A MIXED METHOD STUDY OF TAIWANESE MENTAL HEALTH PROFESSIONAL TRAINING: ACQUIRING PERSON-CENTRED THERAPEUTIC RELATIONSHIP COMPETENCE THROUGH THE USE OF NEW DIGITAL TECHNOLOGY

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Thesis submitted to the University of Nottingham
for the degree of Doctor of Philosophy

September 2019

Abstract

Aim/Purpose: The aim of this PhD research was to improve the acquisition of the Taiwanese mental health professionals' person-centred therapeutic relationship competence by integrating the theory-designed online technology mPath in learning.

Design/Methodology: A mixed methods design consisted of three studies. Firstly, the sample for exploratory and confirmatory factor analysis was N=658 (621=male, 495=female) of Mandarin-Chinese native speakers participating in evaluating the friendship for the validation of the Mandarin-Chinese version of Barrett-Lennard Relationship Inventory (B-L RI:MC). Secondly, a sample of 59 Taiwanese mental health professionals (mean age=24.22) as the experimental (N=26) and control group (N=33) was recruited in the Therapeutic Relationship Enabling Programme (TREP) for the quasi-experiment study on the effectiveness of the therapeutic relationship competence learning. Lastly, the experimental group (N=26) was interviewed to investigate the learning process with the use of new technology.

Results/Findings: Exploratory and confirmatory factor analysis of B-L RI:MC resulted promising (Cronbach's alpha=.96, KMO=.97, NFI=.95, CFI=.97, IFI=.97, RMSEA =.092). One-way ANOVA showed that scores on B-L RI:MC at the end of and two weeks after the skills training modules statistically significantly differed between groups (F (2, 56) = 10, p=.000). Post hoc tests showed the mean differences between Test 1 (p=.002), and Test 2 (p=.002). Test 3 (p=.000) was resulting in statistically significance without the intervention. Qualitative findings reported that the cross-cutting theme *returning power to clients* and *the person-centred learning approach with the theory-based learning technology mPath* perceived as the inter-dependent factor for the mental health professionals' continuous growth of the person-centred therapeutic relationship competence after the intervention.

Research Limitations: The research obtained some limitations because of the time-and-space restriction. There were some improvements that could be made to enlarge and deepen the investigation as the recommendations for the future research.

Conclusions: The research suggested Carl Rogers' person-centred theory with the practical implementations could be transferred into the Mandarin-Chinese community and the field of

medical education in psychiatry. Through applying the B-L RI:MC in evaluating the therapeutic relationship competence, an innovating short person-centred experiential training course for the mental health professionals acquiring the competence of therapeutic relationship could be established effectively. Integrating the use of the learning technology mPath in the humanistic courses would be the one of the essential factors for enhancing and developing the learning effect organically.

Acknowledgements

My deepest gratitude goes first and foremost to my supervisor, Associate Professor Dr David Murphy, who inspires me with his professional expertise in Carl Rogers' Person-Centred Approach (PCA) which has widened my understanding of therapeutic relationship and helped me go beyond the borders of the medical perspectives. Dr Murphy has guided me since the year before the first day of the PhD programme until the completion of the PhD dissertation. Without his consistent and illuminating supervision, this thesis could not have reached its present form. Secondly, I would like to express my heartfelt gratitude to my godmother, Ms Sandra Durrant, who has given me constant encouragement and walked me through the mountains and valleys in the PhD life. Last but not least, my thanks would go to my beloved family for their loving consideration and great confidence in me all through these years. I also owe my sincere gratitude to my friends who supported in due course.

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Chapter 1 Introduction

1.1 Research motivation: Current climate and challenges in the mental healthcare in Taiwan

The impetus of this study emerged from the desire to explore how to improve the current mental healthcare in Taiwan. Taiwan is a country which provides outstanding medical healthcare. The medical service quality in Taiwan is known to the world and is ranked close to the U.S. and Germany in the medical industry. Studies on Taiwan's medical service accredited the high medical quality to the well-trained doctors, advanced medical equipment and division of specialty. Taiwan's hospitals operate world-class medical equipment. For instance, CT and MRI instruments for cancer inspection. The medical schools in Taiwan are always a top priority choice for those who are high school graduates. The most intelligent students who gather in the medical schools have been trained with 7-years of education followed by 4-years residency. After passing the medical licensing examination, they can become to an attending physician. It takes a medical school freshman an average of 12 to 13 years to become the attending physician (Chou, Chiu, Lai, Tsai, & Tzeng, 2012; Chiu & Tsai, 2009). Furthermore, Taiwan's National Health Insurance has received a high ranking by CNN and Discovery channel (Wu, Majeed, & Kuo, 2010). The Nobel Prize winner in Economics, Paul Krugman, regarded Taiwan's National Health Insurance as an excellent worldwide case study in his article "Pride, Prejudice, Insurance" (Krugman, 2005). Taiwan led all the other countries in Asia and ranked third in the world with its high medical quality which is partially accredited to its developed National Health Insurance. The Economist's Intelligence Unit (EIU) commented Taiwan would be acting as a model for other healthcare systems in Asia (Gold, M.; Economist Intelligence Unit, 2017).

However, previously I was a registered nurse and physician associate specialising in accident and emergency care for three and a half years. While delivering effective and quality care with efficiency, I discovered that patients' voices were missed in the health provider-patient relationship. Taiwan's Ministry of Health and Welfare released an official overall report of the level of quality of healthcare in 2015 which indicated some specific improvements were persuaded to be made for the clinical and cost effectiveness (Ministry of Health and Welfare Taiwan, 2014). Taking the quality of care as an example, most of the primary care, acute care, cancer care and infectious disease care of Taiwan were rated at the top 25-50 percentile whereas the grading of patient experience was ranking in the lowest 25 percentile. It represents the low quality of the physician-patient relationship. The result of the survey on

"doctor providing easy-to-understand explanations" was ranked last after the 16 Organisation for Economic Co-operation and Development (OECD) countries in 2013 (Ministry of Health and Welfare Taiwan, 2014, p. 88). It clearly addressed that the doctors in Taiwan are expecting to significantly spend more time and conduct effective communication with their patients on visits. From the physical condition to mental health, I also realised that the current medical aids, such as pharmaceuticals, could not give patients' relief fully. While facing the high expectation from the patients with physical/emotional conditions, the current medical resource seems not to be providing sufficient care for patients. Hospital nowadays is not only just a centre for treatments but also plays a role of emotional shelter. For example, some of the psychiatric patients I worked with often re-visited due to the ongoing psychiatric symptoms. Sometimes they visited the emergency department to complain about their side-effects of the prescription or simply to express their feeling about the physical/emotional conditions. Hence, in the PhD research, I aimed to investigate the mental healthcare in Taiwan. The current climate and challenges in the mental healthcare in Taiwan have been addressed more in the following sessions: the growing population of mental health utilizers, the shortage of the mental health professionals and the low quality of the physician-patient relationship. Therefore, my research philosophy is that of a pragmatist. This is because I have used research methods which I believe to be useful and have evidence that they are practical. For example, I performed the combination of the quasi-experiment, qualitative and quantitative data analysis to help investigate what why and how to improve the person-centred therapeutic relationship competency with the use of new technology and give a holistic report to the readers in various field (see Chapter 3, 5, 6 and 7). My epistemology and ontology would be present in Chapter 4.2 to give a rationale of the research design.

1.1.1. The growing population of mental health utilizers

The increasing demand of the mental healthcare is one of the challenges in Taiwan. Mental health has become a global focus in the 21st century due to the growing population of those experiencing psychological distress. Mental Health Atlas has indicated that the high demand for the mental healthcare has reported a 25% growing number of registered psychiatrists in South East Asia and Africa compared to the number in 2011. The population of other mental health professionals, such as psychiatric nurses, has also shown a 37% growth (World Health Organization, 2014, p. 53). In Taiwan, a survey in 2013 reported that there were 1 in 4 people suffering from common mental health problems, such as mood disorders (Fu, Lee, Gunnell,

Lee, & Cheng, 2013) has evidenced the high demand for the sufficient effective mental healthcare. For example, schizophrenia, surprisingly, has been reported in the top seven in the list of the high health insurance costs in Taiwan in 2017 (National Health Insurance Agency Medical Management Unit, 2018). It indicated that the awareness of mental health problems is rising, and the need for mental healthcare is increasing in the Taiwanese community.

To describe in detail, schizophrenia is a severe and chronic mental disorder characterized by disturbances in thought, perception and behaviour. It is also defined and classified in the category of the Schizophrenia Spectrum and Other Psychotic Disorders in the fifth version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association, 2013). DSM-5, which is an authoritative volume that defines and classifies mental disorders published by the American Psychiatric Associations, has outlined the criterion for schizophrenia as when a person who obtains two or more symptoms, such as delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behaviours, and negative symptoms like diminished emotional expressions, for at least a one-month period of time. Delusions, hallucinations or disorganized speech must be one of the symptoms to confirm the diagnosis (American Psychiatric Association, 2013). Schizophrenia symptoms typically start in the early to mid-20s in men. The symptoms in the women with schizophrenia typically begin in their late 20s. It's rare for those older than age 45 and uncommon for children to be diagnosed with schizophrenia. It has been reported that 20% of the individuals with schizophrenia have made suicide attempts on more than one occasion, 5%-6% of them die by suicide and many of them have significant suicidal thoughts. The suicidal behaviour could be in response to the schizophrenic symptoms, such as hallucinations. Schizophrenia could also be associated with social and occupational withdrawal and dysfunction. They could have limited social relationship outside of their family (American Psychiatric Association, 2013, pp. 99-105).

Therefore, the increasing population of utilising mental health services, such as schizophrenic individuals, is also a major public health problem. Some of the mental health problems have been estimated to affect 25% of the population over a lifetime, such as anxiety and depression (Blazer, Kessler, McGonagle, & Swartz, 1994; Kessler, et al., 1994). Among adults, mental health problems might affect the academic outcome, work performance, employment, financial ability, family interaction and the quality of life of an individual. For example, the epidemiology of schizophrenia is estimated in the age of 20s. The socio-

economic capacity of the schizophrenic individual might be reduced while other people are developing their social skills and financial abilities. The personal, societal, and economic burden would be considered a critical issue to public health while the population of mental health service users is increasing (Collins, Westra, Dozois, & Burns, 2004; Sartorius, 2001; Holden, 2000; Economou, et al., 2014). Hence, Taiwan is facing a challenge of increasing demand for the mental health services nowadays and the unforeseen social-economic crisis in the future.

1.1.2. The shortage of the mental health professionals

The shortage of the mental health professionals is challenging the effectiveness of current medical training in Taiwan. The system of Taiwanese medical education is influenced greatly by Western culture because of the colonial and post-colonial history (Cheng, 2001). Although the Ministry of Education has embraced the advancing principle of medical education from the Accreditation Council for the Graduate Medical Education (ACGME) in the United States to advance the performance of health providers. For example, gaining the medical knowledge, practice-based learning and improvement, professionalism, systems-based practice, patient care, and interpersonal and communication skills (Rider & Nawotniak, 2010; Chou, Chiu, Lai, Tsai, & Tzeng, 2012; Rousmaniere, 2014). All the students in Taiwanese medical schools are required to follow the curriculum of medical education given by the Ministry of Education (Chou, Chiu, Lai, Tsai, & Tzeng, 2012).

Since the late 19th century, the mainstream form of Taiwanese medical education has adopted a standardised 7-year Western medical training programme for doctors and a 4 or 5-year programme for other health professionals, such as nurses, clinical psychotherapists and occupational therapists. The training curriculum of the physician consists of 2 years of pre-medical courses, 2.5-3 years of clinical courses and 2.5-3 years of clerkship and internship. The educational programme of the other health professionals comprises 1-1.5 years of integrated and basic clinical courses, and 2.5 years of practical placement in the medical settings (Chou, Chiu, Lai, Tsai, & Tzeng, 2012). The Ministry of Education embraced the American and British standards to bring humanities into many areas of medical education, such as curriculum, licensing, student enrolment and the continuing education in health services (Chiu & Tsai, 2009) to develop the professional physician-patient communication skills which would influence patients' prognosis and overcome the potential shortcomings

associated with limited health-literacy capabilities (Bjørnholt & Farstad, 2012; Chu & Tseng, 2013), However, the students do not choose their speciality until receiving their certified practicing license. For example, some health professionals would then apply to work and receive the vocational training in hospitals as paediatricians, cardiologists, radiologists, surgeons or in other professions. Some would be trained and work as psychiatrists in the mental healthcare.

However, the shortage of the mental health professionals still exists in the standardised medical training model. The medical burden in psychiatry in Taiwan is not decreasing but still gaining the weight to a noticeable extent (Department of Statistics, 2018; National Health Insurance Agency Medical Management Unit, 2018; World Health Organization, 2014). To be more specific, the statistical report of the Ministry of Health and Welfare Taiwan (Table 1-1) has discovered that the population of psychiatric patients is significantly increasing while the number of registered mental health professionals grows only slightly (Ministry of Examination, 2018; Ministry of Health and Welfare Taiwan, 2015; Department of Statistics, 2018). On average, one Taiwanese mental health professional takes care of 222 patients (Figure 1-1). Additionally, the annual growth of licensing mental health professionals, such as psychiatrists, psychiatric nurses, clinical psychologists and occupational therapists, is decreasing (Table 1-1). Since 2014, the percentages of each professionals' licensing dropped below the average. It represented that fewer medical persons devote themselves to psychiatry.

Figure 1- 1 2010-2015 Annual Growth of the Mental Health Professionals and Clients in Taiwan

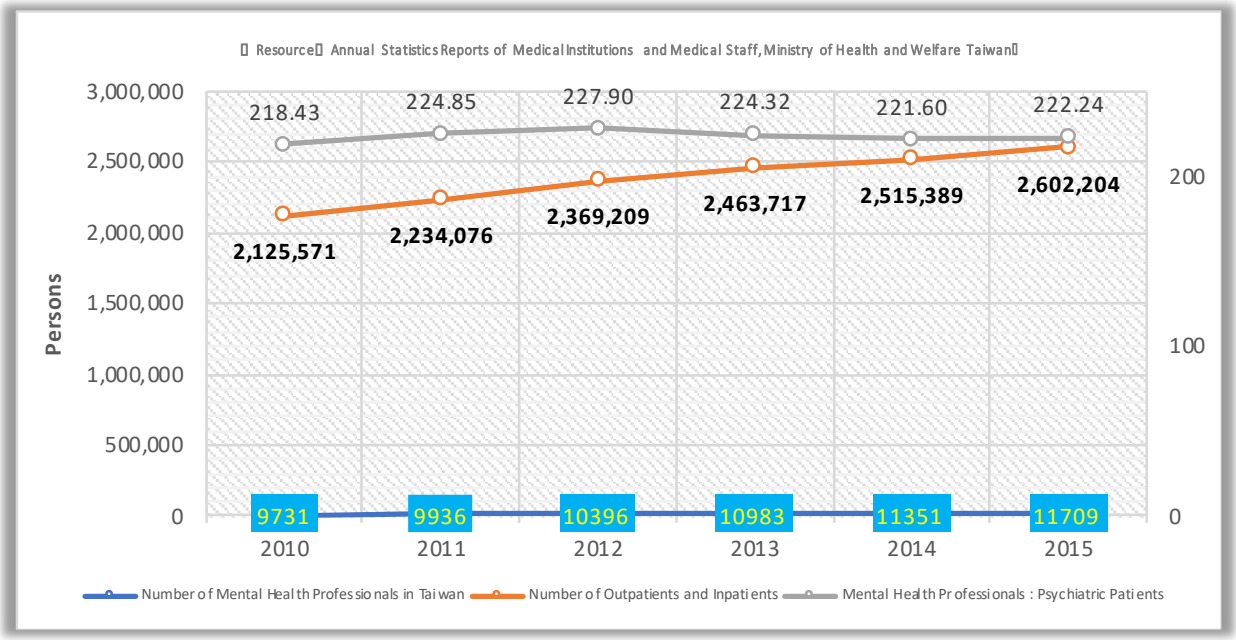


Table 1- 1 Annual Percentage of Growing Licensed Mental Health Professionals in Taiwan

Year	Psychiatrist	Psychiatric Nurse	Clinical Psychologist	Occupational Therapist
2010	4.61%	1.48%	43.42%	8.21%
2011	3.37%	-.06%	50.49%	10.43%
2012	2.02%	0.88%	21.69%	23.58%
2013	10.33%	2.27%	79.59%	23.58%
2014	**6.63%**	**1.49%**	**28.23%**	**5.08%**
2015	**2.20%**	**1.16%**	**76.09%**	**6.40%**
2016	**5.66%**	**1.69%**	**37.04%**	**3.69%**

(Ministry of Health and Welfare Taiwan, 2015; Ministry of Examination, 2018)

Rather than investing in the cause of the decrease of the mental health professionals in Taiwan, I intend to focus on how to improve and advance the mental healthcare while having less mental health professionals.

1.1.3. The low quality of the physician-patient relationship

The low quality of the physician-patient relationship was surveyed in 2013 in Taiwan which is considered a country performing high quality medical techniques (Ministry of Health and Welfare Taiwan, 2014, p. 88). The capabilities of taking care of patients have been emphasised and the

abilities of interacting and communication skills, for example, the humanities courses, pre-medical courses and clinical courses, have been delivered in the Taiwanese medical education (Rider & Nawotniak, 2010; Chiu & Tsai, 2009). There is not only the medical knowledge and practice through the 7-year programme, but also the seminars about professional practitioner-patient relationship, such as empathic understanding of patients, communication skills and so on, which have to be learned during the pre-medical courses as a part of the curriculum as required by the Ministry of Education in the medical schools (Chou, Chiu, Lai, Tsai, & Tzeng, 2012).

However, an illuminating study of the Taiwanese Community Attitude towards the Mentally Ill (CAMI) (Song, Chang, Shih, Lin, & Yang, 2005) gave a counter report that the students, who obtain psychiatric knowledge, have less confidence, and those, who do not have friends or family suffering mental health issues, have more restricted perspectives toward the mentally ill (Song, Chang, Shih, Lin, & Yang, 2005, p. 165). Health professionals' attitudes, such as empathy, acceptance and regard, toward patients would increase the level of therapeutic relationship between the mental health professionals and patients. Having confidence with the patients could be one of the indicators of a good therapeutic relationship in healthcare as well as in the mental healthcare (Priebe & Gruyters, 1993; Olson, 1995; Illingworth, 2005; Ye, 2012; Hung, Huang, & Lin, 2009; Priebe, Richardson, Cooney, & Adedji, 2011; Parker & Leggett, 2012)

Therapeutic relationship in psychiatry is essential to initiate the psychotherapy (Hewitt, 2005; Hung, Huang, & Lin, 2009; Kirk, Best, & Irwin, 1986; Kolb, Beutler, Davis, Crago, & Shanfield, 1985; McCabe & Priebe, 2004). Therapeutic relationship in psychiatry has been also addressed that patients who perceived high empathy and good interaction with the mental health professionals might reduce their drop-off rate and motivate their collaboration during the therapy (Bendapudi, Berry, Frey, Parish, & Rayburn, 2006; McCabe & Priebe, 2004; Parker & Leggett, 2012; Gendlin, 1961 &1962). The nature of the therapeutic relationship refers to the relationship between professional practitioners and patients, which has been broadly defined by researchers in different ways (Priebe & Gruyters, 1993; Priebe, Richardson, Cooney, & Adedji, 2011; Hill & Lent, 2006; Hill C. , 2004). An investigation of the experiences and perceptions of 12 psychiatric student nurses during the first encounter with their patients identified the process for the mental health professionals to develop a positive therapeutic relationship (Hung, Huang, & Lin, 2009). For example, a positive therapeutic relationship, including being empathic, accepting and giving regard to the patients, did motivate the psychiatric patients to share their personal experiences. One of the mental health professional interviewees addressed her experience of how a positive therapeutic relationship worked

in a psychiatric setting (Hung, Huang, & Lin, 2009):

> *"My patient had auditory and visual hallucinations. She did not tell others what she had seen or heard of, but when I asked her what she had seen or heard of she replied to me immediately. Sometimes she might even tell me her sensations enthusiastically. It was important for me to regard her as the patient. I could not assert that she was a 'crazy person' and I realised that's if someone labelled me as a 'crazy person' then I, too, would be unhappy* (Hung, 2009, p. 3131)*".*

In sum, these significant studies have evidenced the impact of the therapeutic relationship in psychiatry and also pointed out a direction for increasing the quality of the doctor-patient relationship to improve the mental healthcare in Taiwan. By acknowledging the current climate of the mental healthcare in Taiwan which is the increasing demand of the mental health services, the shortage of mental health professionals and the low quality of the doctor-patient relationship. It inspired me to look for solutions to those challenges. Therefore, in Chapter 2, I have taken accounts from the perspectives of philosophy of psychiatry and Carl Rogers' Person-Centred Theory to formulate the foundation of this PhD research which aimed to enhance and show the effectiveness of the medical approach, promote the humanistic practices in psychiatry, and eventually improve/modify the current medical approach.

1.2 Outline of the thesis

The challenges to the mental healthcare in Taiwan have been addressed in Chapter 1: the growing population of mental health utilisers, the shortage of the mental health professionals including introducing the Taiwanese medical education system, and the low quality of the doctor-patient relationship. Instead of looking into the causes of these three challenges, this PhD research aimed to focus on improving and strengthening the effectiveness of mental healthcare through the therapeutic relationship between the mental health professionals and the mental health utilisers.

