individual to perceive social situations accurately. Accurate perception of social situations requires attention of interpersonal partners, analysis of the situation and knowledge of structuring appropriate responses. Functional cognitive ability is needed for smooth functioning of all these aspects. Therefore, cognitive integrity is the prerequisite for accurate social perception that forms the foundation for functional expressive skill. Bellack, Mueser and Gingerich et al. (1997) added interactive balance as one of the components in social skills. Interactive balance refers to the skill for controlling the content flow, latency of response and verbal encouragers to obtain maximal reinforcement from interaction.

Factors affecting Social Skill Performance

Optimal social skill performance requires delicate coordination of different functional components of an individual to make an acceptable response to the social environment involved. Different disruptions in any functional system may hamper the social skill performance.

Cultural Factors

Appropriate social skill means behavior conforming to social norms, values, or expectations and not viewed negatively by others (Segrin 2003). There are cultural differences among various societies that may contribute to different sets of social norms, values or expectations. Western cultures are different from East Asian, Middle Eastern, Central and South American, Eastern European, and other cultures in many ways, particularly in sociality and the role that relationships play in people's lives (Markus and Kitayama 1991; Triandis 1995). Western cultures have been characterized as individualistic in nature, while many Eastern cultures have

been viewed as collectivistic, or socially interdependent (Fiske et al. 1998). In each geographical region, cultural ideas "are regularly embodied in most of the dominant cultures" (Fiske et al. 1998). Socialization, which instills in children the beliefs and behaviors appropriate for a particular culture or subculture, is particularly important in maintaining specific cultural ideas and values in each geographical region. New foreign residents may experience psychological or social distress based on social skills discrepancies and differences in cultural values as compared with local people (Constantine et al. 2004). Eventually they may experience psychological crises or social dysfunction and symptoms of cultural shock, when their expectations are unmet (Leong and Chou 1996; Oei and Notowidjojo 1990; Winkelman 1994). Acquisition of social skills and knowledge of the new culture is therefore crucial for foreign residents to reduce feeling of incompetence in the initial stage of cross-cultural contacts (Moghaddam et al.1993).

Mental Illness

Depression

Lewinsohn's behavioral theory of depression (1974, 1975) hypothesized that people who lack adequate social skills would be unable to obtain positive reinforcements and avoid punishments from their social environments. Such a state of affairs is assumed to culminate in a state of depression. There are many research findings which indicate that many people with depression exhibit deficits in social skills (Segrin 2000, 1990).

Social Anxiety

There is a clear relationship between levels of social skill and social anxiety in numerous studies (Trower 1986). Socially anxious person have been found to engage in fewer social interactions, to be less assertive, to exhibit disrupted turn-taking abilities during social interaction, and to be perceived by themselves and others as less socially skilled (Segrin and Kinne 1995; Trower 1986).

Schizophrenia

Schizophrenia leads to disturbance that is associated with substantial problems in cognition, affect and behavior. Social disabilities are prominent in this disorder (Bellack 1997) and generally take the form of social skills deficits (Bellack et al. 1990). It is generally believed that the possession of poor social skills will generate stressors, or interact with environmental stressor to produce maladaptive and disruptive outcomes for the person with schizophrenia (Bellack et al. 1997; Kopelowicz et al. 1998).

Studies have examined the relationship between neuro-cognitive functioning and social skill. The outcomes are consistent with the hypothesis that poor cognitive functioning contributes to

social skill impairments. Performance in Wechsler Memory Scale (1945) was reported to be strongly correlated with social skills performance for patients with schizophrenia (Mueser et al. 1991). Performance on the Continuous Performance Task (Nuechterlein et al. 1983) is related to social skill performance (Bowen et al. 1994). There is a relationship between social skill on a conversation probe with a variety of cognitive measures assessed with a computer-driven battery, Cognitive Laboratory (COGLAB) (Spaulding et al. 1989), including reaction time, a version of the Wisconsin Card Sorting Task, and a combined version of the Continuous Performance Task and the Span of Apprehension Task (Penn et al. 1995). The Allen Cognitive Test (Allen 1990) was significantly correlated with independent ratings of social skill in a study with a mixed sample of psychiatric patients (Penny et al 1995).