Chapter 2 has shifted the conceptual perspective towards the mental health utiliser from the patients to clients through reviewing the literatures of the philosophy of psychiatry and Carl Rogers' Person-Centred Theory. A theoretical framework of the PhD research has been adapted from Carl Rogers' person-centred theory which has given a clear definition of the therapeutic relationship in psychiatry. The applications of the person-centred therapeutic relationship have been also presented in this chapter to give an induction of the later studies (Chapter 5, 6 & 7) in terms of the research instruments.

Chapter 3 presented a system literature review on the person-centred therapeutic relationship measured by the Barrett-Lennard Relationship Inventory and the meta-analysis of effect on the clients/patients' outcome to build the theoretical and conceptual foundation of this PhD research.

Chapter 4, the structure of the PhD research design has been introduced as a research with three studies. The applied methodologies were not presented in the Chapter 4 rather it has been addressed in the Chapter 5, 6, and 7 in detail as a collective study. In Chapter 4, firstly, the preparation and research method for the validation of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version has been presented. Secondly, the design of the Therapeutic Relationship Enabler Programme (TREP) was set as an intervention of the study. Finally, the method of the in-depth interview was considered for the stage of conducting interviews. Additionally, the methodologies of participant recruitment and analysis were also given in this chapter. To be aligned with the principle of ethics of research, the permission of using the original Barrett-Lennard Relationship Inventory and the documentations of the ethical approval for each study have been allocated in Appendix.

Chapter 5 presented the published work of the validation of the measuring instrument "*A Confirmatory Factor Analysis of the Mandarin-Chinese Version of the Barrett-Lennard Relationship Inventory*". This publication has been published with *Asia Pacific Journal of Counselling and Psychotherapy* in January 2018 (Liao, Murphy, & Barrett-Lennard, 2018). This study has provided an insight that the concept of the therapeutic relationship has become more accessible for the Mandarin-Chinese speaking world, and also supported the intercultural transmission of ideas.

Chapter 6 presented the second study of this PhD research for reporting the quantitative report of the quasi-experimental study evaluating the effectiveness of an intense training for the Taiwanese mental health professionals' learning the person-centred therapeutic relationship skills. The manuscript "*Evaluation of the therapeutic relationship skills training for mental health professionals (TREP)*" has been submitted to a peer-reviewed journal in 2019 (Liao & Murphy, 2019).

Chapter 7 presented the qualitative study "*A qualitative study on therapeutic relationship competence acquired in a three-day workshop: mental health professionals' learning in Taiwan*" to strengthen the former studies "*A Confirmatory Factor Analysis of the Mandarin-Chinese Version of the Barrett-Lennard Relationship Inventory*" and "*Evaluation of the therapeutic relationship skills training for mental health professionals (TREP)*". Through interviewing the participants of the experimental group, it revealed how the Taiwanese mental health professionals acquired competence of therapeutic relationship in an intensive training environment with the use of new technology mPath.

Chapter 8, the final chapter, provided as a collective concluding discussion for this PhD research by summarising the findings and conceptual conclusions. Further, discussing the possible recommendation for the future studies of the extending application of the person-centred approach in the domain of mental health professionals' learning and development.

Chapter 2 From patients to clients

Looking for a possible solution to enhance the effectiveness of the medical approach and promote the humanistic practices in psychiatry, such as developing the therapeutic relationship, is one of my motivations for leaving the professional practices. I started to explore the possibility for the psychiatric patients' voice being heard in the medical practices from other perspectives.

2.1 Philosophy of psychiatry

The 150-year-old belief that psychopathology could not do without philosophical reflection has virtually disappeared from common psychiatric education and daily practices. The philosophy of psychiatry not only concerns itself with the effectiveness of interventions but also cares about the consequences using mind-brain interventions during the psychotherapy. For example, Nattalie Banner and Tim Thornton, who are the philosophers of psychiatry focusing on the emerging interdisciplinary study at the interface of philosophy and psychiatry, have identified three intersections of philosophy and psychiatry: values, meanings, and facts, which include the role of values in psychiatric diagnosis and treatment, the question of the place of understanding the subjects' experiences, their meaning, and the relationship of understanding natural scientific explanations, and the scientific status of the fact or evidence that contribute towards psychiatric diagnoses (Banner & Thornton, 2007). Philosophy of psychiatry would give a broader vision of mental disorder and suggest psychiatrists, scientists, and physicians to maintain patients' personhood during the procedure of treatment.

However, the medical procedure of *treating* psychiatric patients nowadays involves some methods of manipulation, such as neuro-pharmaceutical, direct and indirect interventions and cognitive therapies, which would alter the brain function of an individual, regulate the symptoms and extend or recover the abilities of the human mind (Bermúdez, 2005). So does the psychiatric practice in Taiwan. The contemporary medical model of psychiatry in Taiwan is laying on the guidelines of pathophysiological diagnoses. In spite of mental disorder, as human being, it could raise ethical issues when one attempts to alter others' personality traits with direct/indirect intervention (Farah, 2002). Moreover, reductionism is considered as the philosophical perspective for the medical society perceiving most of the experiences of an individual can be reduced to their determinants in the brain as well as the mental health

problem. Mental health problem has been deducted as a dysfunction in the neuro-system (Akiskal & Benazzi, 2006). A strong reductionism will argue that mental health problem should not be understood as experiences occurring in a person, but only explained as biological abnormalities (Bortolotti, 2010).

A famous psychological experiment—Rosenhan experiment, conducted by an American psychologist David L. Rosenhan in 1973, has shown the possibilities of eliminating patients' subjective experiences, the inaccuracies of psychiatric diagnosis and judgement in the medical model with reductionism (Rosenhan, 1973; Graham, 2014). Rosenhan arranged eight individuals without any history of psychopathology to attempt admission into twelve psychiatric hospitals. All individuals were admitted with a diagnosis of schizophrenia or bipolar disorder. Psychiatrists then attempted to treat the individuals using psychiatric medication. All eight individuals were discharged within 7 to 52 days, but only after they had stated that they accepted their diagnosis.

> "*It is clear that we cannot distinguish the sane from the insane in psychiatric hospitals. The hospital itself imposes a special environment in which the meanings of behaviour can easily be misunderstood. The consequences to patients hospitalized in such an environment—the powerlessness, depersonalization, segregation, mortification, and self-labelling—seem undoubtedly countertherapeutic"* (Rosenhan D. L., 1973, p. 250)

The experiment indicated the power imbalance between the psychiatrists and patients. Neither psychiatrists nor patients could avoid the impact of psychiatric diagnosis projection in the current medical model. The diagnosing instrument might provide less accuracy of diagnoses, and the mental health professionals partially listening to the patients' voice and treating them like objects instead of persons. In short, the nature of personhood of the psychiatric patients which the status of being a person who obtains capacities to view others as having their mental states, to communicate by language, and to be aware of certain things (Dennett, 1978) in the medical practice.

How to maintain the autonomy of psychiatric patients from the perspective of philosophy of psychiatry? Respecting the autonomy of the people receiving the mental healthcare is suggested by the philosophers of psychiatry. Nassir Ghaemi, who is a professor of psychiatry and pharmacology at Tufts Medical Centre Boston specializing in mood illnesses, has criticized the current conception of mental disorder resting on an unscientific

political compromise between factions within clinical and research psychologists. The argument raised that many psychologists view the bio-psycho-social conception of mental illness disjunctively, focus predominantly on their preferred methods, and depend on their own assumptions of dysfunction when they come to understand a mental disorder (Ghaemi, 2003). The biological reductionism explained less about the humanistic in the medical practices. However, the clinical concept of 'mental disorder' has been at the foundation of psychiatry since the 20th century. One of the proponents of the "anti-psychiatry", Thomas Stephen Szasz (1920-2012) who was a fellow and member of A.P.A. and a professor of psychiatry at the State University of New York, had argued that psychiatry, rather than being a genuine branch of medicine, is masked by the social power which is our general judgments of the mental disorder (Varga, 2011). His books *The Myth of Mental Illness* (1961) and *The Manufacture of Madness* (1970) related some of his arguments. Nevertheless, some philosophers who challenge the current medical definition of psychiatry may fail to explain how a person's internal mechanisms to perform their functions as nature kinds (Radden, 2009, p. 418). George Graham, specialising in the cross-disciplinary study of philosophy and psychiatry, has discovered it is different between the clinical and philosophical definitions of mental disorder. He stated the philosophical definition of mental disorder that mental disorders may be disorders in the brain without being disorders of the brain or neural malfunctions or impairments (Graham, 2010) .

If a person is suffering from a cognitive dysfunction like one of the symptoms of mental illness mentioned of in the DSM-5 developed by the American Psychiatric Association (A.P.A.), it does not mean the person has no mental states. Therefore, conceptualising a judgment-free definition of mental disorder and respecting the patients' autonomy would take the opponents of the DSM to a direction of the broader definition of psychiatry and a humanistic perspective viewing the psychiatric patients with mental disorder as the clients with psychological problems. In this PhD research, I have replaced the word of psychiatric patients with the term *clients* to prevent the current medical impression over the people with mental health problems.

2.2 Person-Centred Theory

The medical model is looking for pathology and aiming to develop specific diagnoses and medication to cure the clients who encounter psychological problems whereas the clients' autonomy is not reflected in the contemporary medical practice. Providing a new approach involving deep listening to the clients' voice and maintaining their autonomy in the psychiatric healthcare system would be suggested (Rogers, 1959; Rogers, 2004; Pescosolido, 2013; Verbeek, Manhaeve, & Schrijvers, 2016). Carl Rogers, one of the most influential humanistic psychologists and psychotherapists, purposed the Person-Centred Theory (PCT) hypothesising that the clients could gain a greater self-understanding and move toward more significant choices toward changing behaviours or a change of self-concept when the mental health professionals provide them with a facilitative, growth-producing psychological climate (Rogers, 1957; 2013). The Person-Centred Theory places the clients as the heart of their own therapy and allows clients' voice to be heard by professional practitioners during the therapy.

> *"It is the client who knows what hurts, what directions to go, what problems are crucial, what experiences have been deeply buried."* (Rogers, 2004, p. 11)

Carl Rogers emphasised the significance of using the word *client* in psychotherapies where power shifting would occur between the mental health professionals and the people with psychological problems. Rogers defined the word *client to* refer to a self-respecting person who is still in charge while seeking for some professional suggestions. A client is the one who decides which advice to take whereas a patient might have an impression that doctors have power over them. Using the word of *client* would show the people who seek for help a great respect for their autonomy, and it would contribute an affirmative facilitative climate to the therapeutic relationship and benefit the initiation of the sequential psychotherapy/medical intervention (Rogers C. , 2013).

The Person-Centred Theory was synthesized and developed from two core approaches: the interpretive therapy and relationship therapy. Interpretive therapy, which is known as psychoanalysis, is using the therapeutic techniques to study the unconscious mind through symbols, body movement, dreams, etc (Milton, Polmear, & Fabricius, 2011). Relationship therapy was taken account by Carl Rogers that the practitioner's non-judgemental acceptance plays an essential role in the relationship with the clients. Through the therapeutic conditions in the person-centred therapeutic relationship, it would lay a non-directive climate for the client's self-organized growth (Allen, 1942; Rank, 1936; Rogers, 1974; Barrett-Lennard G.,

2013). The Person-Centred Theory has brought the impact of the humanistic to the field of counselling psychotherapy, psychology, education, sociology, medicine, and computer science through the evidence-based studies, practical implementations and extending developments since the 1950s (Gendlin, 1962; Rogers, Gendlin, Kiesler, & Truax, 1967; Carkhuff, 1972; Rogers C. , 1983; Clouston & Whitcombe, 2005; Chu & Tseng, 2013; Barrett-Lennard G. , 2013; Freire, Elliott, & Westwell, 2014; Slovák, *et al.*, 2015; Motoyama & Murphy, 2017; Bassett, 2018; Cornelius-White, Kanamori, Murphy, & Tickle, 2018; Drewitt, Pybis, Murphy, & Barkham, 2018; Liao, Murphy, & Barrett-Lennard, 2018; Murphy & Joseph, 2018). Therefore, Carl Rogers' Person-Centred Theory has presented its transability in the other fields and it is not only returning power to individuals in the psychotherapy by using the word of *clients* instead of patients but also raising the awareness of the humanistic approach in the medical model, and moreover, contributing a new therapeutic approach between the health providers and clients.

In summary, Taiwan is facing the challenges of the rapid growth of mental healthcare service consumers (National Health Insurance Agency Medical Management Unit, 2018), the shortage of mental health professionals (Ministry of Examination, 2018; Ministry of Health and Welfare Taiwan, 2015; Department of Statistics, 2018) and the complaints about the low quality of the physician-patient relationship (Ministry of Health and Welfare Taiwan, 2014, p. 88). The urge to modify the current mental healthcare is loud and clear. Carl Rogers' Person-Centred Theory has given a direction of improving the current medical healthcare and the purposed therapeutic conditions in the person-centred therapeutic relationship precisely defines the fundamental features of the mental health professionals' attitude and behaviours (Rogers C., 1946; 1957; 2013). Carl Rogers' person-centred therapeutic relationship and the therapeutic conditions will be described more in Chapter 2.3. Therefore, the one of the intentions in this PhD research was to integrate the *mental healthcare* with *the person-centred therapeutic relationship* (Murphy, et al., 2017; Arguel & Jamet, 2009; Johnson, et al., 2010; Forbes, et al., 2016; Rousmaniere, 2014) as the theoretical foundation which would contribute to the Taiwanese psychiatric practice and also provide the mental health professional with new lenses perceiving their clients (Rogers, Gendlin, Kiesler, & Truax, 1967).

2.3 Applying Carl Rogers' person-centred therapeutic relationship

The person-centred therapeutic relationship has been given a wider definition (Rogers C., 1957; 2004; Rogers, Gendlin, Kiesler, & Truax, 1967; Freire, Elliott, & Westwell, 2014) which has brought the humanistic perspective for the individual with the mental health problem in the psychiatric models. It would help the clients with mental health diagnoses play the role of the decision-makers in the therapy instead of being the help receivers in the traditional professional practitioner-client relationship. Moreover, Carl Rogers not only emphasised the autonomy of the clients but also purposed the specific therapeutic conditions and variables for the therapeutic relationship established (Rogers C., 1946; 2013). Regarding the therapeutic conditions, it has advocated providing a *non-judgemental* and *non-directional* therapeutic environment with six necessary and sufficient conditions in a therapeutic relationship (Rogers C. , 1957, pp. 95-96):

> "*1) Two persons are in psychological contact.*
> *2) The first, whom we shall term the client, is in a state of incongruence, being vulnerable or anxious.*
> *3) The second person, whom we shall term the therapist, is congruent or integrated in the relationship.*
> *4) The therapist experiences unconditional positive regard for the client.*
> *5) The therapist experiences an empathic understanding of the client's internal frame of reference and endeavours to communicate this experience to the client.*
> *6) The communication to the client of the therapists' empathic understanding and unconditional positive regard is to a minimal degree achieved."*

Supposing there was a therapeutic relationship, it would be developed when there were two people in psychological contact. One of them, such as a client, is incongruent, vulnerable or in the state of anxiety. The second person, for instance, the therapist, is congruent and willing to be integrated into the relationship. Meanwhile, the therapist expresses unconditional positive regard to the client, experiences an empathic understanding of the client, and shares this experience to the client. Finally, the communication itself achieves a degree of empathic understanding and unconditional positive regard (Rogers C. , 1957; Gillon, 2007). After fulfilling these six conditions, the person-centred therapeutic relationship would induce the self-actualization of the clients which would activate the spontaneous move of the clients towards problem solving, better relationship with others and more adaptive self-organisation (Rogers C. , 1974; Bohart, 2013) .

Furthermore, the four therapeutic conditions purposed in Carl Rogers' person-centred approach working alongside with the six necessary and sufficient conditions in the therapeutic relationship are *level of regard, empathic understanding, unconditionality of regard* and *congruence* (Rogers C., 1957; Barrett-Lennard G., 2015). First of all, *empathic understanding* is an intension that a person

desires to know the full presence of another individual. it consists of an active process for a person to change and experience their awareness of another person through receiving, communicating and recoding the meanings of the words and signs in the conversation (Barrett-Lennard G. , 2015). The level of empathic understanding is relevant to how much one person is conscious of the immediate and felt awareness of another (Barrett-Lennard G. , 2015). For example, a mental health professional might experience the consciousness behind the client's body language/outward communication. The empathic process could perform in two directions: empathic recognition and empathic inference. Empathic recognition involves in a person experientially acknowledging another person's spoken words/body language in a direct conversation. Empathic interference is for a person sensing or inferring another person's felt awareness indirectly. For example, a mental health professional might sense the immediate affective quality and intensity of the client's experience indirectly. This activity of two aspects occurring together and balancing with each other would comprise a degree of empathic understanding in a given relationship (Barrett-Lennard G. , 2015, p. 10). In a person-centred therapeutic relationship, the mental health professionals would be required not to project their own awareness to the clients or not permit it themselves to all the information that the clients have given directly or indirectly. Through experiencing the empathic understanding of the mental health professionals, the clients would be able to experience their own experiences without being affected by the professionals.

Level of regard is considered as the affective aspect of one person's response to another person. In other words, level of regard involves various positive and negative feelings with different qualities and intensiveness (Barrett-Lennard G. , 2015, p. 11). It would be subjectively measured by the loading of the sense. For example, the positive feeling might be considered as warmness, liking, respect and appreciation whereas the negative feeling might include dislike, impatience, distance and rejection. In the psychiatric settings, the clients are often required to receive therapy. It would often lead the mental health professionals to a scenario that the clients did not refuse and resist the intervention instead appear to have no desire and be unapproachable to the professionals (Gendlin, 1961). The affection in the level of regard would create a respectful atmosphere to initiate the therapeutic sessions (Rogers, 1957; Rogers, 1959; Gendlin, 1961).

Unconditionality of regard refers to the extent of the consistency of regard felt by one person to another person (Barrett-Lennard G. , 2015, p. 11). The change in the attitude/response/mood of the mental health professionals after them hearing/experiencing the client's psychological content/ behaviours would cause a sense of condition perceived by the clients. Lastly, *congruence* is taken as

the internal ability of the individuals who could integrate their present awareness and experience in the relationship conceptually when communicating with another. The theoretical criterion of congruence is the consistency between rising self-awareness and communicating the perception of one person (Barrett-Lennard G. , 2015, p. 11). A high congruent individual would be completely real, honest, direct and sincere to talk about what he/she would like to say without holding back. Congruence would be distinguished through a person's expression, gestures or tone of voice and it would also imply a person's awareness and experience to another at an effective level. Congruence also allowed Rogers to experience his spontaneous expressions where was transcended to the person in contact when he was truly present. Rogers talked about his own experience of being congruent:

> *"I find that when I am closer to my inner, intuitive self, when I am somehow in touch with the unknown in me, when perhaps I am in a slightly altered state of consciousness, then whatever I do seems to be full of healing. Then, simply my presence … [or the] transcendental core of me [in which] our relationship transcends itself and becomes a part of something larger … [is where] profound growth and healing are present."* (Rogers C. , 1980, p. 129)

The mental health professionals who practice on congruence would lead to a psychological sense of acceptance, understanding and integration from the internal to their clients. Congruence is counted as the core variable of the person-centred therapeutic relationship (Cornelius-White, Congruence, 2013).

These four variables have been reflected in a relationship inventory developed by Dr Godfrey Barrett-Lennard who was working closely with Carl Rogers (Barrett-Lennard G. , 1959; 1964; 1978; 2015) who was studying psychotherapy with people with a diagnosis of schizophrenia in the late 1950s (Thorne & Sanders, 2013, p. 112).The Barrett-Lennard Relationship Inventory (B-L RI) is a multi-choice questionnaire which has been acknowledged as one of the well-measured psychometrics in evaluating relationships and it has been applied in various fields, for example, the teacher-student relationship in educational settings, the practitioner-client relationship in psychotherapy and counselling, the health provider-patient relationship for evaluating the medical quality, etc (Barrett-Lennard G. , 2015; Chu & Tseng, 2013). The four variables of the person-centred therapeutic relationship have been adapted into four subscales in the Barrett-Lennard Relationship Inventory: *level of regard, empathic understanding, unconditionality of regard* and *congruence*. The description of the Barrett-Lennard Relationship Inventory and the study of validating the Mandarin-Chinese version as one of the studies in this PhD research have been presented in Chapter 5. It has prepared and provided a contextually comprehensive instrument to measure the degree of the person-centred therapeutic relationship in the Mandarin-Chinese speaking

community for the following study in Chapter 6. In Chapter 3, a systematic review of applying the Barrett-Lennard Relationship Inventory in measuring the therapeutic relationship in the psychiatric contexts has been given as one of the rationales for this PhD research.