Assessment of Social Skill

Social skills assessment gathers information and results in an understanding of clients that guides the focus of training. Besides individual assessment, information obtained from their significant others may also provide useful information in the assessment of social skills. Different techniques, including role-play assessments, naturalistic observations, and the reports of self and significant others, have been used for assessing social skills of clients with schizophrenia (Bellack 1979, 1983; Liberman 1982; Mueser and Sayers 1992; Tsang and Pearson 2000).

Role-play is a widely used strategy in social skills assessment. In a role-play test, subjects are informed about the situation, their goal in the role-play, and the role played by the partner. Clients are instructed to perform as they naturally would if such a situation really occurred. The performance is usually recorded in audio format or video format for rating on variety of dimensions of social skill. Role-play exercise is therefore considered valid for use by clinicians and researchers to assess the social skill.

Naturalistic observation refers to observations made by staff member or significant others of clients in their natural environment. Observation may also be made in simulated situations, and under a range of behavioral role-play situations. It provides insight into the person's effectiveness in different social situations and gauging the response of the environment to the patient. Such observations are frequently used to supplement role-play assessments. Foster, Inderbitzen, and Nangle (1993) summarized different methods of social skills assessment and classified them into three categories: (1) direct observation by others, (2) evaluation of behaviors by others, and (3) self-report measures.

Self-report measures have been commonly adopted in social skills research. It is a behavioral assessment technique that provides opportunity for the participants to evaluate their own

behaviors by identifying statements related to them. Both qualitative and quantitative approaches are available for assessing social skill deficits. Patients are frequently able to identify problem areas such as conversational ability or assertiveness. Similarly, relatives' and staff members' reports often complement those of the client report.

Interview is also useful and cost-efficient assessment technique. An assessor summarizes the performance of the client through general questions and structured questions on specific examples or situations that the client has reported. The interview provides an overview of the client's ability on verbal and nonverbal skills and interpersonal competence through the conversation and observation. Information obtained in an interview is useful for formulating individual training programs. Areas include the client's relationship with family, interactions at work, ability to deal with interpersonal problems, participation in social activities, and responding emotions to others. However, interview itself may not reflect the actual situations. It is not a direct method that assesses consumer validly (Tsang 1996).

There are various social skills assessments available for clinical use. One of them is the Vocational Social Skill Assessment Scale (VSSS) developed by Tsang and Pearson (2000). This assessment includes two simple measures of work-related social competence. The first is a self-administered checklist that measures the subjects' subjective perception of their competence in handling work-related social situations. The checklist consists of ten items which were derived from the results of a survey questionnaire concerning situations that may be encountered by people with mental illness in the workplace. Each item is related to a skill required for job securing and job retaining. The second measure is a role-play exercise that measures participants' social skills in simulated job-related situations. The aspects of rating include basic social survival skills, basic social skills (voice quality, non-verbal components, and verbal components), and situation-specific ratings. The rater uses a 5-point scale with either excesses or deficiencies in the desirable behaviors. This measure has an acceptable reliability and criterion validity. The self-administered checklist has good internal consistency (Cronbach alpha coefficients .80, n=140, $p < .01$) and moderate to very good test-retest reliability (.35 to .78, $p < .01$). The role-play exercise has excellent internal consistency (Cronbach alpha coefficients .96, n=60, $p < .01$) and good to very good interrater reliability (correlation coefficient .77 to .90, $p < .01$).

Social Skill Training

For the past three decades, social skills and social skills training have received enormous attention from practitioners and researchers of psychiatric rehabilitation. Different types of social skills training are formulated for people with severe mental illness. Goldsmith and McFall (1975) 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.

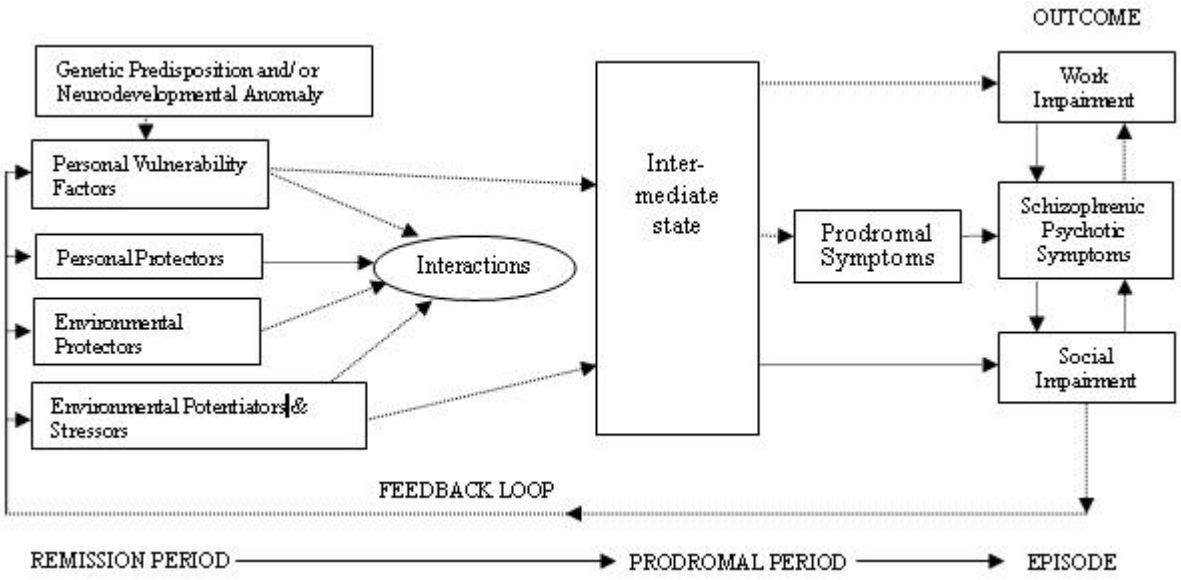
A major goal of social skills training is to improve the individual with the ability to function effectively in real-life settings (Corrigan et al 1993). Social skills and sets of social behaviors could be learned and maintained through regular interaction with others. Positive social reinforcement and repeated practice are commonly used strategies to encourage persons to participate in the training and to strengthen their appropriate behaviors. Social skills training (SST) helps clients expand their behavioral repertories and succeed in different social situations. The basic presumption is that appropriate abilities to respond in different situations can be coached through structured learning situations (Morrison and Bellack 1984). Corrigan and colleagues (1993) suggest that SST represents a structured application of behavioral learning techniques aimed at helping clients to build a repertoire of skills and ability for adequate functioning in the community.

There are three essential approaches to social skills training. The basic model suggests that complex social performance can be broken down into simpler steps and taught by therapists via modeling the correct behaviors while clients acquire them through repeated practice. When clients have mastered the basic skill, they can then assemble all the skills learned through role-play sessions in the training room. Finally, skills learned in the laboratory setting will turn to practice in the natural environment. The maintenance effect of this social skill training model can be up to 12 months (Bellack and Mueser 1993). The second model is the social problem-solving model that focuses on improving information receiving ability, processing ability and sending skill in personal interaction. The social problem-solving model focuses on specific situations in which participants are required to change specific behaviors. Modules that employ this model include medication management, symptom management, recreation, and basic conversation. The aim of these modules is to help the participants be more flexible in generalizing the skills they have acquired to handle new problems in the future. The effect could be maintained up to 18 months after completion of the intervention (Liberman et al 1998). People with schizophrenia suffer from a variety of cognitive impairments (Braff 1993). A review by Green (1996) has shown that there is a close association between neuro-cognitive

deficits, impairments in social skills and social problem solving, and community adjustment in schizophrenia. The third one is the cognitive remediation model that identifies specific cognitive deficits that are the underlying causes of poor social skills functioning. Once cognitive deficits are improved, social skills can be learned and social competence improves globally. Integrated psychological treatment is one of the examples of cognitive remediation (Brenner et al. 1992). Computer games are used to improve participants' cognition, which is followed by social problem-solving exercises. Finally, the "Social Skill and Interpersonal Problem-Solving Subprograms" resemble traditional social skills training in teaching participants to master the basic social skill components, and then assemble all the skills learned through role-play exercises. However, its effectiveness has not been reported.