Chapter 3 A systematic review and meta-analysis of the person-centred therapeutic relationship measured by the Barrett-Lennard Relationship Inventory and the clinical outcome

3.1 Introducing the development of the Barrett-Lennard Relationship Inventory

The Barrett-Lennard Relationship Inventory, developed by Godfrey Barrett-Lennard who worked closely with Carl Rogers, the founder of the person-centred theory in 1962, has been a well-applied questionnaire in measuring relationships in various areas, such as therapeutic relationship in counselling and clinical settings, family relationship, teacher-student relationship in education, origination-origination relationship in business, and so on (Barrett-Lennard, 2015). Apart from the other measuring instruments evaluating the therapeutic relationship in psychiatry (Allen, Newsom, Gabbard, & Coyne, 1984; Barrett-Lennard, 1962; Hansson & Priebe, 2007; McGuire, McCabe, & Priebe, 2001; Barrett-Lennard, 2015), the Barrett-Lennard Relationship Inventory (B-L RI) is considered the most effective multiple-choice questionnaire designed specifically for evaluating interpersonal relationships in accordance with Carl Rogers' person-centred therapeutic relationship (Barrett-Lennard G. , 1964; 1978; 2013; 2015; Gelso & Fretz, 1992, p. 192).

During the development, Dr Barrett-Lennard used four dimensions to fulfil Rogers' six necessary and sufficient conditions of therapeutic relationship (Rogers, 1957) and describe the basic humanistic skills into the questionnaire (Rogers, 1957; Barrett-Lennard, 1959). Barrett-Lennard theoretically divided the therapeutic conditions of "*unconditional positive regard"* in Rogers' theory into two distinguishable subscales*" level of regard"* and *"unconditionality of regard",* and another two dimensions "*empathic understanding*" and "*congruence*" (Rogers, 1957; Cramer, 1986). The concept of *empathic understanding* is defined as one person who is conscious of and feels awareness of another (Barrett-Lennard, 2015, p. 10). The *level of regard* refers to the affection of one person's response to another, and it might embed positive or negative feelings (Barrett-Lennard, 2015, p. 11). The definition of *unconditionality of regard* is given as the affective response and self-experiences of one person towards another (Barrett-Lennard, 2015, p. 11). Lastly, the concept of *congruence* is the consistency between the whole present experience and awareness. For example, a congruent person can be honest, sincere and direct to another without hesitation or feeling compelled during the communication (Barrett-Lennard, 2015, p. 11). The development and adaption of the inventory were absolutely aligned with the core concept of Rogerian therapeutic relationship.

However, the first version of the inventory was formed as a 92-item scale consisting of five subscales: *level of regard, unconditionality of regard, empathic understanding, congruence,* and *willingness to be known* (Barrett-Lennard, 2015; Wiebe & Pearce, 197). The *willingness-to-be-known* scale was removed from the whole inventory due to the fact that the five scales were not satisfactorily discrete as well as the *willingness-to-be-known* scale was identified as an overlapping dimension of the *congruence* scale (Wiebe & Barnett Pearce, 1973). The later version of the relationship inventory was reduced as to an 85-item four-subscale inventory: 18 items in the *level of regard* subscale, 18 items in *unconditionality of regard*, 16 items in *empathic understanding* and 17 items in *congruence* (Barrett-Lennard, 1962; Wiebe & Pearce, 1973). Subsequently, the inventory has been amended to 72 items which removed the *willing-to-be-know* subscale, and finally, the inventory was confirmed as a 64 items version in 1964. The four subscales of the Barrett-Lennard Relationship Inventory (*empathic understanding, level of regard, unconditionality of regard* and *congruence*) are each consisting of 16 items of which 8 items are positively valanced and another 8 are negatively valanced on each of the subscales (Barrett-Lennard, 2015, pp. 26-34). The Barrett-Lennard Relationship Inventory has been adapted into a 40-item scale which obtains 10 items for each subscale (Barrett-Lennard, 2015). The Barrett-Lennard Relationship Inventory has been used to assess one's perception towards another individual. The internal reliability of the inventory has been examined in 24 studies with mean internal consistency coefficients *level of regard* .91, *empathic understanding* .84, *unconditionality of regard* .74, *congruence* .88 and a total of .91 (Gurman, 1977). The test re-test reliability coefficients resulted in *level of regard* .83, *empathic understanding* .83, *unconditionality of regard* .80, *congruence* .85 and a total of .90 across ten studies. (Abramowitz & Jackson, 1974; Gurman, 1977; Barrett-Lennard G. , 1962; Dawson, 1985; Simmons, Roberge, Kendrick, & Richards, 1995).

Acknowledging the positive impact of Carl Rogers' theory and various implements of the Barrett-Lennard Relationship Inventory (Barrett-Lennard, 2015; Duncan, Yarwood-Ross, & Haigh, 2013; Murphy, Cramer, & Joseph, 2012), the systematic review and meta-analysis of using the Barrett-Lennard Relationship Inventory measuring the therapeutic relationship has been thoroughly examined and analysed in this chapter. It aimed to present the implementation of the inventory measuring the correlation between the health providers/therapists' therapeutic relationship and the patients/clients' outcomes at the in-/out-patient and counselling settings. It would unfold the direction in the following research when strengthening the rationales of evaluating the therapeutic relationship with the Barrett-Lennard Relationship Inventory in this PhD research.

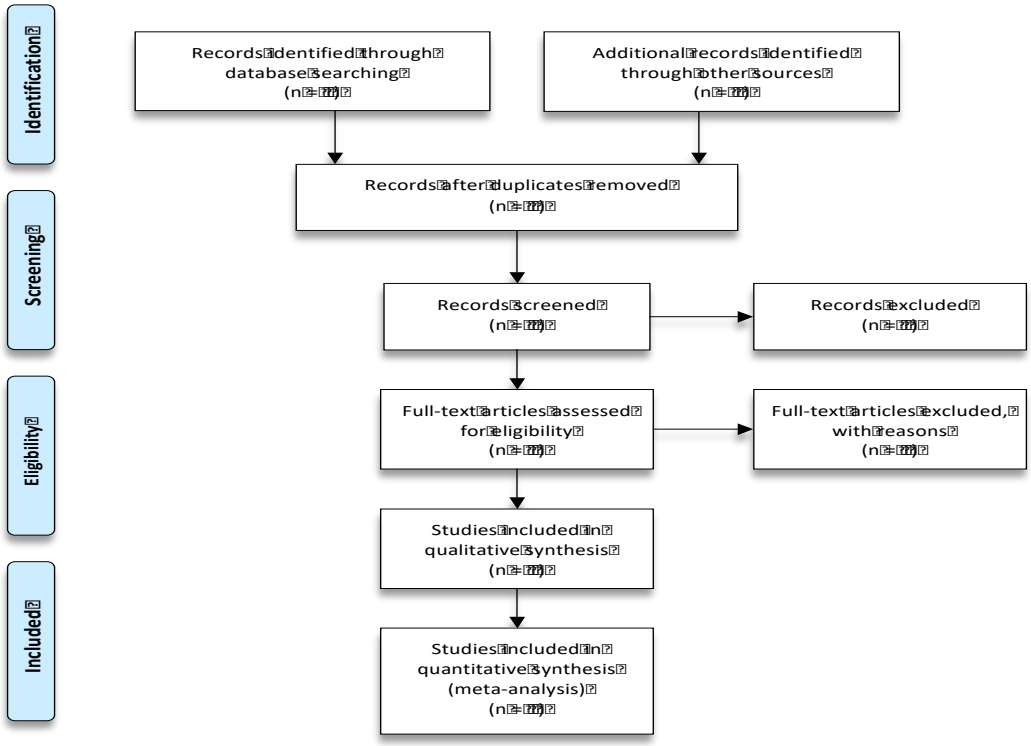
3.2 Methods

3.2.1 Search Strategy

The systematic review was aimed for the scope in relating the health providers/therapists' therapeutic relationship skills to the patients/clients' psychological outcomes while surveying the studies applying the Barrett-Lennard Relationship Inventory in the measurement. Additionally, the potential moderators of that association including types of therapeutic relationship measure, forms of settings and the patients/clients' presenting problems. The reviewer used the search protocol PRISMA to search pre-identified databases and the references check. The databases PubMed, PsycINFO, PsycARTICLES, Embase, CINAHL, Cochrane Library, and ERIC between 1980 and 2019 April week 4 were searched.

The PRISMA, namely the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement, has developed a reporting guideline since 2009 to help authors of systematic reviews to prepare a reproducible and transparent account of the reviews (Altman, et al., 2009). It revised the original 18-items QUOROM checklist and then proposed a 27-item PRISMA checklist which pertains to the content of a systematic review and meta-analysis including the title, abstract, methods, results, discussion and funding (Moher, *et al.*, 1999; Moher, Liberati, Tetzlaff, & Altman, 2009). The PRISMA has been well-applied as an instruction of conducting systematic reviews and meta-analysis. It was reported that approximately 174 journals in the health sciences endorsed the PRISMA Statement, and 146 of them which published systematic reviews stated the requirements of using the PRISMA Statement to authors (Tao, *et al.*, 2011) and the PRISMA Flow Diagram (Figure 3-1) which instructs the procedure of the literature extraction for conducting systematic reviews.

Figure 3- 1 PRISMA 2009 Flow Diagram (Moher, Liberati, Tetzlaff, & Altman, 2009)



3.2.2 Included and excluded criteria

In this study, the systematic review was performed in accordance with the PRISMA Flow Diagram as the reviewing protocol with the pre-set included and excluded criteria. First of all, identifying the domains of using the whole scale of the Barrett-Lennard Relationship Inventory to measure the therapeutic relationship with the search terms:

- "Barrett-Lennard Relationship Inventory" (in Abstract),
- NOT "level of regard subscale" (in Abstract),
- NOT "empathic subscale" (in Abstract),
- NOT "unconditionality subscale" (in Abstract),
- NOT "congruence subscale" (in Abstract).

Additional references, conference abstracts, doctoral dissertations and the studies published in journals/peer-viewed journals were included in this systematic review. Secondly, screening the identified studies regarding the including and excluding criteria and the duplicates in more than one database were removed. Only English publications would be included, and non-English ones were excluded. Year of publication, the sample size and the characteristic of the study participants was not restricted. Thirdly, examining the eligibility of the full-text studies. For example, any type of designs of the quantitative studies was included, such as cohort studies, randomized controlled trials, cluster randomized controlled trials, cross-sectional/survey studies, quasi-experimental studies, and

controlled-before-and-after studies (pre-post test). The studies which did not apply the Barrett-Lennard Relationship Inventory in the measurements were considered not eligible for this review. For instance, the quantitative studies using the Barrett-Lennard Relationship Inventory for developing the other measuring instruments were excluded. The irrelevant studies which mostly focused on teacher-students, supporter-patient, family and romantic relationship studies were screened out by reviewing titles and abstracts. The remaining studies were then screened titles, abstracts and the full text again to exclude the studies which were not evaluating the targeted outcomes. All studies which passed this exclusion process were included in the third stage of reviewing for relevance by scanning titles, abstracts and the full text for relevancy. Lastly, determining the included studies. The full-text articles for all the final included studies were read thoroughly. The reference lists of the included studies were also checked again. For instance, the qualitative studies, such as interview and literature reviews, were set apart while the eligible quantitative studies were grouped for the descriptive report.

3.2.3 Meta-analysis and effect size

Meta-Analysis is a statistical analysis, which combines the results of multiple scientific studies, which can be performed to address the same research question. It also reveals an estimate of the unknown and hidden research questions which could contrast the published results from different studies. It could identify patterns, sources of disagreement among the results of multiple studies, and it might help the investigators discover other interesting correlation among the data in those studies (Greenland & O' Rourke, 2008). One of the benefits of the meta-analysis approach is a higher statistical power and more robust point estimate might be computed through the combination of the studies. However, the research questions and searching approach in each meta-analysis study can affect the statistical results, for example, included and excluded criteria for the selection of the articles, data extraction and the way of dealing with incomplete data (Walker, Hernandez, & Kattan, 2008). Meta-analysis is often performed in systematic reviews which produced a weighted average of the included study results. This approach carries the advantages in research, such as it could generalize the study results to a larger population using the aggregation of the information in multiple studies, it improves the accuracy of estimation and increases the statistical power to detect an effect, it can quantify and analyse the inconsistent results across studies, it can test hypotheses by applying a summary estimation, it allows to explain variation between studies using moderators, and lastly, it can help the investigator to investigate the presence of

publication bias among the included studies (Rothstein, Sutton, & Borenstein, 2005; Walker, Hernandez, & Kattan, 2008).

To examine the relation between the therapeutic relationship and clients/patients' outcome in this study, the estimated overall effect size and the study heterogeneity were computed by performing the meta-analysis technique which the effect sizes of the statistic results of the Barrett-Lennard Relationship Inventory and an outcome variable for the purpose of this meta-analysis study among the included studies. Regarding the heterogeneity across the studies, the individual estimates of effect could vary by chance and some variation appeared were expected. By incorporating the meta-analysis into a random effect model, it could avoid the assumption that the individual specific effect is correlated with the independent variables (Higgins, Thompson, Deeks, & Altman, 2003). Instead of using Cohen's *d* as the estimator of the effect size, the overall effect size has been converted to Hedges' *g* in this study due to the effect size in each study reported in various formats with different statistical approaches, such as calculating Hedge's *g* from a one-way ANOVA using *F*-value and degrees of freedom (*df*), the Mean and Standard Error, a correlation, an independent t-test, and also from a Cohen's *d* (Hedges, 1982; Rosenthal, 1984; Hedges & Olkin, 1985; Bruce, Kromrey, & Ferron, 1998; Cohen, 1992; Rosnow & Rosenthal, 1996; Rosnow, Rosenthal, & Rubin, 2000; Thalheimer & Cook, 2002). Having the similarity with Cohen's *d*, Hedges' *g* is a measure of effect size which indicates to what extent one group differs from another in an intervention study. Hedges' *g* formula (Figure 3-2) based on a standardized difference offers an unbiased estimator whereas Cohen's *d* tends to have a removable small overestimation bias (Hedges L. V., 1981; Cooper, Hedges, & Valentine, 2009; Hedges & Olkin, 1985).

Figure 3- 2 Calculating Hedges' g from Cohen's d (Hedges & Olkin, 1985)

$$g \simeq d \times (1 - \frac{3}{4(n_1 + n_2) - 9})$$

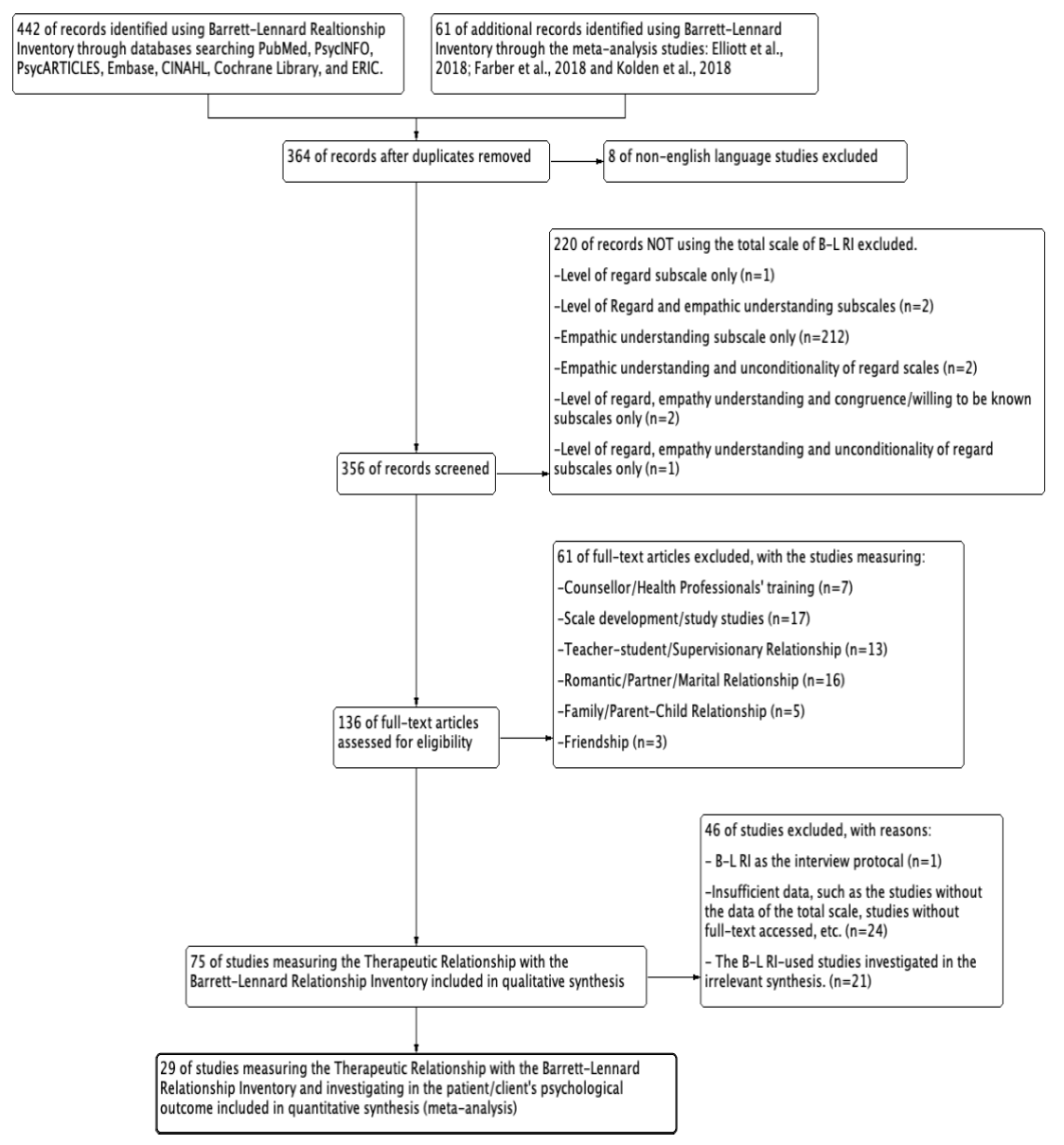
The descriptors of Hedge's *g* are relating to the scaling factor of Cohen's *d*. The effect size indicates *very small* if $g \leq .01$, *small* if $g = .01 \sim .20$, *medium* if $g = .20 \sim .50$, *large* if $> g = .50 \sim .80$, *very large* if $g = .80 \sim 1.20$, and *huge* if $g \geq 2.0$ (Cohen, 1992; Sawilowsky, 2009). In this study, the Hedge's *g* with the random effect model would be applied in the meta-analysis.

3.3 Results

3.3.1 PRISMA and Characteristics of Literatures

The research question with the pre-setting criteria for the process of the data extraction was "*the studies applying the Barrett-Lennard Relationship Inventory in relating the health providers/therapists' therapeutic relationship to the patients/clients' psychological outcomes*". This search produced the databases, PubMed, PsycINFO, PsycARTICLES, Embase, CINAHL, Cochrane Library, ERIC and additional three meta-analysis reports in the correlation of specific therapeutic conditions and recipients' psychological outcomes in 2018 (Elliott, Bohart, Watson, & Murphy, 2018; Farber, Suzuki, & Lynch, 2018; Kolden, Wang, Austin, & Chang, 2018), which were then screened systematically as documented in Figure3-3. The inclusion criteria were processing the outcome of the research studies which measured the impact of therapeutic relationship to the receivers' psychological outcome in which a correlation or sufficient information was reported. The abstracts of the potential sources were screened by the author, with a sample of 503 studies to assess the eligibility. This process resulted in 364 sources being retained. Screening for duplicates resulted in dropping 139 sources, 8 of which had reported in non-English languages, such as German and French. There were 220 of 356 remaining studies not using the whole four subscales of the Barrett-Lennard Relationship Inventory were excluded. This process resulted in 136 sources, of which we were able to locate full texts for 75 (most of the dropped sources were measuring the other relationships other than the therapeutic relationship between health providers/counsellors/psychotherapists and patients/clients). The exclusion criteria were again applied to these 75 sources by examining the context, characteristics and provided data of each source. The retained sources resulted in 29 studies, which used the Barrett-Lennard Relationship Inventory to investigate the effect of the therapeutic relationship towards the patients/clients' psychological outcomes, were included in the systematic review and meta-analysis (Figure 3-3).

Figure 3- 3 PRISMA Flow Diagram of the literatures screening for the systematic review



The remaining 29 studies (Table 3-1) with the usage of the Barrett-Lennard Relationship Inventory were coded by the measuring formats, treatment settings, type of the subjects' chief complaints or medical history and source of outcome measure. These 29 studies were conducted in three types of settings: 8 studies in the in-patient units (Van der Veen, 1967; Roback & Strassberg, 1975; Reese, 1984; O'Connor, 1989; Keijsers, Hoogduin, & Schaap, 1994; Najavits & Strupp, 1994; Blatt, Quinlan, Zuroff, & Pilkonis, 1996; Beckham, 1992), 6 in the out-patient units (Hollender, 1974; Kolb, Beutler, Davis, Crago, & Shanfield, 1985; Keijsers, Schaap, Hoogduin, & Peters, 1991; Ritter, Murray, Ross, Greeley, & Pead, 2002; Zuroff & Blatt, 2006; Zuroff, Kelly, Leybman, Blatt, & Wampold, 2010) and 15 in the

counselling settings (Barrett-Lennard G. , 1962; Clark & Culbert, 1965; Fretz, 1996; Gross & DeRidder, 1966; Hansen, Moore, & Carkhuff, 1968; Hill, Snyder, & Schill, 1974; Borrego, Chavez, & Titley, 1982; Claiborn, Crawford, & Hackman, 1983; Salvio, Beutler, Wood, & Engle, 1992; Fletcher & Nystul, 1993; Murphy & Cramer, 2014; Brouzos, Vassilopoulos, & Baourda, 2015a; Bell, Hagedorn, & Robinson, 2016; Klassen, 1979; 2008). The 81 of 88 sets of tests were rated by the clients/patients using the *Other-to-Self* form (Form OS) of the Barrett-Lennard Relationship Inventory, 6 of 88 sets were self-reported by the health providers/therapists using the *Me-to-Other* form (Form MO), and 1 of 88 sets of tests were rated through the observation using the *Observation* form (Form Obs) of the inventory.