The format of social skills training includes warm-up activities, instruction, demonstration, role-play, feedback, and homework assignments. Besides the protocol of the program, it also involves principles rooted in social learning theory (Bandura 1969) for conducting the protocol. There are five principles incorporated into social skills training, namely, modeling, reinforcement, shaping, overlearning and generalization (Bellack et al. 1997). Modeling (Byrne 2003; Coon 2006) refers to the process of observational learning, in which a person learns a new social skill by watching leaders in role plays to demonstrate targeted social skills. The person will in turn practice such skills in role plays. Reinforcement refers to the consequences following a behavior that increase the likelihood of that behavior to occur again. There are positive and negative reinforcements. However, only positive reinforcement is encouraged in social skills training to reinforce both the effort in the group and the performance of specific components of social skills. Moreover, positive feedback from leaders and group members improves a participant's skill level and help create non-threatening learning experience. Shaping is the reinforcement of successive steps toward a desired social skill pattern. By breaking down complex social skills into simple component steps, effective social skills can gradually be shaped over time. Overlearning (Coon 2006)) refers to the process of repeatedly practicing a skill to the point where it becomes automatic. Therefore, behavior rehearsals and role plays are frequently used in social skills training to facilitate overlearning. Generalization refers to the transfer of skills acquired in one setting to another setting. Homework assignments and generalization training in a client's immediate environment ensure that the targeted skills will be reinforced when they occur. Among different types of social skills training programs, different training modules developed by UCLA Clinical Research Center for Schizophrenia and Psychiatric Rehabilitation has received constant researcher's attention (Eckman et al. 1992; Liberman et al 1998; Schaub et al. 1998). All of the modules are based on the stress-vulnerability-coping skills model (Figure 1).

Figure 1: The stress-vulnerability-coping skills model



This model has received much empirical support from research studies. The modules based on this model (collectively known as the Social and Independent Living Skills Training Modules) have been translated into different languages for use in different countries.

Social and Independent Living Skills Modules

The UCLA social and independent living skills program includes the Medication Management module, the Symptom Management module, the Recreation for Leisure module, the Basic Conversation Skills module, the Community Re-entry module, the Workplace Fundamentals Training module, the Substance Abuse Management module, the Involving Families in Mental Health Services for the Seriously Mentally Ill, and the Friendship and Intimacy module. Each module is subdivided into different skill areas related to a specific situation or a skill which a person with schizophrenia may encounter and have difficulties. Each skill area has several learning activities, that require the participant to go through to ensure behavior change and generalization of the skill. These learning activities consist of introduction of the skill area, videotape and question/answer, role-play, resource management, outcome problems, in vivo exercises, and homework assignments. These learning activities harness basic principles of human learning. Behavior change is accomplished through a combination of didactic presentation of information, observational learning from role models, prompting of specific behaviors, and positive reinforcement of successive approximations toward desired behavioral goals. The transfer or generalization of skills learned in one environment to another is programmed through homework assignments and practice in real-life situations (Liberman et al. 1989).

The Basic Conversation Skills Module has attracted much attention from researchers around the world (Butorin and Liberman 1998; Chambon and Marie-Cardine 1998; Sotillo et al 1998).