The chief complaints or medical history of the clients/patients in the studies were depression, chronic schizophrenics, anxiety and other issues related. There were 4 effect sets for anxiety, 16 for chronic schizophrenics, 24 for depression, 3 for both depression and anxiety, 13 for other complaints and 28 for the non-described complaints. The clients/patients' outcomes which the researchers looked into were in a wide scope, for instance, the clients/patients' clinical improvement, locus of control, self-control, willingness to disclose, satisfaction, dropout rate, interaction or strain, alcohol-related psychosocial problems, psychological distress, pathology progression and others. For example, Clark and Culbert (1965) were probing into the change of the self-awareness for whom encountered problems in the counselling settings (Clark & Culbert, 1965), Borrego (1982) investigated the degree of the willingness to disclose (Borrego, Chavez, & Titley, 1982), Ritter *et al.* (2010) evaluated the alcohol-related psychosocial problems and the clients' alcohol consumed behaviour in the out-patient units (Ritter, Murray, Ross, Greeley, & Pead, 2002), Roback and Strassberg (1975), Keijsers *et al.* (1944) examined the clinical improvement of who were diagnosed with schizophrenia and obsessive–compulsive disorder (Roback & Strassberg, 1975; Keijsers, Hoogduin, & Schaap, 1994), and other researchers studied in the clinical improvement, dropout rate and pathology progression of who were diagnosed with depression and anxiety in the in/out-patient units (Kolb, Beutler, Davis, Crago, & Shanfield, 1985; Keijsers, Schaap, Hoogduin, & Peters, 1991; Najavits & Strupp, 1994; Bell, Hagedorn, & Robinson, 2016; Zuroff, Kelly, Leybman, Blatt, & Wampold, 2010). The outcomes were evaluated with different measuring instruments, for instance, the Hamilton Rating Scale for Depression (HRSD) and Beck Depression Inventory (BDI, BDI-1A, BDI-II) for depression, the Symptom Checklist 90 (SCL-90) for a psychiatric self-report, and other instruments measuring the relevant outcomes. Fletcher and Nystul (1993) used the Disability

Factor Scale/B alongside with the Barrett-Lennard Relationship Inventory to evaluate the client's attitude towards a blind counsellor and perceived effectiveness by rating a videotape of a simulated counselling session. Overall, there were 88 separate effects yielded in 29 studies in this meta-analysis study to examine the effect between the person-centred therapeutic relationship and the clients/patients' outcome.

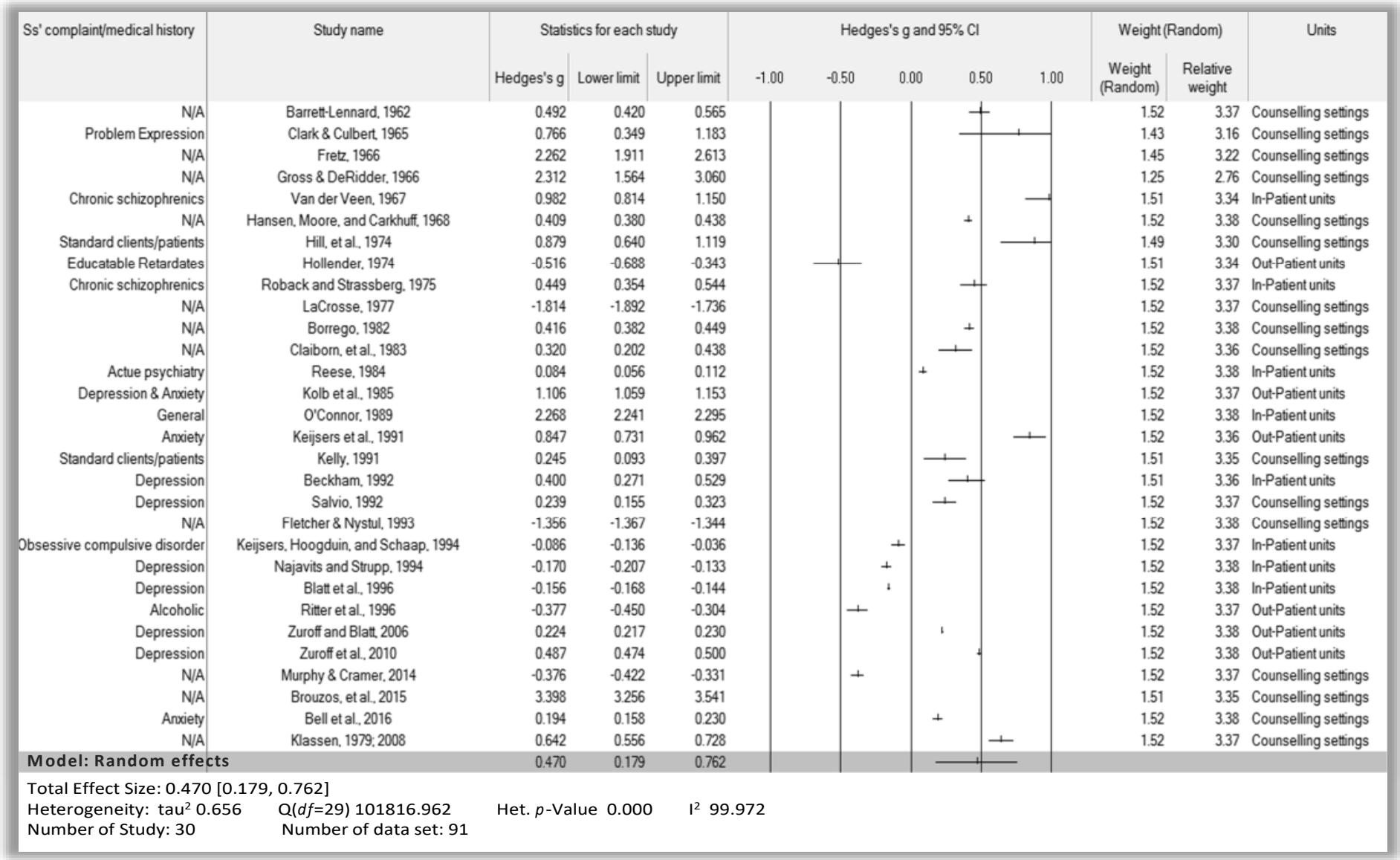
3.3.2 Meta-analysis

For summarizing analyses across studies including the moderator analyses, Hedge's *g* and Cochrane's *Q* under a random effects model using the analytical instrument Comprehensive Meta-Analysis Version 3.0 (Borenstein, Hedges, Higgins, & Rothstein, 2013). The calculated I^2 (Higgins, Thompson, Deeks, & Altman, 2003) was also computed and the forest plots and a funnel plot were present.

3.3.2.1 Overall Therapeutic Relationship-Outcome Association

A total of 88 data sets within 29 studies, comprising 14,487 participants, were included in the overall analysis. Using a random effects model, the aggregate effect size was g = .449, indicating that the therapeutic relationship has a small association with clients/patients' outcomes (Table 3-1). Additionally, the 95% confidence interval did not include zero (confidence interval =.158 and .739), indicating that the effect of person-centred therapeutic relationship on outcome is significantly different from zero. To assess whether there was variability among these 29 studies above and beyond what would be expected by chance, a homogeneity test was conducted. Using the homogeneity statistics, Q and I_2 (Hedges L. V., 1982), the assumption that the studies selected were sampled from the same population was rejected, Q (df = 28)= 97670.129, p= .000, I_2 = 99.971%. This indicated that there is a large amount of heterogeneity of effects among these studies indicating the study factors may be analysed by the moderators (Fletcher J. , 2007), for example, the units (i.e. counselling settings, in-/out-patient units) of the studies or the perspectives (i.e. using the Other-to-Self, Me-to-Other, and Observation forms) of the therapeutic relationship evaluation. It led to the following moderator analyses being conducted in Chapter 3.3.2.3.

Table 3- 1 Forest Plot of the Therapeutic Relationship Effect on Clients/Patients Outcomes



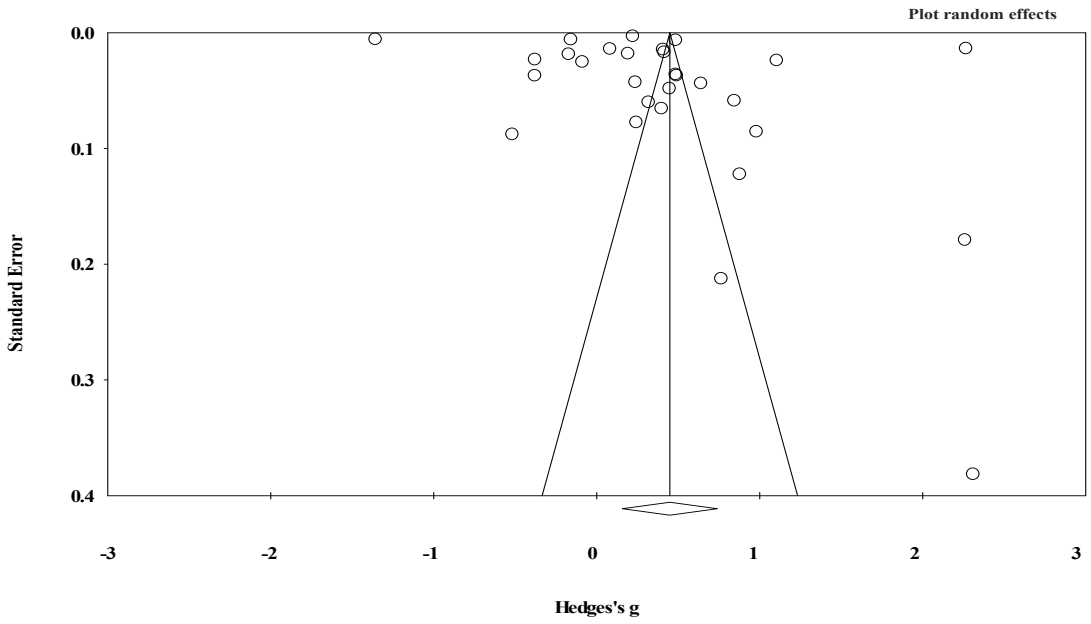
Ss' complaint/medical history	Study name	Statistics for each study			Hedges's g and 95% CI	Weight (Random)		Units
		Hedges's g	Lower limit	Upper limit	-1.00 -0.50 0.00 0.50 1.00	Weight (Random)	Relative weight	
N/A	Barrett-Lennard, 1962	0.492	0.420	0.565		1.52	3.37	Counselling settings
Problem Expression	Clark & Culbert, 1965	0.766	0.349	1.183		1.43	3.16	Counselling settings
N/A	Fretz, 1966	2.262	1.911	2.613		1.45	3.22	Counselling settings
N/A	Gross & DeRidder, 1966	2.312	1.564	3.060		1.25	2.76	Counselling settings
Chronic schizophrenics	Van der Veen, 1967	0.982	0.814	1.150		1.51	3.34	In-Patient units
N/A	Hansen, Moore, and Carkhuff, 1968	0.409	0.380	0.438		1.52	3.38	Counselling settings
Standard clients/patients	Hill, et al., 1974	0.879	0.640	1.119		1.49	3.30	Counselling settings
Educatable Retardates	Hollender, 1974	-0.516	-0.688	-0.343		1.51	3.34	Out-Patient units
Chronic schizophrenics	Roback and Strassberg, 1975	0.449	0.354	0.544		1.52	3.37	In-Patient units
N/A	LaCrosse, 1977	-1.814	-1.892	-1.736		1.52	3.37	Counselling settings
N/A	Borrego, 1982	0.416	0.382	0.449		1.52	3.38	Counselling settings
N/A	Claiborn, et al., 1983	0.320	0.202	0.438		1.52	3.36	Counselling settings
Actue psychiatry	Reese, 1984	0.084	0.056	0.112		1.52	3.38	In-Patient units
Depression & Anxiety	Kolb et al., 1985	1.106	1.059	1.153		1.52	3.37	Out-Patient units
General	O'Connor, 1989	2.268	2.241	2.295		1.52	3.38	In-Patient units
Anxiety	Keijsers et al., 1991	0.847	0.731	0.962		1.52	3.36	Out-Patient units
Standard clients/patients	Kelly, 1991	0.245	0.093	0.397		1.51	3.35	Counselling settings
Depression	Beckham, 1992	0.400	0.271	0.529		1.51	3.36	In-Patient units
Depression	Salvio, 1992	0.239	0.155	0.323		1.52	3.37	Counselling settings
N/A	Fletcher & Nystul, 1993	-1.356	-1.367	-1.344		1.52	3.38	Counselling settings
Obsessive compulsive disorder	Keijsers, Hoogduin, and Schaap, 1994	-0.086	-0.136	-0.036		1.52	3.37	In-Patient units
Depression	Najavits and Strupp, 1994	-0.170	-0.207	-0.133		1.52	3.38	In-Patient units
Depression	Blatt et al., 1996	-0.156	-0.168	-0.144		1.52	3.38	In-Patient units
Alcoholic	Ritter et al., 1996	-0.377	-0.450	-0.304		1.52	3.37	Out-Patient units
Depression	Zuroff and Blatt, 2006	0.224	0.217	0.230		1.52	3.38	Out-Patient units
Depression	Zuroff et al., 2010	0.487	0.474	0.500		1.52	3.38	Out-Patient units
N/A	Murphy & Cramer, 2014	-0.376	-0.422	-0.331		1.52	3.37	Counselling settings
N/A	Brouzos, et al., 2015	3.398	3.256	3.541		1.51	3.35	Counselling settings
Anxiety	Bell et al., 2016	0.194	0.158	0.230		1.52	3.38	Counselling settings
N/A	Klassen, 1979; 2008	0.642	0.556	0.728		1.52	3.37	Counselling settings
Model: Random effects		0.470	0.179	0.762				

Total Effect Size: 0.470 [0.179, 0.762]
Heterogeneity: tau^2 0.656 Q(*df*=29) 101816.962 Het. *p*-Value 0.000 I^2 99.972
Number of Study: 30 Number of data set: 91

3.3.2.2 Publication bias analysis

The basic issue of publication bias is that not all completed studies are published, and the selection process is not random. Hence this phenomenon is considered as *publication bias* or *file drawer problem*. Studies that report relatively large treatment effects are more likely to be submitted and/or accepted for publication than studies which report more modest treatment effects (Song, *et al.*, 2010). Regarding the examining of the publication bias or the file drawer problem, the funnel plot of included studies (Figure 3-4) were computed to suggest the possibility of publication bias. Large studies appear toward the top of the graph and tend to cluster near the mean effect size. Smaller studies appear toward the bottom of the graph and will be dispersed across a range of values since there is more sampling variation in effect size estimates in the smaller studies. Using Egger's test to assess the publication bias which reported the intercept (B0) is 11.07932, 95% confidence interval (-18.10238, 40.26102), with t= .77901, df= 27. The 1-tailed p-value is .22137, and the 2-tailed p-value is .44275 in this systematic review. It resulted in the absence of publication bias and the studies would be expected to be distributed symmetrically.

Figure 3- 4 Funnel Plot of Standard Error by Hedge's g



3.3.2.3 Moderators analyses

To account for the heterogeneity present in the included studies, several univariate categorical moderator analyses were conducted. All subgroup analyses utilized a mixed effect estimator to generate unbiased estimates effect sizes. As Table 3-2 indicates, the following moderators explained statistically significant heterogeneity of the aggregate effect sizes: the

perspectives of the Barrett-Lennard Relationship Inventory, therapeutic units, and subjects' complaints/medical history.

The estimate effect size of each group was reported significantly when the moderators were analysed individually. First of all, the overall test of the moderator of *the perspectives of the Barrett-Lennard Relationship Inventory* resulted in the heterogeneity $Q(2)$= 24.726, p= .000 which indicated the therapeutic relationship would be evaluated in a different level from therapist/health professionals (MO), clients/patients (OS) and observers' (Obs) view. However, many studies were focused on the characteristics of the perceived relationship from the client/therapist's perspectives but there were only 5 studies that probed the therapeutic relationship from the therapists' and observers' views (Barrett-Lennard G. , 1962; Bell, Hagedorn, & Robinson, 2016; Keijsers, Hoogduin, & Schaap, 1994; Hansen, Moore, & Carkhuff, 1968; Murphy & Cramer, 2014). For example, Murphy and Carmer (2014) used the form MO and OS to investigate the mutuality of Rogerian therapeutic condition experienced by the clients and therapists (Murphy & Cramer, 2014). Hansen, Moore, and Carkhuff (1968) conducted the study with the use of form OS and Obs of the B-L RI (Hansen, Moore, & Carkhuff, 1968). Hence, this moderator significantly explained some of the heterogeneity across the studies and placed a research direction when screening the studies if conducting a meta-analysis investigating the therapeutic relationship measured by multiple instruments in the future.

Secondly, the overall test of the moderator of *the units* reported the heterogeneity $Q(2)$= 15.847, p= .000 which also addressed the different correlation of the therapeutic relationship and outcome between counsellor-client and mental health professional-patient relationships. For example, the 36 data sets collected in the counselling settings reported a small decreasing effect on the therapeutic relationship and clients' outcome. It could be the reason that 15 of the 36 effect sets were extracted from Fletcher and Nystul's original study (1993) which compared the client's responses and attitudes towards the blind and sighted counsellors and it resulted in no significant difference in the clients' perception change towards both the blind and sighted counsellor (Fletcher & Nystul, 1993). However, the in- and out-patient units reported an effect on the therapeutic relationship and outcome.

Lastly, the overall test of the moderator of *the subjects' complaint or medical history* resulted in the heterogeneity $Q(5)$= 80.496, p= .000 which also discovered a significant effect

between the therapeutic relationship and the clients/patients who experienced chronic schizophrenia, depression and anxiety. For example, two studies used the Barrett-Lennard Relationship Inventory in the out-patient psychiatric clinics (Beckham, 1992; Lynch, McGrady, Nagel, & Wahl, 2007) for increasing the remaining rate of the clients and evaluating health providers' attitude towards the clients. This moderator analysis by *the subjects' complaint or medical history* targeted a possible population which the therapeutic relationship could have some effect. Although the result of this analysis did not indicate the casual effect between therapeutic relationship and the clinical improvement of the specific populations, the suggestion of increasing the perceived therapeutic relationship for the purposes of enhancing patients' prognosis implied clearly.

Table 3- 2 Statistically Significant Univariate Moderator[a]

Moderator variables	Number of data sets in analysis	Effect sizes (*g*)	95% confidence interval [lower bound, upper bound]	Descriptor for effect size[b]	Heterogeneity (total between) Q-value	*df* (Q)	*p*-value
B-L RI perspectives							
Other-to-Self	81	0.058	[-0.110, 0.226]	trivial			
Me-to-Other	6	0.098	[-0.112, 0.308]	trivial			
Observation	1	0.416	[0.383, 0.450]	small increase			
Overall	*88*	*0.395*	*[0.363, 0.428]*	*small increase*	*24.726*	*2*	*0.000*
Units							
Counselling settings	36	-0.331	[-0.653, -0.009]	small decrease			
In-patient units	31	0.353	[0.035, 0.671]	small increase			
Out-patient units	32	0.344	[0.259, 0.429]	small increase			
Overall	*88*	*0.303*	*[0.223, 0.383]*	*small increase*	*15.847*	*2*	*0.000*
Subject's complaint/medical history							
Anxiety	4	0.406	[-0.030, 0.843]	small increase			
Chronic schizophrenics	16	0.615	[0.373, 0.857]	moderate increase			
Depression	24	0.167	[0.056, 0.277]	trivial			
Depression & Anxiety	3	1.107	[0.877, 1.338]	large increase			
Other complaint	13	0.204	[-0.501, 0.908]	small increase			
Unknown	28	-0.545	[-0.904, -0.187]	moderate decrease			
Overall	*88*	*0.325*	*[0.239, 0.412]*	*small increase*	*80.496*	*5*	*0.000*

a. Mixed effects analysis
b. Cohen, 1988; Sawilowsky, 2009

3.4 Discussion and limitation

3.4.1 The studies using the Barrett-Lennard Relationship Inventory subscales

The Barrett-Lennard Relationship Inventory (B-L RI) has been applied in various studies for many proposes with different formats. Although 29 studies with 88 independent effect samples yielded an aggregate effect size *g* of .449 resulting in a near-medium effect size (Cohen, 1988), the majority of the studies studying in the correlation of the therapeutic relationship and the clients/patients' outcomes using single and more subscales of the B-L RI as one of the joint instruments were screened out in this meta-analysis. Only 29 studies which looked into the relationship between the therapeutic relationship and the outcome and provided the overall score of the B-L RI were remained for the further investigation in the meta-analysis.