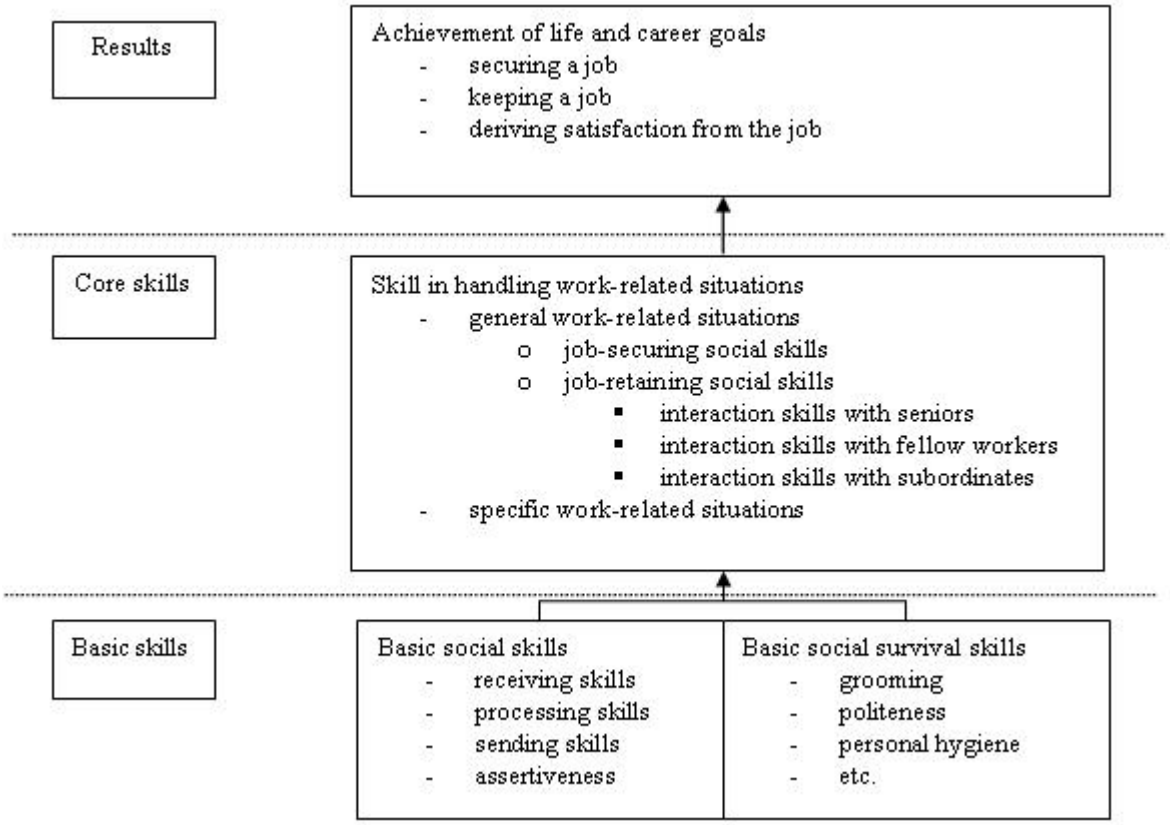
In the Basic Conversation Skills Module, five skills areas are covered: verbal and nonverbal communication behavior, starting a friendly conversation, keeping a friendly conversation going, ending a conversation pleasantly, and putting them together. The "Verbal and Nonverbal Communication Behavior" skill focuses on the recognition and use of verbal and nonverbal communication behaviors, and the observation of other people's verbal cues. The "Starting a Friendly Conversation" skill section introduces places where there are people to talk to, people who are willing to talk, and topics to start a friendly conversation. The "Keeping a Friendly Conversation Going" skill includes the use of verbal active-listening behaviors, asking open-ended and closed-ended questions, identifying topics of conversation, and making appropriate self-disclosing statements. The "Ending a Conversation Pleasantly" skill teaches how to end conversations pleasantly. The "Putting it All Together" section integrates all the skills into the practice of friendly conversations. The training protocol has been standardized and studies have been carried out in different countries (Butorin and Liberman 1998; Nilsson et al. 1998; Lak and Tsang 2004).

Work-related Social Skill Training (WSST)

Vocational rehabilitation always emphasizes on getting and keeping a job for those who suffer from severe mental illness (Bond 1992; Tsang 2003). The recent trend is to apply social skills training within the vocational context. Researchers (Tsang 2003; Dauwalder and Hoffmann 1992; Stuve et al. 1991; Wallace et al.1999) suggest that efforts should be geared towards the development of workplace social skills training and apply parallelly with the latest cognitive behavioral therapy approaches in vocational rehabilitation. Previous studies (Wallace et al.1999; Tsang and Pearson 2001) suggested that social skills training could be used to facilitate job search and job tenure for people with schizophrenia.

Wallace and colleagues developed the "Workplace Fundamentals" module that aims to teach people with severe mental illness how to keep their jobs and facilitate their job adjustment (Wallace et al.1999). Tsang and Pearson (1996) developed and validated a conceptual framework to apply social skills training in the context of vocational rehabilitation for people with schizophrenia. The conceptual framework is illustrated in Figure 2:

Figure 2: A three-tier model for work-related social skills (Tsang and Pearson, 1996)



This model (Tsang 2001, 2003) suggests that social skills training should be an integral part of vocational rehabilitation programs for people with mental illness to enhance consumers' employment opportunities in the community.

Job-specific Social Skill Training (JSST)

Development of the Job-specific Social Skills Training (JSST) extends the effort of WSST (Tsang and Pearson 2001) that purports to apply social skills training to further improve vocational outcomes of people with schizophrenia. WSST focuses mainly on social skills which are generic in nature and applicable to various types of workplaces. Skills training programs need to be specifically tailored in multiple dimensions for a specific job (Becker et al 1998). For example, a saleslady in a department store has to know how to serve customers with good manners. Tailored programs for job-specific social skills of people with schizophrenia are not available to date. Cheung and Tsang (2005) have developed the JSST to fulfill the neglected need. It is reported that salesperson was one of the common jobs held by people with severe mental illness in Hong Kong (Tsang et al. 2002). The JSST is a tailored program specifically designed for consumers who have a vocational plan to be salesperson in retail market.

The JSST module was developed based on Tsang's model (Tsang and Pearson 1996), generic work-related social skills training program (WSST) (Tsang 2001), and systematic research

procedures involved in order to produce better vocational outcomes for the consumers. Clients are expected to participate in WSST that addresses generic social skills before JSST. JSST will only be introduced to consumers who have plans for retailing jobs. The training protocol is illustrated by Figure 3.

The JSST module includes a trainer's manual, a demonstration videotape or videodisc, and a participant's workbook. The trainer's manual has instructions to guide trainers for conducting each skill session. Each training session includes a series of social skills training activities: warm-up activities, instruction, demonstration, role-play, feedback, and homework assignments (Shepherd 1983; Wallace et al. 1980; Wilkinson and Canter 1982). Participants acquire skills of identifying the key points necessary to be a good salesperson and screen out those inappropriate behaviors, through video demonstration and modeling. Role-play exercises were also used as a media for behavior rehearsal and feedback. At the end of the session, homework assignment are given for generalization of skills to their daily situations. The training format is illustrated by Figure 4.

Figure 3: Training protocol of the JSST

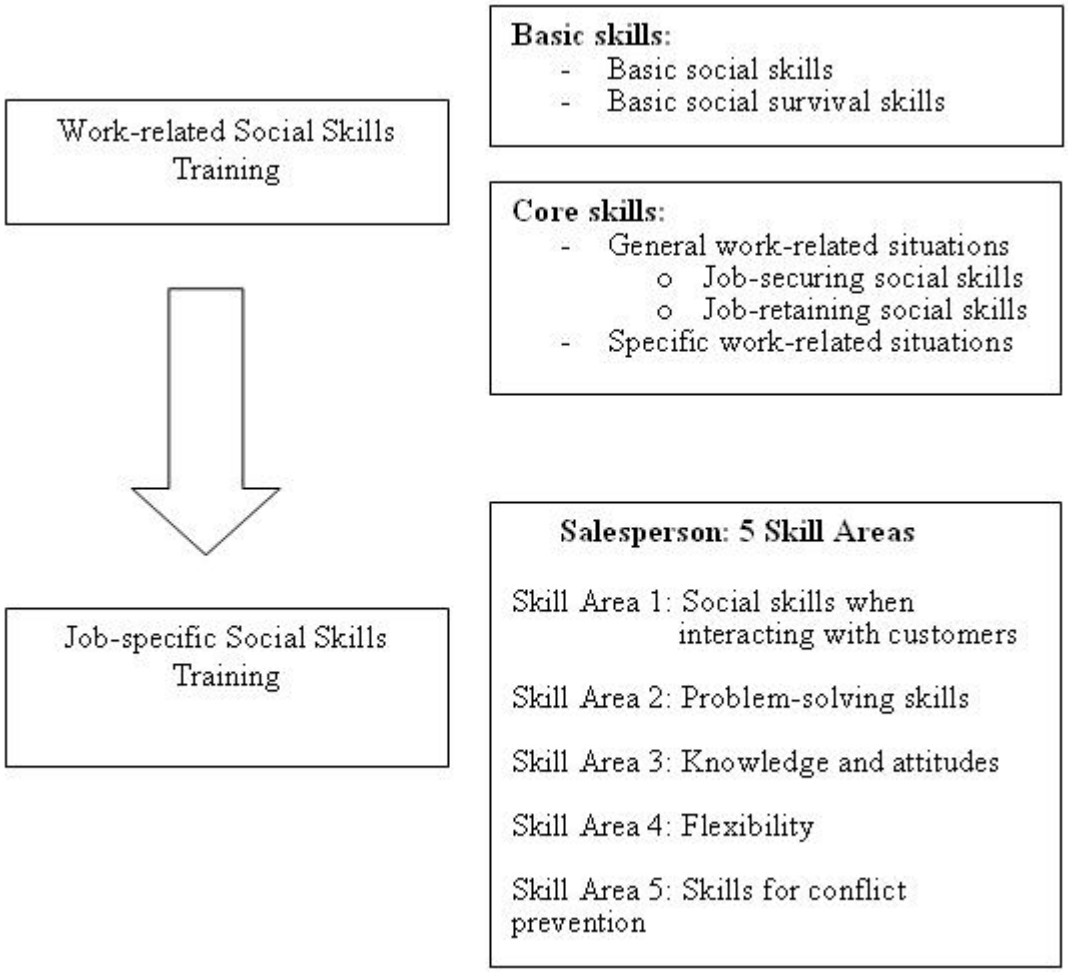
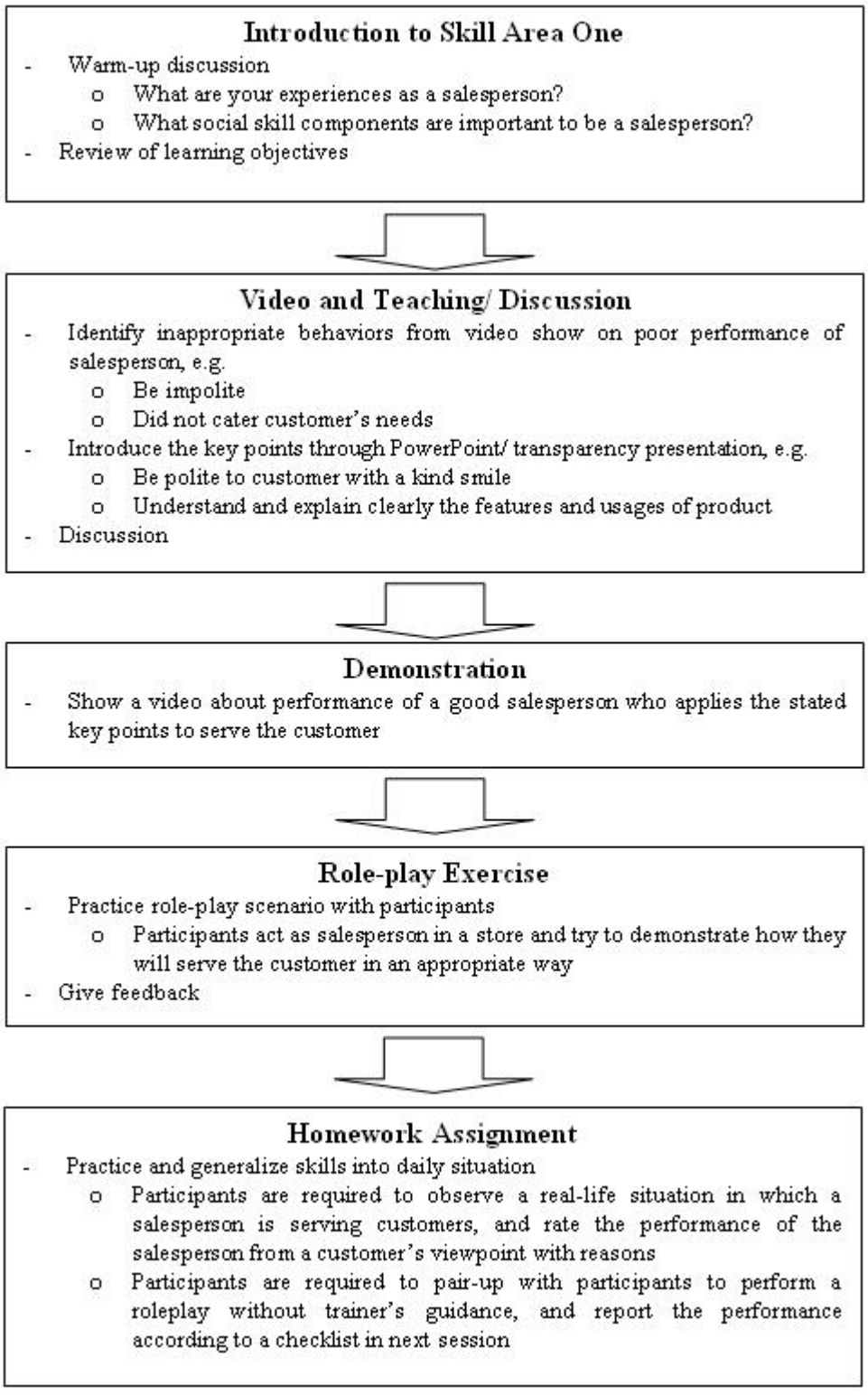