However, the studies using one and more subscales of the B-L RI still provided significant contributions to the field. For example, there were 212 of the excluded 220 studies that were evaluating the level of empathy in the therapeutic relationship with the empathy-scale of the B-L RI. Olson (1995) conducted a correlation study to evaluate the relationship between nurse-expressed empathy, patient-perceived empathy and patient's distress. This study, sampled 140 registered nurses and patients in the medical settings, used the empathy subscale of the B-L RI and the Multiple Affect Adjective Checklist to examine the level of empathy and the correlation between empathy and patient's outcome (Olson, 1995). Chu and Tseng (2013) used a modified 14-item empathy subscale to investigate the effect of the perceived empathy on the orthopaedic patients' health literacy in the hospital in Taiwan (Chu & Tseng, 2013). It represents each therapeutic condition proposed by Carl Rogers (Rogers C. , 1957) could be considered individually as one of the indicators for the change of the clients/patient's outcomes.

Firstly, empathy. Elliot *et al.* (2018) addressed that empathy is a relatively strong factor of the therapeutic outcome which endorsed with a mean weighted $r = .28$ ($p < .001$; 95% confidence interval: .23 and .33; equivalent of $d = .58$) in the updated meta-analysis report. There were 27 of the 82 independent samples used the empathy-scale of B-L RI as one of the measuring instruments in the meta-analysis of empathy-outcome study (Elliott, Bohart, Watson, & Murphy, 2018). Secondly, *level of regard* and *unconditionality of regard*. There were 26 of 64 independent samples in Farber *et al* (2018) that were evaluating the relationship between *unconditional positive regard* and the subjects' outcomes with the use

of the *level of regard* and *unconditionality of regard* subscales in the B-L RI. With the result of the Hedge's *g* of .36, *level of regard* and *unconditionality of regard* placed as a significant component in the therapeutic relationship which would lead to improved subjects' clinical outcomes (Farber, Suzuki, & Lynch, 2018). Lastly, *congruence*. There were 7 of 21 independent samples that resulted in a mean weighted $r = .23$ ($p < .001$; 95% confidence interval: .13 and .32; equivalent of $d = .46$) in the meta-analysis study of the relation of congruence with psychotherapy improvement (Kolden, Wang, Austin, & Chang, 2018). These three meta-analysis studies not only evidenced the sensitivity and accuracy of the B-L RI measuring the level of human relation for the investigation of the clinical outcomes, but also provided the evidenced-based reports on the correlation of the outcome and the individual therapeutic conditions in the person-centred therapeutic relationship.

3.4.2 The wider applications of the Barrett-Lennard Relationship Inventory

The Barrett-Lennard Relationship Inventory was noticed as a multi-purposed instrument in the process of systematic review. There were 61 of 136 screened studies that investigated the counsellor/health professional's training (n=7), scale developments (n=17), teacher-student relationship (n=13), romantic/partner/marital relationship (n=16), family/parent-children relationship (n=5) and friendship (n=3) were excluded from the systematic reviews (Figure 3-3). Taking the training contexts as an example, 7 studies employed the B-L RI as the training guideline of the therapeutic relationship skills (Meadow, Donnan, & Belcher, 1971; Reddy, 1970; Simmons, Robie, Kendrick, Schumacher, & Roberge, 1992; Hamilton, 1996; Karr & Geist, 1977; Kendrick, Simmons, Richards, & Roberge, 1993; Lanning & Lemons, 1974). For instance, Simmons' report (1992) indicated the four humanistic skills proposed by Carl Rogers: *empathy, level of regard, unconditionality* and *congruence* had been comprised in the first-year resident programme. It concluded the humanistic skills not only affected the residents' professional development but also their personal growth. However, Simmons stated the acquisition of humanistic skills could be taught and practiced in various experiential and learning approaches. For instance, learning in a small group setting would enhance the first-year residents' self-reflection on empathy and subsequently forming it as a tool for themselves, others and patients (Simmons, Robie, Kendrick, Schumacher, & Roberge, 1992). Meadow *et al.* (1971) investigated the effectiveness of a three-day workshop in facilitative communication in which 25 participants and 5 trainers participated in evaluating with the *Me-to-Other* form (MO-G-64) of the B-L RI. It discovered a significant change ($p > .05$) during the workshop (Meadow, Donnan, & Belcher, 1971). Karr and Geist

(1977) also gave a report to investigate the correlation between the facilitation in supervision and the trainees' facilitation in therapy was significant. The level of the mental health professionals' warmness, level of empathy and genuineness would affect the patients' decision, and the early stage of the therapeutic relationship in psychiatry has concluded that there was a clear correlation to the dropping-out rate (Beckham, 1992). Therefore, although there were 29 studies remained the studies using the whole scale of the B-L RI in measuring the therapeutic relationship was considerably less than expected, the 136 studies still gave a lens of the multi-application of the B-L RI in the contexts of relationships evaluations. It reinforced the direction of this PhD research which is to apply the Barrett-Lennard Relationship Inventory in the Taiwanese mental health professionals' person-centre therapeutic relationship training.

3.5 Conclusion

The Barrett-Lennard Relationship Inventory has successfully translated Carl Rogers' person-centred theory into the psychotherapeutic, clinical and counselling domains. The inventory has given precise indicators measuring relationships quantitatively in various areas, such as therapist-client, health provider-patient, family, romantic, teacher-student relationship, etc. From the studies in this review and the result of the meta-analysis, it not only displayed a significant effect between a Barrett-Lennard-Relationship-Inventory-measured therapeutic relationship and the clients/patients' outcome, but also evidenced the person-centred relationship and which could be applied in other fields, such as the educational/training modules for the counsellors/mental professionals' development. However, there were less studies that applied the Barrett-Lennard Relationship Inventory in the clinical trials or investigations as an indicator of the therapeutic relationship skills acquisition of the health/mental health professionals. In psychiatry, the characteristics of clients, for example, schizophrenics, would be considered non-motivation, silence, non-exploration and intense subverbal interaction (Gendlin, 1962). For mental health professionals to initiate the treatment and induce the client compliance of psychiatric medications and psychotherapy, the hypothesis of Carl Rogers' therapeutic conditions would enhance the therapeutic relationship (Rogers, 1957; 1959).

A significant empirical report in medical education applied the therapeutic relationship properties of an American humanistic psychologist Carl Rogers in the measurement of the humanistic skills training for the first-year general medical residents (Simmons, Robie, Kendrick, Schumacher, & Roberge, 1992). Another qualitative study used the Barrett-Lennard Relationship Inventory as the interview protocol to interview 37 female incest victims who had sought counselling within the previous 3 years and collect the information about the clients; discourse of incest and perceptions of therapists' characteristics and reactions (Josephson & Fong-Beyette, 1987). These studies supported Rogers' person-centred therapeutic relationship conditions which could be a good-fit indicator for the counsellors/health professionals' therapeutic relationship skills training. Moreover, a meta-analysis report in the studies of the person-centred approach also has shown person-centred theory to be considered an effective training programme (Cornelius-White, Motschnig-Pitrik, & Lux, 2013). The person-centred theory has been evidenced the suitability of conducting inter-cultural and inter-disciplinary investigations (Cornelius-White, Motschnig-Pitrik, & Lux, 2013). For instance, the development of professional practice and educational methods,

across diverse fields such as counselling, social pedagogy, and learning for special needs, etc. (Murphy & Joseph, 2018; Liao, Murphy, & Barrett-Lennard, 2018).

Performing an excellent health and mental healthcare requires the communication skills, professionalism, ethics, advocacy and accountability of a health professional. Physicians' competency in developing and maintaining positive interpersonal relationships is directly relevant to clients' prognosis (Stephien & Baernstein, 2006; Dale, Bhavsar, & Bhugra, 2007; Shaprio, 2008; Bayne, 2011). Research indicated the focus points of contemporary medical education have shifted from gaining the knowledge to the physical organs to the knowledge to patents (World Federation for Medical Education, 2003). Therefore, the goal and vision of medical education across the world is to elevate the importance of these skills in modern medical education to train excellent health professionals to become medical experts, communicators, collaborators, managers, health advocates, scholars and professionals (Harden, Crosby, & Davis, 1999; Frank, et al., 2005).

Therefore, this PhD research adopted Carl Rogers' *person-centred therapeutic relationship* and employed the four therapeutic conditions of *Barrett-Lennard Relationship Inventory* as the theoretical framework for the PhD research design. For example, preparing the comprehensive version of the B-LRI for the Mandarin-Chinese speaking community, designing an intensive training workshop as the intervention with the use of new technology mPath (Slovák, et al., 2015; Murphy, et al., 2019) for the acquisition of therapeutic relationship competence of the Taiwanese mental health professional. Finally, conduct the interview to understand the transferability of Carl Rogers' person-centred therapeutic relationship in the Mandarin speaking community, the effectiveness of the intervention and how the participants acquiring the therapeutic relationship competence in the intervention.

Chapter 4 Research Design: methodological approach and methods for the study

4.1 Introduction

The works of literature in the prior chapter have revealed the insufficient study of the therapeutic relationship training for the mental health professional training and represented the urgency of the improvement of mental health professional's learning in Taiwan. Carl Rogers' therapeutic conditions in the person-centred theory, which addresses a clearer definition of the therapeutic relationship, has been successfully transferred and adapted into various disciplines, such as schools, families, romantic relationships, organisations, etc. Carl Rogers' person-centred theory and the Barrett-Lennard Relationship Inventory has been successfully applied in other fields. In this PhD research, Carl Rogers' person-centred theory and the Barrett-Lennard Relationship Inventory were considered as the backbone of the research design.

Regrading innovating learning, many of the studies in health education look into the information and communications technology influencing the students' clinical learning nowadays (Forbes, et al., 2016; Arguel & Jamet, 2009; Chan, 2010; Duncan, Yarwood-Ross, & Haigh, 2013; Kelly, Lyng, McGrath, & Cannon, 2009; Johnson, et al., 2010; Eeckhout, Gerits, Bouquillon, & Schoenmakers, 2016). For example, one of them has found that video recording with peer feedback in real-time consultation is in favour in contemporary medical education with UK medical students (N=162) during training (Eeckhout, Gerits, Bouquillon, & Schoenmakers, 2016). It also indicated that self-reflecting on the non-verbal behaviours, such as facial expression, un-purposive moment, body position and unnecessary giggling, would improve the communication skills of the medical students. In the experimental group (N=134) in Park's study (2018) reported a significant change of communication skills through using video training (Park & Park, 2018).

Hence, this PhD research was designed as a mixed-method study which consisted of three studies to evaluate the effectiveness of the Taiwanese mental health professionals' learning the person-centred therapeutic relationship in a person-centred-theory-based workshop with the use of new technology mPath. mPath was used as a help learning technology for the

competence acquisition of the Taiwanese mental health professionals. The technology mPath has been addressed in Chapter 7. In the following chapter, it has not only listed and introduced the research process but also the researcher's research paradigm, such as epistemology and ontology would be addressed to give a rational of the mixed method research design.

4.2 Research paradigm: Pragmatism

A research paradigm could indicate the common beliefs and agreements of the researchers regarding of about how problems should be understood and addressed (Kuhn, 1962; Orman, 2016). For example, the research paradigm includes three parts: firstly, ontology which the researcher defines what the reality is. Secondly, epistemology addresses how the researcher can know the reality or knowledge. Lastly, methodology which shows how the researcher find out the research questions (Guba, 1990) after the researchers decided in which approach their can use to get knowledge. The researcher's ontology produces a holistic view of how the knowledge is perceived and how the researcher sees themselves in relation to the knowledge. Subsequentially, the researcher would be able to conduct the methodological strategies to discover/answer the research assumptions (Crotty, 1998; Easterby-Smith, Thorpe, & Jackson, 2012; Scotland, 2012).

In this PhD research, I have considered myself as a pragmatist with the ontology which I believe the reality can be constantly examined, renegotiated, debated, re-tested and modified. From my working experience as a nurse in the emergency department, I have learnt to adapt the medical approach I took to meet the patient's circumstance. I paid attention on not only the patients' chief complaint of their physical sickness but also their emotional need and the interaction between the hospital and medical professionals. Pragmatism allowed me to gather various types of evidence and interpret a phenomenon objectively, cautiously and holistically.

While being aware of the current climate and challenges in the mental healthcare in Taiwan, I found the epistemology in pragmatism sit well in the idea that the best method is once that solves problems. Changing the current conditions in the mental healthcare in Taiwan has been placed as an underlying goal. Finding out the answer to the research questions has become the means for achieving the goal. Therefore, I've adapted the mixed-method approach as the methodology of this PhD project. A design-based research activity which were divided into three studies to exam, evaluate and answer the research questions, and finally, propose a recommending approach to the future application in the mental healthcare education: Firstly, preparing the measuring instrument for the intervention. A Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory was translated and validated with the analytical methods *exploratory* and *confirmatory factor analysis*, and it was also to investigate the possibility of transferring the concept of Carl Rogers' person-centred

therapeutic relationship into the Mandarin-speaking culture. Secondly, conducting a quasi-experimental study, which facilitated an intensive course for the participants, was to acquire the person-centred therapeutic relationship competence with the use of helping learning technology mPath. The effectiveness of learning was investigated with three measurements: *before, during* and *two-weeks after* the intervention. In the last study, the participants in the experimental group would be interviewed to explore how the Taiwanese mental health professionals acquired the person-centred therapeutic relationship skills through the use of the technology-based mPath. All the data and the interviews were transcribed and analysed with the thematic analysis technique. The hypotheses of this PhD research were:

H_1 *Carl Rogers' person-centred therapeutic relationship could be interpreted and comprehended by the Mandarin-Chinese speakers through a full Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory (B-L RI:MC)*

H_2 *The person-centred therapeutic relationship competence could be acquired by the Taiwanese mental health professionals, such as doctors, nurses, clinical psychologists and occupational therapists, through an intensive workshop.*

H_3 *mPath enhances the learning of the person-centred therapeutic relationship skills in psychiatry.*

These studies reported the results of three sets of the evidence-based data and revealed how the Taiwanese mental health professionals learned the person-centred therapeutic relationship competence through the use of new technologies. It aimed to provide the readers with an insight of the Mandarin-Chinese speakers comprehending the concept of Carl Rogers' person-centred therapeutic relationship. The application of the person-centred therapeutic relationship and the feasibility of using the technologies for the clinical skills learning in psychiatry would be discovered and discussed in this PhD research. The methods of each study would be described as a collective series of research papers and would be presented separately in Chapter 5, 6 and 7. The ethical approvals, the license of using the original Barrett-Lennard Relationship Inventory, the published version of the publication of the B-L RI:MC and other supporting documents were in the Appendices.

4.3 Study 1: Validation of the Barrett-Lennard Relationship Inventory, Mandarin Chinese Version

The translated Barrett-Lennard Relationship Inventory Mandarin-Chinese version and prepare the instrument of evaluating the level of the person-centred therapeutic relationship for the second study, Therapeutic Relationship Enabling Programme (TREP). The validation of the complete Mandarin-Chinese version would contribute to the development of research and the counselling community. It could be used in future research in some countries in Asia, such as Taiwan, where Mandarin-Chinese is one the spoken language.

4.3.1 Methods

4.3.1.1 Translation: Mandarin-Chinese

To start off the study, the Barrett-Lennard Relationship Inventory Mandarin-Chinese version has been translated by three native speakers who are in the field of Rogerian person-centred counselling and psychotherapy. For the work of validation, the Barrett-Lennard Relationship Inventory Mandarin-Chinese version has been distributed to approximately 640 Mandarin speaking participants to establish its validity and reliability with the factor analysis. The validated Barrett-Lennard Relationship Inventory Mandarin-Chinese version will be potentially used in future research in the majority of Mandarin-Chinese communities. Hence, the validation of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version is essential and significant to contribute to the development of the research and Counsellor community. Language carries not only the context itself but also the culture image, such as history, belief and daily dialects. The challenge of translating the English context into Chinese might increase. Thus, paying attention to the possibility of losing information in translation is supposed to be prioritized by translators. Regarding the possible loss in translation (Liu, 2014; Li, *et al.*, 2010), the Barrett-Lennard Relationship Inventory Mandarin-Chinese version was translated by three native speakers, who specialise in the person-centred counselling and psychotherapy and precisely understand the relevant studies, to retain the original image accurately and generate a better comprehensive translation.

4.3.1.2 Instrument of Distribution:

The translated version of the Barrett-Lennard Relationship Inventory was distributed through the system of online survey─ Bristol Online Survey (BOS), which co-operates with the University of Nottingham.

4.3.2 Prospective Respondents

4.3.2.1 Estimating the number of respondents

Calculating properly the number of participants/respondents in a study may reduce some research errors and it could strengthen the impact of result (Martínez-Mesa, *et al.*, 2014). For example, taking accessing to the prospective respondents of a distributed questionnaire, it has been suggested theoretically to recruit more than 10 individuals for each item in the questionnaire (Tabachnick, 2007). Having a larger target proportion of the sample could present the whole population more accurately. Therefore, this study aimed to recruit more than 640 Taiwanese people as the targeting population who were18 years old or over and Mandarin speaking.

4.3.2.2 Stratified Random Sampling:

Comparing to the simple random sampling, the stratified random sampling was considered as a suitable method to recruit the samples into stratum (Carl-Erik, Swensson, & Wretman, 2003). The stratified random sampling ensures that there is at least one observation picked from each of the strata (Carl-Erik, Swensson, & Wretman, 2003). By stratifying the targeting population, the measurement might be manageable in groups and its representativeness of each group could be estimated. The stratification might give a smaller error in estimation when there is a lower standard deviation in the measurement[1]. Hence, the respondents have recruited through the stratified random sampling: age 18-25, 26-35, 36-45, 46-55, 56-65, and over 66 to validate accurately the Barrett-Lennard Relationship Inventory Mandarin-Chinese version.

[1] (onlinecourses.science.psu.edu., 2015)

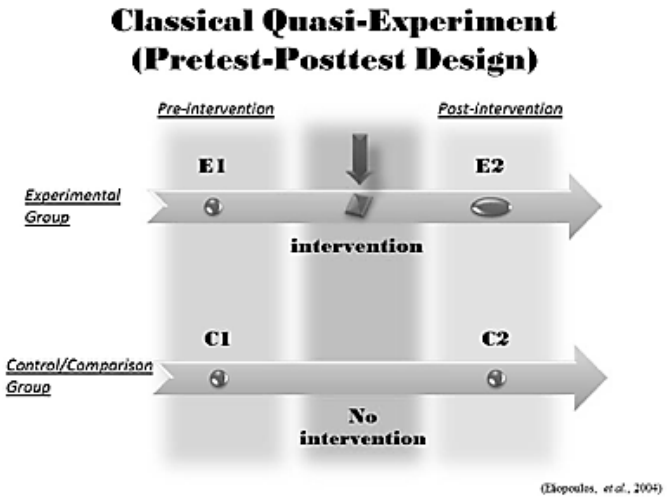
4.4 Study 2: Therapeutic Relationship Enabling Programme

The therapeutic relationship enabling programme (TREP) was designed as a pre-post-test quasi-experiment, which aimed to investigate whether the mental health professionals gained the person-centred therapeutic relationship competence and help the researchers understand how they learned person-centred therapeutic relationship competence through the use of new technologies within the Taiwanese context (see Chapter 6). Neither the further investigations on the previous research nor many studies on helping the mental health professionals developing the person-centred therapeutic relationship competence were established much in psychiatric healthcare. Hence, the result of the Therapeutic Relationship Enabling Programme might help the researchers and educators discover the challenges that the mental health professionals are facing, and subsequently help them design effective learning aids, such as new technologies, to meet the learning need in future. This strategy of the study was not only to investigate the enhancement of Taiwanese mental health professionals' development of the person-centred therapeutic relationship by using new technologies but also to open a discussion about the feasibility of the new technologies as learning tools to Taiwanese medical education in the future.

4.4.1 Pre-posttest Quasi-Experiment

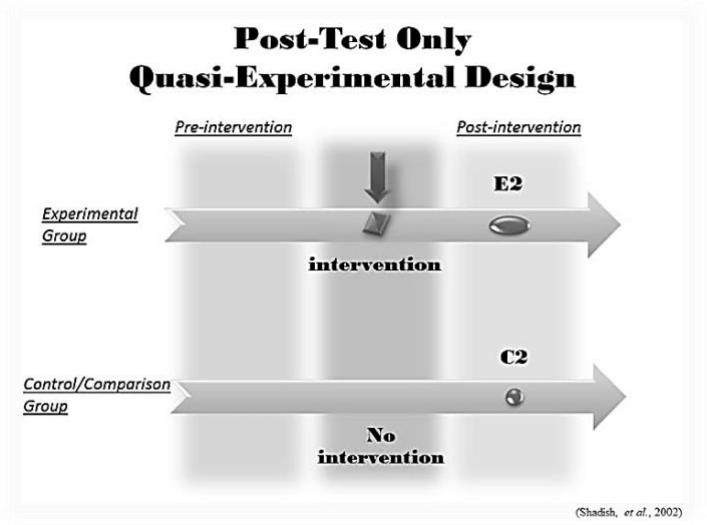
During the participation of therapeutic relationship enabling programme, the participants were required to complete the validated Barrett-Lennard Relationship Inventory Mandarin-Chinese version (B-L RI:MC) to evaluate their skills before and after experiencing the person-centred therapeutic relationship learning, and also they used the technology-based mPath to enhance their practice. Quasi-experiments are the studies which aim to evaluate the interventions without randomization. Quasi-experiments (see Figure 4-1) often aim to demonstrate the causality between an intervention and a result (Eliopoulos, et al., 2004). For example, the laboratorian could design an educational intervention which aimed to decrease the rate of VAP and then compare the figures before and after the intervention if a clinical study is to investigate an upward rate of ventilator-associated pneumonia (VAP).

Figure 4- 1 Classical Quasi-Experiment (Eliopoulos, et al., 2004)



Regarding the pre-posttest design in the study, it is an expansion of the post-test only design (see Figure 4-2) in a non-equivalent group condition (Shadish, *et al.*, 2002). A quasi-experiment often conducted with an experimental group and a control group. The experimental group receives a specific treatment while the control group does not receive any intervention (Shadish, *et al.*, 2002).

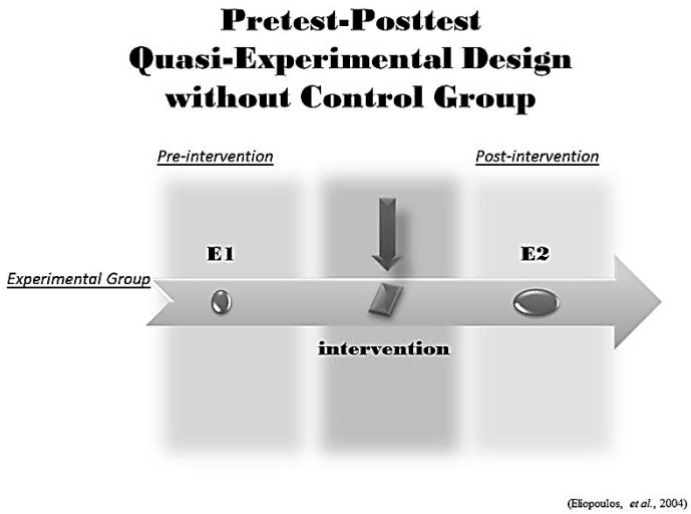
Figure 4- 2 Post-Test Only Quasi-Experimental Design (Eliopoulos, et al., 2004)



Pre-posttest design (see Figure 4-3) is applicable to a quasi-experiment with or without a control group due to a small sample (Eliopoulos, *et al.*, 2004). To be clear, the Therapeutic Relationship Enabling Programme aimed to recruit 48 participants who are Taiwanese mental

health professionals of these, 24 would be in the control group and the other 24 in the experimental group.

Figure 4- 3 Pre-Posttest Quasi-Experimental Design (Eliopoulos, et al., 2004)



Because the population of the Taiwanese mental health professionals is less than 5% of the entire population, it may increase the difficulties to recruit a large sample. A pre-posttest quasi-experiment might be feasible and doable for the researcher to evaluate the effectiveness of acquiring the person-centred therapeutic relationship competence by comparing the result of Barrett-Lennard Relationship Inventory Mandarin-Chinese version before and after the Therapeutic Relationship Enabling Programme.

4.3.2 Prospective Participants

4.3.2.1 Estimating an Effective Sample Size

Prior to conducting an experiment or a statistical analysis, estimating the effective sample size for increasing the degree of confidence is one of the primary concerns which researchers would consider (Kelley & Preacher, 2012). The entire population may be too large to recruit, or the process of the measurement is too expensive or time-consuming to proceed. As a result of these limitations, researchers often prefer to recruit a statistical population on the basis of a relatively small amount of sample data (Ellis, 2010).

In this study, it aimed to have 3 Therapeutic Relationship Enabling Programmes in 3 weekends, and 8 participants as the experimental group in each TREP. More than 24 participants in the experimental group and 24 people in the control group in this study. According to the meta-analysis of the effectiveness of helping skills training surveyed by Hill and Lent (2006), the aggregated effect size (d_+) was .89 if conducting a training programme (Hill & Lent, 2006). As the result of the estimation of the effective sample size, the minimum required sample size of the Therapeutic Relationship Enabling Programme will approximately be 26 participants if the desired statistical power level is set at .8 and the probability level at .05. Therefore, the sample size would be sufficient with the recruitment of 48 Taiwanese mental health professionals as participants, and 24 of these would be the experimental group and 24 would be the control group.

4.3.2.2 Snowball Sampling

In 2014, there were 373 licensed mental health professionals who have been working in the psychiatric settings according to the Annual Statistics by Ministry of Health and Welfare[2] (Ministry of Health and Welfare Taiwan, 2015; Ministry of Health and Welfare Taiwan, 2014), and there were approximately 1,201 students who have been studying, learning and practising psychiatric knowledge in medical schools according to the statistical data collected by the University Admissions Committee Taiwan[3] (University Admissions Committee Taiwan, 2014). Comparing to the whole population in Taiwan (23,496,813 people), the Taiwanese mental health professionals are considered as a rare population. At this stage of conducting the Therapeutic Relationship Enabling Programme, the participants will be recruited from the pool of Taiwanese mental health professionals, such as psychiatrists, psychiatric nurses, clinical psychotherapists, occupational therapists, and the students who have learned psychiatric knowledge in the psychiatric settings/schools.

[2] *Ministry of Health and Welfare, Taiwan* and its mission is to promote the health and well-being of all citizens and to assure quality, increase efficiency, distribute resources equally, take care of social vulnerable groups, establish a welfare society, and contribute to the international affairs.
Address: No.488, Sec. 6, Zhongxiao E. Rd., Nangang Dist., Taipei City 115, Taiwan (R.O.C.)
Tel: +886-2-8590-6666 (http://www.mohw.gov.tw/EN/Ministry/Index.aspx)

[3] *University Admissions Committee, Taiwan* and its mission is to assure fairness of the annual recruitment for the prospective university students.
Address: No.1, Daxue Rd., East Dist., Tainan City 70101, Taiwan (R.O.C.)
Tel: +886- 6-2362755 Email: uac@mail.ncku.edu.tw (http://www.uac.edu.tw/)

To identify those experts who practice in psychiatric settings, the snowball sampling would be the research method to access the potential participants (Voicu & Babonea, 2011). The snowball sampling, named referral sampling, is often used to target the hidden populations, such as a particular group of people which is less than 2% of the entire population (Voicu & Babonea, 2011). It allows researchers to use the participant's social networks to refer to the prospective participants who could potentially contribute to the research (Heckathorn, 1997). However, this study aimed to recruit 48 Taiwanese mental health professionals, who were over 18 years old and would be divided into the 24-people control group and 24-people experimental group, to evaluate the development of the person-centred therapeutic relationship competence. For example, the students in medical schools and the psychiatric nurses in the medical network might be the potential participants. Therefore, recruiting Taiwanese Mental health professionals using snowball sampling might help to enrol more participants subsequently in their networks.

4.3.3 Provisional Schedule of Therapeutic Relationship Enabling Programme and Interview

The Therapeutic Relationship Enabling Programme (TREP) was targeting to recruit more than 24 people in the experiment group and another 24 people in the control group. It was planned to hold 3 Therapeutic Relationship Enabling Programmes in 3 scheduled weekends due to the capacity of the venue. Thus, there would be more than 8 people from the experimental group to participate in each Therapeutic Relationship Enabling Programme. Following the design of Carl Rogers' person-centred approach, the schedule of the programme (Table 4-1, p.58) could be amended by the suggestion of the participants (Barrett-Lennard G. , 2018).

Table 4- 1 Provisional Schedule of Therapeutic Relationship Enabling Programme and Interview

Time/Day	Day 1	Day 2	Day 3		Day 17
10AM-11AM		Empathy & Discussion	Unconditional Acceptance & Discussion		Practice (mPath)
11AM-12PM		Practice (mPath)	Practice (mPath)		
Break		Break			
1PM-2PM		Positive Regard & Discussion	Congruency & Discussion		
2PM-3PM		Practice (mPath)	Practice (mPath) **B-L RI:MC (Test 2)**	Two weeks later	**B-L RI:MC (Test 3)** In-depth Interview (1 hour)
7PM-8PM	Introduction **B-L RI:MC (Test1)** Discussion Practice (mPath)				

4.4 Study 3: Interview study of experience of using and learning with mPath

Two weeks after the Therapeutic Relationship Enabling Programme (TREP), the participants would be invited to have an in-depth interview which allows the researcher to obtain a further understanding on how they acquired the person-centred therapeutic relationship competence during operating mPath (see Chapter 7.3.1).

4.4.1 Methods

4.4.1.1 In-depth Interview

Interviewing is one of the qualitative research methods performed by researchers to collect and record participants' comments towards sociological phenomenon. It is set up as a face-to face conversation between researchers and participants in interviews (Babbie, 2001). The interviewer, who is a professional or trained researcher, poses questions to the interviewees and works directly with them. Unlike quantitative surveys, the interviewer has the opportunity to probe or ask follow-up questions. By following the interviewee's explicit response, the interviewer observes and interacts to gain a better understanding of how the participants think and the meaning of the central themes in their life and world (Bjørnholt & Farstad, 2012). Generally, the types of interview are *semi-structure interview*, *in-depth interview*, and *group interview*. The semi-structure and in-depth interviews are different from the group interview as they are operated as an individual interview between one participant and one interviewer (Moore, 2014).

In-depth interviews, different from semi-structured interviews, give the participants much more space to express and describe the answers. Instead of restricting the participants' response, the conversations in in-depth interviews are flexible and continuous (Babbie, 2001). Being an in-depth interviewer, the researcher has no specific set of questions which must be discussed with the interviewees but must map the potential questions and plan in mind to process the conversational discussion naturally and fluently (Bjørnholt & Farstad, 2012). Moreover, the interviewers are encouraged to use the techniques of listening and asking questions to clarify and follow-up the participants' response. The interviewers should be sensitive to keep the boundaries between two people. During the interview, the interviewers are advised to be aware of misleading the participant by questions, making the participant comfortable, but not interrupting the conversation (Seidman, 1998). The interviewers are supposed to allow their interviewees to do most of the talking, and it is the

interviewee's answers to the initial questions which would shape the subsequent questions (Babbie, 2001).

One of the aims of this PhD research is to understand how the Taiwanese mental health professionals learned the person-centred therapeutic relationship competence by using mPath (see Chapter 7). To deepen the evaluation of the investigation, in-depth interviews would be a suitable means to collect the significant information of the mental health professionals' learning, and it could be an essential part of the entire research process.

4.4.1.2 Thematic Analysis

Thematic analysis is one of the most applied analyses in the qualitative research. It offers the researcher to identify, analyse and report patterns within qualitative data (Braun & Clarke, 2006). Although the thematic analysis is widely used nowadays, it has only begun to be recognized as one of the firm methodologies, such as the interpretative phenomenological analysis (Clarke & Braun, 2013). Comparing with other methodologies, the thematic analysis is more flexible to suit a wide range of research interest and theoretical perspectives. To be more specific, the thematic analysis enables the researcher to work on the research and its questions by understanding the representation and construction of particular phenomena in the transcriptions of a conversation. Regardless of the size of the datasets, the thematic analysis is available to generate data-driven or theory-driven analyses (Clarke & Braun, 2013). Thus, the thematic analysis does not only simply count phrases and words, but also identifies explicit and implicit information in the collected data (Guest, MacQueen, & Namey, 2012).

According to the six phases of thematic analysis suggested by Braun and Clark, the process of analysis is recursive (Braun & Clarke, 2006). There is no restricted order to follow when operating the six phases (Braun & Clarke, 2006). Supposed transcriptions of in-depth interviews have been completed, *familiarisation with the data* would be the first phase of the thematic analysis. The researcher would read the data over and over again to become familiar with what the data entails, and the researcher should pay specific attention to patterns which occur. Secondly, *coding* is a common approach in any method of analysis. The data would be coded by documenting where and how the patterns happened, which would answer the research questions. Thirdly, the researcher would start to *search for themes* by following the

lead in the codes. It is an essential stage to develop a list of provisional themes for further analysis. Fourthly, *reviewing the themes* is to confirm the completeness of the analysis. Examining the coherence of the prospective themes would enable the researcher to answer the research questions. Moreover, confirming *the definitions and names of the themes* would provide a comprehensive analysis of understanding the data. Finally, presenting the reader a meaningful contribution of the investigation by *writing-up* a coherent and persuasive description about the data would be an integral phase in the process of the whole analysis. It would enhance the research result comprehensively. (Braun & Clarke, 2006, p. 93; Clarke & Braun, 2013)

Therefore, the thematic analysis would offer the researcher to get a detailed perspective of their studies. Similarly, the thematic analysis might reveal the comprehension of how the participants, Taiwanese mental health professionals, acquired the person-centred therapeutic relationship competence during their use of the technology mPath as the learning instrument.

Chapter 5 Preparing the evaluating instrument for the person-centred therapeutic relationship in the Mandarin-speaking world

5.1 The purpose of this study

This paper reported the first study of the PhD research which determined the factor structure of the translated Barret-Lennard Relationship Inventory through using the factor analysis techniques. Nowadays, the American Psychological Association and the Chinese Psychological Society have been working towards greater integration of their two regulatory and professional practice systems. Clinically, it is significant for the practitioner field in the Mandarin-Chinese speaking world as it allows for the assessment of the Rogerian therapeutic relationship qualities to be assessed using both the 64- and 40-item version of the scale.

Methodologically, this was the first study to determine the factor structure of the scale using the confirmatory factor analysis as all previous studies have used exploratory factor analysis or principal component analytic techniques. The permission of the use of the original Barrett-Lennard Relationship Inventory has been licensed by John Wiley & Sons Limited have been attached in the appendix. The research ethical approval form, information sheet, consent form and translated scales, including the OS-64, MO-64, Obs-64, OS-40, MO-40 and Obs-40, have attached in the section of Appendix as well.

This study would provide an insight that the concept of the therapeutic relationship becomes more accessible for the Mandarin-Chinese speaking world, and also supported the intercultural transmission of ideas.

5.2 Original Manuscript

The publication is extracted from this PhD dissertation.

- As the published works thesis includes copies or offprints of journal articles, book chapters etc. which already have page numbers, the pages of the publications themselves will not be included in the pagination sequence of the dissertation.
- The font Calibri (Body) in this manuscript was set to differentiate itself from the dissertation.
- The tables, figures and page numbers are re-labelled and re-numbered for the systematic presentation in this PhD dissertation. Please refer to the published journal paper for the citations.
- The reference of this manuscript is collected in References (p.117).
- The word count of the manuscript is not included in the PhD dissertation.

(Please find the published version in Appendix F)

A Confirmatory Factor Analysis of the Mandarin-Chinese Version of the Barrett-Lennard Relationship Inventory

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Published online: 18 Jan 2018.

To cite this article: Faith Liao, David Murphy & Godfrey Barrett-Lennard (2018) A confirmatory factor analysis of the Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory, *Asia Pacific Journal of Counselling and Psychotherapy*, 9:1, 20-45

To link to this article: https://doi.org/10.1080/21507686.2017.1419269

A Confirmatory Factor Analysis of the Mandarin-Chinese Version of the Barrett-Lennard Relationship Inventory

Abstract

The aim of this study was to translate and provide an initial validation for a full Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory (B-L RI:MC) to include forms Other toward Self-64 (OS-64) and Other toward Self-40 (OS-40) for use in the Mandarin-Chinese research and clinical contexts. B-L RI:MC OS-64 was translated by a bilingual panel and subsequently administered to 658 Mandarin-speaking Taiwanese respondents online using an age-stratified random sampling strategy. Through both the factor analytic strategy of principle component analysis (PCA) and confirmatory factor analysis (CFA), the reliability and construct validity were investigated. The final results support the original four subscale dimensionality of the inventory. B-L RI:MC OS-64 showed Cronbach's alpha was .96 and KMO= .97. PCA using Varimax rotation yielded a four-factor model supporting the sub-scales: level of regard, empathic understanding, unconditionality of regard and congruence, which explained 49.911% squared loading of the total variance. B-L RI:MC OS-64 and OS-40 were supported by the structures in CFA, which displayed NFI= .95 and .95, CFI= .97 and .96, IFI= .97 and .96, and RMSEA = .092 and .091, indicating a promising construct validity. In conclusion B-L RI:MC OS-64 and OS-40 versions can be considered appropriate for measuring the Rogerian therapeutic relationship conditions within a Mandarin speaking community.

Keywords: Barrett-Lennard Relationship Inventory, Mandarin-Chinese Version, Confirmatory Factor Analysis, Person-Centred Theory

A Confirmatory Factor Analysis of the Mandarin-Chinese Version of the Barrett-Lennard Relationship Inventory

Introduction

The Barrett-Lennard Relationship Inventory (B-L RI) is the most well-known questionnaire developed specifically for evaluating the interpersonal therapeutic relationship as defined by Rogers (1957). The scale was originally developed by Barrett-Lennard when working in the University of Wisconsin where Carl Rogers and his colleagues carried out studies into psychotherapy with people with a diagnosis of schizophrenia (Thorne & Sanders, 2013, p. 112). As a pioneer of contemporary psychological research, Rogers hypothesized there to be 4 conditions in therapeutic relationships: *empathic understanding, positive regard, congruence* and *unconditionality of regard* (Barrett-Lennard, 1959a, 1959b, 1962; Rogers, 1957). Acknowledging the positive impact of Carl Rogers' theory, the Barrett-Lennard Relationship Inventory has been gradually adapted into different forms, such as the full 64-item form and the basic 40-item form (Barrett-Lennard, 1978, 2015, p.26-34, p.93-93; Gurman 1977). It has been applied worldwide in evaluating different kinds of relationship, such as therapist-client relationship, immediate family, close peer friend relationship and teacher-student relationship (Barrett-Lennard, 2015, p27-31; Berzon, 1964; Hollenback, 1961, 1965; Snelbecker, 1967; Walker & Little, 1969).

The basic 40-item form, which was reduced from the full 64 item version, has been adapted to measure relationships from different perspectives which come from 'other toward self' (OS), 'myself toward other' (MO-40), 'observer' (Obs-40), 'teachers toward students' (MO-40:TS), 'students toward teachers' (OS-40: T-S), 'other toward young children' (OS-40CH), 'other in close relationship toward self' (OS-LR-40) and relationships between 'groups/organizations' (GS-40) (Barrett-Lennard, 2015, p116-148). Although the basic 64-item form has been used in more 100 published studies, Barrett-Lennard stated that the 40-item versions practically facilitate the conceptual common origins from the longer forms (Barrett-Lennard, 2015, p61).

There is a significant amount of evidence that points towards the positive relation between the therapeutic relationship conditions measured by the Barrett-Lennard Relationship Inventory with successful psychotherapy outcomes. This has been shown across a wide range of patients experiencing various forms of psychological distress, including adult out-patient services for depression in clinical trials (Ablon & Jones, 1999; Blatt & Zuroff, 2005; Zuroff & Blatt, 2006), treatment studies for depression (Watson & Geller, 2005; Watson, Gordon, Stermac, Kalogerakos, & Steckley, 2003), youth and family therapy (Karver, Handelsman, Fields, & Bickman, 2006), severe psychosis (Hewitt & Coffey, 2005; Rogers, Gendlin, Kiesler, & Truax, 1967), and within general counselling (Archer, Forbes, Metcalfe, & Winter, 2000). For this reason, there is ample justification to consider the effects of the therapeutic relationship conditions as set out by Rogers in Asian culture. However, before this can be done effectively the scale for measuring the therapeutic relationship conditions needs to be translated and validated.

The Barrett-Lennard Relationship Inventory has been either fully or partially translated into 20 languages: American Sign, Arabic, Mandarin Chinese (partially), Czech Republic, Dutch, French, German, Greek, Hebrew, Iranian, Italian, Japanese, Korean, Malaysian, Polish, Portuguese, Slovak, Spanish, Swedish, and Turkish since 1964 (Barrett-Lennard, 2015). The previous Mandarin-Chinese version was only partially translated encompassing just 14 items of the empathic understanding sub-scale of the full Barrett-Lennard Relationship Inventory 64-item version. These 14 items were initially translated in 2006 by Chu and Tseng (2013) to develop an inventory for evaluating the quality of relationships in medical care aiming to help improve relationships within public health work in Taiwan. Their study showed that empathy as measured by the Barrett-Lennard Relationship Inventory was a relevant factor in considering the health literacy and understanding information; with higher levels of physician empathy being related to higher health literacy and understanding information in patients. This study provides an important link between the therapeutic relationship condition empathic understanding with improved health outcomes in an Asian context.