Figure 4: Training Format of Skill Area One



Future Direction of Social Skill Training

Neuro-cognitive Enhancement

Numerous studies have proved the relationship between neuro-cognitive functioning and social skill (Mueser et al. 1991; Bowen et al. 1994; Penn et al. 1995; Penny et al 1995). Neuro-cognitive rehabilitation has become an increasingly popular intervention in treatment programs for people with schizophrenia. Recent studies have shown that neuro-cognitive deficits could be improved through systematic training (Fuentes et al. 2007; Greig et al. 2007; Wykes et al. 2007). Combining recent systematic neuro-cognitive training with social skills training may have a greater effect on maximizing the client's social functioning than a single module of training. Neuro-cognitive training has been combined with different rehabilitation strategies and has shown to be successful (McGurk et al. 2005; Roder et al. 2006; Wexler and Bell 2005). The mechanism of neuro-cognition and its relationship with social functioning is still unclear. However, the technology and knowledge advancement in the understanding of brain function may help uncover the underlying mechanism.

Computerized Social Skills Training

Advancements in computer technology and development of the Internet lead to increased awareness of using these technology to assist in dissemination of health information or treatment related activities in the labor intensive health care services (Ritterband et al 2004). Mental health services and some psychological treatments have also started to employ computer assisted technology or internet based provision to help those clients who have service needs but do not have access to the formal health system (Bellucci et al 2002; Andersson et al. 2005). With this emerging trend, social skills training may take advantage of computer technology to help those clients who cannot receive it in clinical settings. Social skills training could be reframed as distance learning material and clients could receive educational material through the computer or Internet conferences. Clients could also have real time discussion with their mentor on their social skills performance through Internet conferences. Besides education, information and discussions, mentors could also provide role modeling with such advanced technology. Clients may learn and interact with their mentor at home in front of the computer. This training methodology saves transportation time and effort in training.

Skill Generalization Training

Although laboratory-based social skills training has been shown to have a strong positive impact on the acquisition of social skills as measured by behavior scales and self-reported inventories (Benton and Schroeder 1999; Corrigan 1991; Dilk and Bond 1996; Brenner et al 1998; Heinssen et al. 2000; Bustillo et al. 2001), short-term and long-term maintenance of skills is inconsistent. Some studies reported that skills acquired were able to be maintained for only a short period of

time ranging from several months (Corrigan 1991) to one year (Bustillo et al. 2001). Follow-up support promoting the use of social skills appears essential so that a favorable impact of social skills training on skill maintenance and generalization can be reinforced in community living (Penn and Mueser 1996; Tauber et al. 2000). It is suggested that follow-up support included the following generalization tasks: creation of opportunities, encouragement, and positive reinforcement for individuals with serious mental disorders to utilize their newly acquired skills in their everyday lives (Liberman et al. 1994; Liberman and Fuller 2000; Lak 2007). A typical example of such skill generalization training is "In Vivo Amplified Skills Training (IVAST)" (Glynn et al. 2002; Liberman et al. 2002; Kopelowicz et al. 2006), which is a systematic approach for helping clients after receiving traditional clinic-based social skills training. It promotes generalization of social skills learned for application in the community with the aim of improving overall role functioning. The IVAST utilizes a trainer who provides individualized, community-based teaching using behavioral techniques to promote clients' use of skills in daily living, including social functioning as well as medication and symptom management (Liberman et al 2002). The IVAST trainer also liaises with the staff or personnel involved to create opportunities, provide encouragement and reinforcement for the client's independent use of skills in the community. Reports from Liberman et al. (2002), Gottlieb et al. (2005) and Lak (2007) showed that clients have demonstrated improvement in skill acquisition, skill performance, and social functioning after participation in this newly developed program.

Integrating Social Skill Training with Other Therapies

Factors affecting social skill performance are numerous and sometimes existing as concomitants with certain psychological deficiency or mental illness. Therefore, exclusive use of single training or therapy may not be sufficient to correct the situation. So evidence based social skill training may multiply certain therapeutic outcomes when integrated with other evidenced based psychological treatments such as cognitive behavior therapy and interpersonal therapy. Some studies show that social skills training is directly involved in promoting positive outcomes in cognitive behavior therapy and interpersonal therapy (Frank and Kupfer 1991; Herbert et al. 2005; Van Brunt 2000). More explicit integration and adaptation of social skill training methods with evidence based psychological treatment is expected in the future.

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