There is a growing need for effective, culturally sensitive, psychotherapies as the reported level of mental health problems is increasing worldwide. It has been reported that 1 in 4 people in Taiwan, a country with a 23 million population (Table 1) located in the Asia Pacific

region, are suffering from common mental health problems, such as depression and anxiety disorder (Department of Census, Directorate General of Budget Accounting & Statistics [DGBAS], 2016a, DGBAS, 2016b, DGBAS, 2016c, DGBAS, 2016d; Department of Household Registration Affairs, 2016; Fu *et al.*, 2013; Ministry of Health and Welfare Taiwan, 2015). The World Health Organization (WHO) reported that the number of registered psychiatrists in South East Asia and Africa has increased 25% more than the number in 2011 according to the report of the Mental health Atlas in 2014 (World Health Organisation [WHO], 2014). The population of other mental health professionals, such as psychiatric nurses, has grown by 37% (WHO, 2014, p.53). In the Mandarin speaking world, there is currently a surge in the development of psychological services to support people's mental wellbeing (Ministry of Health and Welfare Taiwan, 2015). These reports have led to a growing understanding that the proportion of the population experiencing psychological distress is increasing in developing countries. To meet the needs of the population those staff providing services need to be trained and equipped with evidence-based approaches. Therefore, translating and validating the most widely used therapeutic relationship inventories can contribute to the development of the quality of mental health care available (Lee, Li, Arai, & Puntillo, 2009; Murphy, Cramer, & Joseph, 2012; National Institute for Mental Health and Royal College of Psychiatrists, 2005; Priebe, Richardson, Cooney, Adedeji, & McCabe, 2011; Rogers, 2004; Slovák *et al.*, 2015). Access to a translated version of the Barrett-Lennard Relationship Inventory would also provide a scope for researchers and clinicians to make meaningful comparisons across cultural divides (Murphy *et al.*, 2017; Pescosolido, Medina, Martin, & Long, 2013; Rogers & Murphy, 2017; WHO, 1988).

The Chinese speaking population is approximately 14.4% of the world's population. The language Mandarin-Chinese, otherwise known as Standard Chinese, shares the similar characteristics with other Chinese language groups, such as Wu, Min, Yue, Jin, Xiang, Hakka, Gan, Huizhou, and Pinghua (Lewis, Simons, & Fennig, 2015). It is considered as the official language of China and Taiwan, as well as one of the four official dialects in Singapore. Mandarin is also widely used in Malaysia and Indonesia (Kurpaska, 2010). The language Mandarin-Chinese often requires professional translation services within industry. However, translating one language into another is playing the role of an ambassador for languages which are carrying specific cultural images of nations, ethnic groups and individuals to

introduce the cultural uniqueness to foreigners. Regardless of the variety of Chinese sub-languages, there are two written systems: Simplified and Traditional Chinese characters used in translating services, yet they represent the mutual meanings in Chinese contexts (Li, Ran, & Xia, 2010; Liu, 2014).

Some studies have argued that certain diversities in character or content of language and culture might cause a difficulty to address the cultural image in translating the work, such as, the religious belief and philosophy of life which could be distinguishable in Chinese society and English culture (Liu, 2014). In contrast, some researchers have found that brain areas, such as the ventral occipitotemporal regions and Cerebellum, are involved in reading in whichever language (Herbster, Mintun, Nebes, & Becker, 1997; Petersen, Fox, Posner, Mintun, & Raichle, 1988; Petersen, Fox, Snyder, & Raichle, 1990; Pugh *et al.*, 1997; Rumsey *et al.*, 1997). The comparison of brain images whilst reading Chinese orthographic characters and English alphabetic words through fMRI (the functional magnetic resonance imaging) experiments demonstrated that the left inferior prefrontal cortex was active and involved in processing both Chinese characters and English word recognition (Tan et al, 2001). Regardless of simplified and translational Chinese writing systems, a study in cognitive science displayed a high similarity between two written characters in Chinese reading and recognition (Liu, Chuk, Yeh, & Hsiao, 2016). Although readers of simplified Chinese might encounter difficulties when writing traditional characters, the data indicated their competence in learning to read and write using simplified characters was transferred to processing traditional characters conceptually and comprehensively (Liu, *et al.*, 2016). Thus, translating conceptually and comprehensively a complete Mandarin-Chinese version of Barrett-Lennard Relationship Inventory (B-L RI:MC) which crosses over two languages and two written systems is possible.

As the person-centred approach becomes more well established in the Asia-Pacific region and Eastern cultures it will be useful to have access to translated measures that can assess the theoretical constructs as originally intended (Motoyama & Murphy, 2017). This will enable and inform the cultural relevance for their clinical and research application. It will also be advantageous to have the Barrett-Lennard Relationship Inventory translated to Mandarin as person-centred approaches to mental health care and psychotherapy need to

be evaluated using theoretically consistent measures. In addition, the American Psychological Association and the Chinese Psychological Society have been working towards greater integration of these two systems (American Psychological Association [APA], 2016) suggesting the likelihood of future cross over in professional activity between USA and China will continue to grow. Having access to psychological measures of the therapeutic relationship available in both English and Mandarin will support the development of intercultural collaborations in research and practice.

Hence, the purpose of this study was to translate the complete 64 items and construct a Mandarin-Chinese version of Barrett-Lennard Relationship Inventory from the original English Barrett-Lennard Relationship Inventory. The aim is to use the form Other toward Self-64 (OS-64), and then validate both Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and OS-40 to provide a contextually comprehensive measurement to evaluate relationships in the Mandarin-Chinese speaking community. Confirmatory factor analysis (CFA) is one of the methods used to investigate construct validity of psychological measures (Fournier-Vicente, Larigauderie, & Gaonac'h, 2008). Instead of constructing an inductive theory like exploratory factor analysis (EFA), Confirmatory factor analysis is an instrument which extracts latent factors from the overall observed variables and specifies a model based upon hypotheses (McArdle, 1996). It is a procedure of theory deduction through the test of construct validity of hypothesis-based questionnaires (Atkinson *et al.*, 2011). Therefore, we examined the collected data set to evaluate the construct validity of the form OS-64 and OS-40 of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version using confirmatory factor analysis. We hypothesized that the four-factor model (i.e., level of regard, empathic understanding, congruence and unconditionality of regard) would be replicated in the analysis of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 (B-L RI:MC OS-64) and OS-40 (B-L RI:MC OS-40).

Method

This study was carried out in three stages. The first stage involved the linguistic translation of the English language scale to the Barrett-Lennard Relationship Inventory Mandarin-

Chinese version. The second stage consisted of testing the measurement properties of the 64 items in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version, which included the tests for reliability and construct validity of the items using principle component analysis (PCA). Subsequently, conducting an investigation on the fitness of models of Form OS-64 and OS-40 with the use of confirmatory factor analysis in the final stage. The research received ethical approval from the University Research Ethics Committee.

Cross-Cultural Translation

Cross-cultural translation of the original Barrett-Lennard Relationship Inventory English version to the Mandarin-Chinese version was completed in three stages. Three bilingual translators, who each spoke Mandarin-Chinese as their first language and specialized in the person-centred approach to counselling and psychotherapy, translated the items of the Barrett-Lennard Relationship Inventory into Mandarin-Chinese. In order to retain the original meaning of the scale items accurately, and to generate an optimal comprehensive translation, it was considered essential for each translator to have inside knowledge of the theoretical constructs within the scale to also achieve conceptual and semantic equivalence (Flaherty *et al.*, 1988; Wang, Lee & Fetzer, 2006; Lee *et al.*, *2009*; Barrett-Lennard, 2015, p.158). Two of the translators were person-centred counsellors and the third translator was completing doctoral research into the person-centred approach (lead author of this article).

To begin, the forward translation approach was performed. Each translator was assigned a set of items across each of the different dimensions of the Barrett-Lennard Relationship Inventory and translated them individually. The translators translated the inventory in accordance with the knowledge and understanding of Carl Rogers's person-centred theory and the principle of maintaining the content and semantic equivalences in the translation. Secondly, the expert review panel was established. Each of the translators then reviewed the translations made by each of the other translators in a 'round-robin' to identify and modify any of the inaccurate expressions of concepts in the translation of each dimension. Lastly, a process of back translation was carried out by a language specialist. The back translator was a linguist, who did not have any prior knowledge or understanding of person-

centred counselling and psychotherapy. In the back-translation process, the suitability of the amended Mandarin-Chinese version in the second stage was examined through reverse translation and comparison with the original English version, Barrett-Lennard Relationship Inventory.

The final stage of the translation process involved the pilot test of the penultimate Barrett-Lennard Relationship Inventory Mandarin-Chinese version. The scale was completed by three Taiwanese people who were not in the field of person-centred counselling and psychotherapy. Each respondent completed the Barrett-Lennard Relationship Inventory Mandarin-Chinese version and subsequently they were interviewed about any obstacles in completing the questionnaire and asked about their understanding of each item. All the suggestions and findings were considered to modify the final Barrett-Lennard Relationship Inventory Mandarin-Chinese version before going forward to further validation.

Participants

The target sample was to recruit approximately 640 Taiwanese potential respondents, who were 18 years old or over and spoke Mandarin-Chinese as their first language. According to Tabachnick (2007) when estimating the sample size of prospective respondents to a distributed questionnaire, theoretically, there should be at least 10 individuals multiplied by the total number of scale items in the questionnaire. It is important to ensure accuracy in the results of the validation in any study and proper determination of the number of respondents can help reduce research error and thus strengthen the impact of results (Martínez-Mesa & Bastos, 2014).

The stratified random sampling method was performed to ensure that at least one observation was picked from each of the strata and is a suitable method to recruit the samples into stratum (Carl-Erik, Swensson, & Wretman, 2003). By stratifying the target population, the measurement can be placed into manageable groups and the representativeness of each group can be estimated. Stratification also provides a smaller error in estimation when there is a lower standard deviation in the measurement. In this study, the respondents were recruited by age grouping: 18-25, 26-35, 36-45, 46-55, 56-65,

and over 66 years (see Table 5-1). In the final analysis, there were 658 Taiwanese respondents that completed the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 using an online survey, by following Watts' success in 1989 (Barrett-Lennard, 2015, p62; Watts, 1989), over a two-month period. Information concerning the demography of the respondents was also collected, such as gender, occupation, and the target relationship evaluated when completing the scale (see Table 5-1).

Instruments

The original English version of the Barrett-Lennard Relationship Inventory was developed from the core concepts of Rogers's theory of the necessary and sufficient conditions for personality change in the therapeutic relationship (Barrett-Lennard, 1964). The Barrett-Lennard Relationship Inventory was developed as a Likert-type measurement for assessing relationships. The scale is constructed to enable obtaining an equal number of positively and negatively worded items for each sub-scale. Each item is rated on differing strengths of No or Yes in the range -3 to +3 (Barrett-Lennard, 2015, pp. 26-34, 40-41). The internal reliability of the original 64-item Barrett-Lennard Relationship Inventory exceeded .80 completed with a data set that consisted of 82 people, including 42 psychotherapy clients and 40 therapists (Barrett-Lennard, 2015, p. 43). An early review of the 64-item Barrett-Lennard Relationship Inventory indicated the internal reliability coefficients of four sub-scales: level of regard = .91, empathic understanding = .84, unconditionality of regard = .74 and congruence = .88 (Gurman, 1977).

The Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 was translated in accordance with the original English version which contains the four dimensions: level of regard, empathic understanding, congruence and unconditionality of regard. Each sub-scale dimension contains 16-items, including 8 positive items and 8 negatively worded items (Barrett-Lennard, 2015, pp. 26-34).

First, the level of regard refers to the regardfulness of one person's response to another, and it might embed positive or negative feelings (Barrett-Lennard, 2015, p. 11). Secondly, the concept of empathic understanding is defined as the degree to which one person truly

recognizes the felt awareness and meaning of another (Barrett-Lennard, 2015, p. 10). Thirdly, the definition of unconditionality of regard is given as the non-judging affective response of one person towards another (Barrett-Lennard, 2015, p. 11). Finally, the concept of congruence is centred on the consistency between whole present experience and underlying awareness, for example, a congruent person can be honest, sincere and direct to another without hesitation or feeling compelled during the communication (Barrett-Lennard, 2015, p. 11). All the items in each sub-scale were arranged in the same order in the original Barrett-Lennard Relationship Inventory Form OS-64: one item of level of regard followed by an item for empathic understanding then unconditionality of regard and finally an item for congruence. This repeating pattern continues throughout the entire scale.

In this study, the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: From OS-64 was administered to the respondents as a 64-item self-report measure of the relationship with a specific friend. The responses to items was recorded using a six-point Likert scale with scoring options: -3 = No, I strongly feel that it is not true, -2 = No, I feel it is not true, -1 = No, I feel that it is probably untrue, or more untrue than true, +1 = Yes, I feel that it is probably true, or more true than untrue, +2 = Yes, I feel it is true, and +3 = Yes, I strongly feel that it is true, which was located from right to left.

Results

Respondents' demographic characteristics

The sample that provided the data set consisted of 658 people including males (n=162), females (n=495) and other (n=1). All respondents were aged 18 years or above and spoke Mandarin-Chinese as their first language. Further characteristics are displayed in Table 5-1. The distribution of age range was 18-25 (32.1%), 26-35 (33.6%), 36-45 (16.7%), 46-55 (12.3%), 56-66 (5%), and 65 years old or above (0.3%). The occupations of the sample consisted mostly of students (28%), then professional occupations (21.4%), followed by sales and customer service workers (11.6%), and administrative and secretarial occupations (10.2%).

The target relationship that respondents answered questions about were friendships that were mainly long-term relationships. For example, friendships used in the test had lasted less than 6 months (1.7%), 6 months to 12 months (6.2%), 1 to 3 years (12.5%), 3 to 5 years (16%), and more than 5 years (63.7%). All the data were collected using an online survey advertised through social network sites. To prevent missing items, the online survey had a pre-setting to ensure the completion of each item in the questionnaire. Therefore, there were no missing data in this survey.

Table 5- 1 Demographic Characteristic of the Sample and Census Data in Taiwan

Characteristic	Respondents	%	Demographics of Taiwan*a.b.
Age range (years)	(n=658)		(Unit: Persons)
18–25	211	32.1	1,608,149
26–35	221	33.6	3,389,604
36–45	110	16.7	3,856,925
46–55	81	12.3	3,691,645
56–65	33	5	1,554,074
>65	2	0.3	1,554,074
Gender			
Male	162	24.6	11,719,270
Female	495	75.2	11,820,546
Other	1	0.2	N/A
Occupation/ education			
Managers, directors and senior officials	12	1.8	2,764,332
Professional occupations	141	21.4	674,236
Associate professionals and technical	23	3.5	344,512
Administrative and secretarial occupations	67	10.2	486,017
Skilled trades	38	5.8	87,061
Caring, leisure and other service	10	1.5	460,160
Sales and customer service	76	11.6	1,656,678
Process, plant and machine operatives	8	1.2	3,245,599
Elementary occupations	57	8.7	2,463,369
Retired	13	2.0	98,495
Student	184	28.0	8,249,000
Unemployed	29	4.4	460,000
Duration of Friendship (years)			
< .5	11	1.7	
0.5–1	41	6.2	
1–3	82	12.5	
3–5	105	16	
>5	419	63.7	

*The total population of Taiwan is 23,539,816 people

a. DGBAS, 2016a; DGBAS, 2016b; DGBAS, 2016c; DGBAS, 2016d.

b. Department of Household Registration Affairs, 2016

Data Analysis

This study aimed to validate the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and Form OS-40, with confirmatory factor analysis (CFA). The data were analysed using SPSS Version 23.0 (SPSS Inc., 2015) and LISREL Version 8.7 (Jöreskog & Sörbom, 2001) for Windows. Initially, the internal reliability was analysed by calculating Cronbach's alpha indicating the degree of relatedness among the 64 items in the entire inventory. Secondly, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity were calculated using principal component analysis (PCA) with Varimax rotation, which indicated the adequacy for running the factor analysis (Field, 2005, pp. 619-666). Thirdly, a parallel analysis between the Monte Carlo simulation (MC simulation) and the PCA was performed. The aim of this is to reduce the 'noise' within the factor structure and determine those significant components within the overall group of components in the model of Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 (Conedera *et al.*, 2010; Inoue, Hukushima, & Okada, 2006; Nasser & Wisenbaker, 2003; Sariyar, Perk, Akman, & Hortaçsu, 2006). In statistics, a Monte Carlo simulation is one approach used to determine the properties of some phenomenon with a large number of random sampling, yet it does not always request truly random numbers. Monte Carlo simulation provides an intuitive understanding of the estimated components in a composition (Inoue et al., 2006). Hence, 658 subjects, 64 variables, 100 sets of the desired number of parallel data, and desired percentile 95.5, the components in the PCA which have a lower eigenvalue than those in the Monte Carlo simulation can be excluded from the factor structures (Inoue et al., 2006; Nasser & Wisenbaker, 2003). Lastly, confirmatory factor analysis (CFA) was used to investigate the fitness of models of the data for the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and Form OS-40.

Reliability analysis

To evaluate homogeneity, the overall consistency of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version was analysed. The Barrett-Lennard Relationship Inventory Mandarin-Chinese version was found to have high internal consistency with Cronbach's alpha = .96 in the entire sample (n=658), .95 in the male group (n=162), and .96

in the female group (n=495), where a high alpha indicates a strong internal correlation of each item (Table 5-2). A Cronbach's alpha between 0.70 and 0.95 would be considered excellent (Terwee, *et al.*, 2007).

Separate reliabilities were calculated for all four of sub-scale variables: level of regard, empathic understanding, unconditionality of regard, and congruence, all of which exceeded the minimum Cronbach's alpha and were .94, .84, .75, and .89 respectively; which represented a high internal consistency across each of the four sub-scales in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 (Table 5-2).

Table 5- 2 Cronbach's Alpha, KMO, Bartlett's Test of Sphericity and Mean, Median and Standard Deviations for Each Sub-scale of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64

	Reliability	Principle Component Analysis[a]		Data score (per item)		
(/item) Variable	Cronbach's Alpha	KMO[b]	Bartlett's Test of Sphericity	Mean	Median	Standard Deviations
Sample						
Male (n=162)	.95	.89	.00			
Female (n=495)	.96	.97	.00			
Total (n=658)	.96	.97	.00			
Sub-scales						
Level of Regard	.94	.96	.00	1.79	2.00	1.30
Empathic Understanding	.84	.94	.00	0.86	1.00	1.69
Unconditionality	.75	.86	.00	0.60	1.00	1.84
Congruence	.89	.95	.00	1.28	2.00	1.61

a. Principal Component Analysis with Varimax Rotation (Eigenvalue>1)

b. Kaiser-Meyer-Olkin Measure of Sampling Adequacy.

Principal Components Analysis

Principal Components Analysis (PCA) with the Varimax rotation method was performed. PCA results showed a Kaiser-Meyer-Olkin (KMO) coefficient of .97 in the entire data set (n=658), .89 in the male group (n=162) and .97 in the female group (n=495) and were well above the recommended .70. The P-value of Bartlett's Test of Sphericity of .000 (approx. chi-square 24039.755, df 2016) also suggested satisfactory sampling adequacy (Table 5-2).

The 64-item inter-correlation matrix was analysed, and 11 components were extracted (eigenvalue >1) in the initial model of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version. Using this data, the first five components in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version were extracted that showed an eigenvalue = 22.359 (>1.721 in Monte Carlo simulation), 3.794 (>1.656 in Monte Carlo simulation), 2.150 (>1.610 in MC simulation), 1.894 (>1.574 in Monte Carlo simulation) and 1.746 (>1.533 in Monte Carlo simulation), which were able to account for 34.936%, 5.928%, 3.360%, 2.959% and 2.727% of the total explanatory variance of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version respectively (Table 5-3). Furthermore, by comparing the eigenvalues with the suggested eigenvalue generated in the parallel analysis using the Monte Carlo simulation, the eigenvalue of the sixth and seventh components in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version were 1.447 and 1.321. These were less than the suggested eigenvalues 1.503 and 1.474 in the Monte Carlo simulation. Thus, the sixth and seventh components were explained as the noises of the factor structure (Table 5-3).

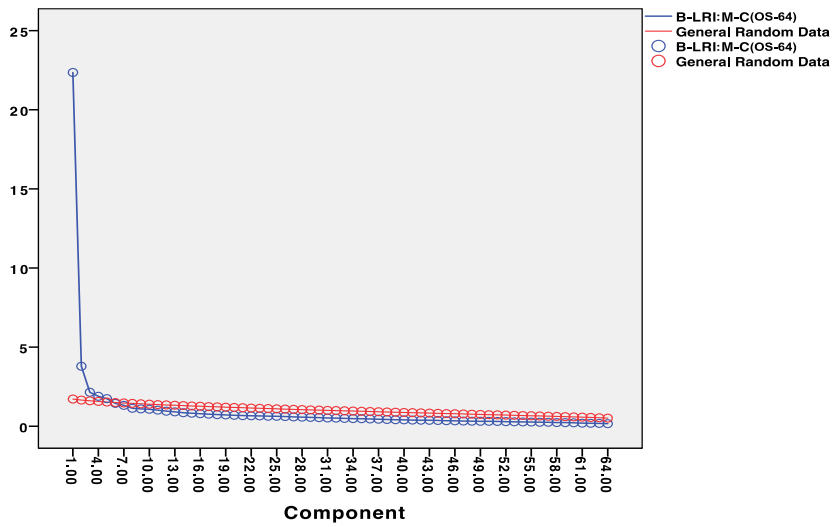
Table 5- 3 ***Total Variance Explained of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64***

	Principle Component Analysis[a]									Parallel Analysis[b]
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings			Eigenvalue Monte Carlo Simulation
	Statistics			Statistics			Statistics			Statistics
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total in General Random Data
1	22.359	34.936	34.936	22.359	34.936	34.936	9.210	14.390	14.390	1.721593
2	3.794	5.928	40.864	3.794	5.928	40.864	6.344	9.912	24.303	1.656847
3	2.150	3.360	44.224	2.150	3.360	44.224	5.626	8.791	33.094	1.610990
4	1.894	2.959	47.183	1.894	2.959	47.183	4.823	7.536	40.630	1.574000
5	1.746	2.727	49.911	1.746	2.727	49.911	3.075	4.805	45.435	1.533476
6	1.447	2.261	52.172	1.447	2.261	52.172	2.339	3.654	49.090	1.503755
7	1.321	2.064	54.236	1.321	2.064	54.236	2.155	3.368	52.457	1.474237
8	1.135	1.774	56.009	1.135	1.774	56.009	1.447	2.261	54.718	1.446682
9	1.097	1.714	57.723	1.097	1.714	57.723	1.372	2.144	56.862	1.421458
10	1.073	1.677	59.401	1.073	1.677	59.401	1.325	2.070	58.932	1.396603
11	1.020	1.594	60.995	1.020	1.594	60.995	1.320	2.063	60.995	1.372320

Extraction Method:
a. Principal Component Analysis with Varimax Rotation (Eigenvalue>1)
b. Parallel Analysis Using Eigenvalue Monte Carlo Simulation (Number of Subject=658, Number of Variables=64, Desired Number of Parallel Data Sets=1000, Desired Percentile=95.5)

This finding remains consistent with the Scree Plot that also indicated that the first five components could be extracted from the Barrett-Lennard Relationship Inventory Mandarin-Chinese version (Figure 5-1).

Figure 5- 1 Scree Plot



If the criterion for a fixed number of components was set at 5 and for high loading the level is set at equal to or greater than ±0.49, there were only 2 items (C12 and R53) correlated highly with more than one component. The loadings on five components are presented as follows (see Table 5-4): the first and largest component accounted for 34.936% of the variance. Since 11 of the 15 items were from the level of regard sub-scale, this component was best identified as reflecting level of regard. The remaining items were two from the empathic understanding, one from the unconditionality of regard, and another one from the congruence scale.

The second largest loading component accounted for 5.928% of the variance. Since6 of these 14 items were from the congruence sub-scale and two were from the level of regard (R49 and R53), three from empathic understanding (Em22, Em50, Em58), and three from the unconditionality of regard (U55, U27, U19), the second component could be classified as partially but predominantly representing the congruence sub-scale.

The third component accounted for 3.360% of the variances. Since all 8 of these items were from the congruence, this component was best interpreted as characterizing the congruence sub-scale. Furthermore, the fourth component accounted for 2.959% of the variances. As all six of these items came from the empathic understanding, this component was best labelled as representing the empathic understanding sub-scale.

Finally, the fifth component accounted for 2.727% of the variances. All items came from the unconditionality of regard, and therefore were reflective of the sub-scale of unconditionality of regard.

Table 5- 4 Loadings on Five Components[ab] of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64

Latent Factor/ Item	English	Mandarin-Chinese	Component				
			1	2	3	4	5
Level of Regard (R)							
R13*	I feel appreciated by __.	我感覺__欣賞我。	**0.683**	0.130	0.218	0.134	0.201
R37*	__ is friendly and warm with me.	_ 對我友善且溫暖。	**0.634**	0.291	0.410	0.116	0.178
R5*	__feels a true liking for me.	感覺我是真的討 _ 的喜歡。	**0.631**	0.115	0.246	0.145	0.209
R25*	__cares for me.	_ 關心我。	**0.617**	0.170	0.444	0.195	0.084
R41	I feel that __ really values me.	我覺得 _ 真的很重視我。	**0.613**	0.123	0.470	0.156	0.116
R53	__ feels contempt for me.	我覺得 _ 輕視我。	**0.590**	**0.515**	0.239	-0.028	0.140
R57	__is truly interested in me.	_ 是真的對我感興趣。	**0.580**	0.053	0.436	0.051	0.126
R1*	__respects me as a person.	_ 尊重我這個人。	**0.565**	0.265	0.146	0.252	0.201
R17*	__is indifferent to me.	_ 對我漠不關心。	**0.559**	0.329	0.417	0.088	-0.003
Em2*	__wants to understand how I see things.	_ 會想要了解我對事物的看法。	**0.556**	0.126	0.176	0.341	0.079
R29*	I feel that __ disapproves of me.	我覺得 _ 不認同我。	**0.537**	0.489	0.348	0.079	0.118
R61	__ feels affection for me.	_ 對我是友好的。	**0.532**	0.036	0.456	0.019	0.121
U3*	__'s interest in me depends on the things I say or do.	我所說的話或所做的事,會影響 _ 對我的興趣或關注。	**-0.516**	0.178	-0.005	-0.163	0.144
Em42	__appreciates exactly how the things I experience feel to me.	我覺得 _ 真的很重視我。	**0.511**	0.228	0.369	0.360	0.278
U11*	Depending on my behaviour, __ has a better opinion of me sometimes than he/she has at other times.	_ 有時會因為我的行為,而提高對我的評價。	-0.487	0.171	0.076	-0.127	0.079
R21	__finds me rather dull and uninteresting.	_ 覺得我乏味又無趣。	0.483	0.452	0.193	-0.022	0.160
R33*	__ just tolerates me.	_ 只是在忍受我而已。	0.470	0.468	0.391	-0.009	0.055
C4*	__is comfortable and at ease in our relationship.	_ 對我們的關係感到舒服和輕鬆自在。	0.445	0.204	0.384	0.295	0.152

Em62	When I am hurt or upset __ can recognize my feelings exactly, without becoming upset him/herself.	當我覺得受傷或是不開心的時候，_ 仍可以在不影響到他自己的狀態下察覺我的感受。	0.372	0.132	0.323	0.326	0.193
Empathic Understanding (Em)							
Em10*	__nearly always knows exactly what I mean.	_ 幾乎總是能完全理解我的意思。	0.332	0.168	0.237	**0.645**	0.226
Em34*	__ usually understands the whole of what I mean.	_ 通常可以完全理解我的意思。	0.320	0.208	0.310	**0.594**	0.194
Em18*	__usually senses or realizes what I am feeling.	_ 通常能察覺到或明白我現在的感受。	0.455	0.119	0.222	**0.584**	0.070
Em6*	__may understand my words but he/she does not see the way I feel.	_ 雖然了解我說的話，但未必能體會我的感受。	0.108	0.400	0.013	**0.552**	-0.041
Em38*	__takes no notice of some things I think or feel.	_ 沒有察覺到我對某些事物的想法或感受。	0.058	0.450	0.198	**0.526**	-0.027
Em30**	__ realizes what I mean even when I have difficulty in saying it.	即使我沒辦法表達清楚我想說的事情，_ 仍可明白我的意思。	0.218	0.129	0.401	**0.524**	0.157
Em26	__ thinks that I feel a certain way, because that's the way he/she feels.	_ 認為我所感覺的,正是他所感受的。	-0.317	-0.006	-0.293	-0.338	-0.248
Unconditionality of Regard (U)							
U7*	__whether I am feeling or unhappy with myself makes no real difference to the way feels about me.	_ 對我的感覺,不會因為我對自己感到開心或不開心而有任何變化。	0.021	0.041	-0.045	-0.021	**0.626**
U51	Whether the ideas and feelings I express are "good" or "bad" seems to make no difference to __'s feeling toward me.	_ 對我的感受，似乎不會因為我所表達的想法或感受是好還是壞,而有所影響。	0.126	0.161	0.307	0.152	**0.610**
U39*	How much __ likes or dislikes me is not altered by anything that I tell him/her about myself.	_ 喜歡或不喜歡我的程度，不會因為我告訴他任何關於我自己的事情，而有所影響。	0.134	0.235	0.232	0.141	**0.556**

U47	Whether I happen to be in good spirits or feeling upset does not make __ feel any more or less appreciative of me.	不論我是積極正向或是感到低潮難過，都不會影響到 _ 對我的欣賞程度。	0.385	0.246	0.298	0.216	**0.547**
U15*	__'s feeling toward me doesn't depend on how I judge or feel about myself. [Answer 'no' (−1, −2 or −3) if the way you feel about yourself alters his/her feeling.]	_ 對我的感受，不會因著我怎麼評論或看待自己而有所影響。[如果你對你自己的看法，會影響他對你的感覺；則請依程度回答 "-3(非常不符合)"、"-2(不符合)"或"-1(較不符合)"。]	0.097	0.022	0.068	-0.042	**0.544**
U59	I don't think that anything I say or do really changes the way __ feels toward me.	我不認為 _ 對我的感受會因為我所說的或我所做的事情而改變。	-0.014	0.173	0.187	0.200	**0.526**
U31*	__'s attitude toward me stays the same: he/she is not pleased with me sometimes and critical or disappointed at other times.	_ 對於我的態度總是一致:他不會對我時而滿意,時而指責我或對我感到失望。	0.362	0.298	0.235	0.127	0.388
Congruence (C)							
C52	There are times when I feel that __'s outward response to me is quite different from the way he/she feels underneath.	有幾次我會覺得 _ 給我的回應,與他內在真實的感受不一致。	0.095	**0.653**	0.332	0.161	0.119
C64	I believe that __ has feelings he/she does not tell me about that are causing difficulty in our relationship.	我相信是那些 _ 沒告訴過我的感受讓我們的關係遇上瓶頸。	0.044	**0.626**	0.357	0.168	0.108
Em22*	__ 's own attitudes toward things I do or say prevent him/her from understanding me.	因為 _ 對我所做的事情已經先抱有既定的態度,所以使他無法了解我。	0.340	**0.609**	0.201	0.215	0.196
C60	What __ says to me often gives a wrong impression of his/her whole thought or feeling at the time.	__常讓我對他的整個想法或感受產生誤解。	0.286	**0.602**	0.374	0.097	0.117
R49	I seem to irritate and bother __.	我似乎會惹 _ 生氣或打擾到他。	0.219	**0.600**	0.059	0.033	0.200
C40*	At times I sense that __ not aware of what he/she is really feeling with me.	有時候我覺得 _ 並沒有意識到他對我真正的感覺是什麼。	0.218	**0.568**	0.160	0.260	-0.017

U55	Sometimes I am more worthwhile in __'s eyes than I am at other times.	有時候我覺得 _ 願意花心思在我身上, 有的時候則不是這樣。	0.342	**0.564**	0.215	0.051	0.276
U27*	__likes or accepts certain things about me, and there are other things s/he does not like in me.	_ 喜歡或接受部份的我，但他不喜歡其他某方面的我。	0.120	**0.544**	-0.022	0.175	0.150
Em50	__does not realize how sensitive I am about some things we discuss.	_ 不明白我對我們所談論的某些事物是有多麼地敏感。	0.211	**0.535**	0.188	0.285	0.078
U19*	__wants me to be a particular kind of person.	_ 希望我成為某種類型的人。	0.020	**0.524**	0.050	-0.035	0.154
C16**	It makes __uneasy when I ask or talk about certain things.	當我問起或提起某些事情時，會讓 _ 感到不舒服。	0.007	**0.518**	0.188	0.189	0.156
Em58	__'s response to me is usually so fixed and automatic that I don't get through to him/her.	_ 通常給我的回應都很制式且機械化，以至於我沒辦法了解他這個人。	0.392	**0.502**	0.447	-0.004	0.020
C32*	Sometimes __ is not at all comfortable but we go on, outwardly ignoring it.	有時候 _ 和我在討論事情時,會感到不舒服,但我們會在表面上忽略它並繼續。	0.007	**0.492**	0.140	0.155	-0.061
R9*	__is impatient with me.	_ 對我沒什麼耐心。	0.460	0.485	0.126	0.106	0.095
R45	__ doesn't like me for myself.	_ 不喜歡我的行事為人。	0.469	0.476	0.225	-0.057	0.128
U63	What other people think of me does (or would, if he/she knew) affect the way __ feels toward me.	別人看待我的方式會影響到 _ 對我的看法。	0.183	0.467	0.314	0.070	0.242
C24*	__ wants me to think that he/she likes or understands me more than he/she really does.	_ 想要我以為他比實際上來的喜歡我或了解我。	-0.172	0.427	-0.067	-0.030	0.040
Em14*	__looks at what I do from his/her own point of view.	_ 以他的角度來看我所做的事情。	0.010	0.388	0.014	0.198	-0.090
Em46	At times __ thinks that I feel a lot more strongly about a particular thing than I really do.	有時候, _ 覺得我對某些事物的感受，比我實際上的主觀感受還要強烈。	0.018	0.325	-0.219	-0.041	0.051

U35*	If I show that I am angry with __, he/she becomes hurt or angry with me, too.	如果我對 _ 發脾氣,他會感到受傷,或是對我生氣。	-0.061	0.314	-0.224	0.193	0.159
C44	__ is willing to express whatever is actually in his/ her mind with me, including personal feelings about him/herself or me.	_ 願意向我表達他內在真實的想法,包含他對他自己、或他對我的感受。	0.271	0.144	**0.736**	0.180	0.139
C36*	__ expresses his/her true impressions and feelings with me.	_ 向我表達他真正的想法和感覺。	0.340	0.187	**0.701**	0.136	0.126
C28*	__ doesn't avoid or go around anything that is important for our relationship.	_ 不會迴避談論任何對我們之間重要的事。	0.232	0.179	**0.656**	0.195	0.117
C56	__ doesn't hide from himself (herself) anything that he/she feels with me.	_ 不會向我隱藏他對我的感受。	0.101	0.213	**0.649**	0.152	0.221
C48	__ is openly himself/herself in our relationship.	_ 在我們的關係中很坦率地做自己。	0.333	0.185	**0.649**	0.111	0.163
C12*	I feel that __is real and genuine with me.	我感覺 _ 很真實且真誠地待我。	**0.509**	0.261	**0.550**	0.143	0.155
C20*	I feel that what __says expresses exactly what he/she is feeling and thinking at that moment.	我覺得 _ 口中所表達的,正是他當下心中所感受的及他腦中所想的。	0.105	0.194	**0.547**	0.128	0.171
C8*	I feel that __ puts on a role or front with me.	我覺得 _ 戴著面具跟我相處。	0.290	0.410	**0.547**	0.055	-0.002
Em54	__ understands me.	_ 了解我。	0.467	0.232	0.476	0.398	0.123
U43	__ approves of me in some ways or sometimes, and plainly disapproves of me in other ways/other times.	_ 有的時候會用某些方式肯定我，但有的時候也會用別種方式明確地表達不認同。	-0.140	0.145	-0.474	-0.111	-0.051
U23*	I can/could be openly critical or appreciative of __ without making him/her feel differently about me.	我可以放心地批評或讚美 _ ,(因為)這並不會影響他對我的感受。	0.227	0.129	0.440	0.327	0.304

See resource *The Relationship Inventory A Complete Resource and Guide* for the original Barrett-Lennard Relationship Inventory (Barrett-Lennard, 2015).
*Items appear both in the B-L RI (OS-40) and B-L RI:M-C (OS-40).
**Items, which are positive items in the B-L RI (OS-64) and B-L RI:M-C (OS-64), are presented in a negatively worded form in the B-L RI (OS-40) and B-L RI:M-C (OS-40).
Extraction Method: Principal Component Analysis.
a. Fixed Number of Component: 5, Display Format: Absolute value ±0.49
b. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 13 iterations.

Confirmatory Factor Analysis

The confirmatory factor analysis of Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 was completed using the same sample of individuals, who had reflected on one specific example of their relationship with a friend. The present data set satisfied the confirmatory factor analysis requirement of comparative fit (Schreiber, 2006). The correlation matrix of four latent factors: level of regard (R), empathic understanding (Em), unconditionality of regard (U), and congruence (C), is displayed in Table 5-5 where all the factors showed logical interrelationships. R correlated highly with Em (r= .89, p< .001), U (r= -.82, p< .001) and C (r= .89, p< .001). Em correlated highly with U (r= -.85, p< .001) and C (r= .88, p< .001), and lastly, C was also correlated significantly with U (r= -0.84, p< .001).

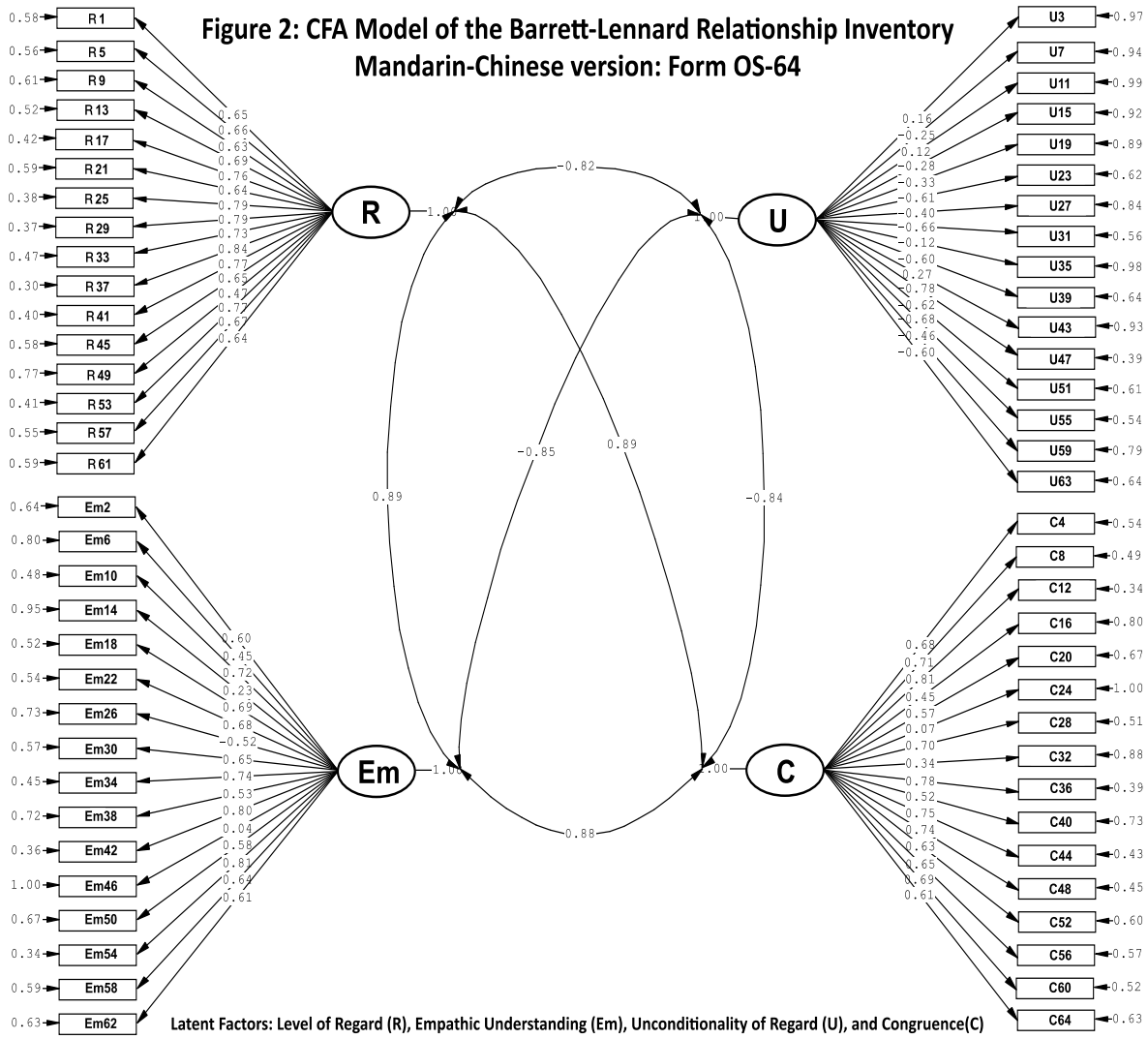
Table 5- 5 Correlation Matrix of Independent Variables of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64

	Level of Regard (R)	Empathic Understanding (Em)	Unconditionality of Regard (U)	Congruence (C)
Level of Regard (R)	1.00			
Empathic Understanding (Em)	0.89	1.00		
Unconditionality of Regard (U)	-0.82	-0.85	1.00	
Congruence (C)	0.89	0.88	-0.84	1.00

Software: LISREL Version 8.7

The model of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 (Figure 5-2) demonstrated a satisfactory Normed Fix Index (NFI)=0.95 (≥0.95 for acceptance), Comparative Fit Index (CFI)=0.97 (≥0.95 for acceptance), Incremental Fix Index (IFI)=0.97 (≥0.95 for acceptance), Root Mean Square Residual (RMR)= .069 (smaller, the better), and Root Mean Square Error of Approximation (RMSEA)=0.092 (< .6 to 0.8 with confident interval) (Nasser & Wisenbaker, 2003, p.733). Despite item Em46 (r =0.04) and Em14 (r =0.23) in empathic understanding sub-scale, U3 (r =0.16), U7(r =-.25), U11 (r =0.12), U15 (r =-.28), U35 (r =0.12) and U43 (r =0.27) in unconditionality of regard sub-scale, and C24 (r =0.07) and C32 (r =0.34) in congruence sub-scale revealing lower loadings in the confirmatory factor analysis, most of the items in each sub-scale in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 had heavy loadings respectively.

Figure 5- 2 CFA Model of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64



The Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-40 which 40 items in the original Barrett-Lennard Relationship Inventory were included in the 64 items of the original Barrett-Lennard Relationship Inventory: Form OS-64. The level of regard scale includes 10 of 16 items from the OS-64, which are R1, R5, R9, R13, R17, R21, R25, R29, R33, R37. The 10 items of empathic understanding scale are Em2, Em6, Em10, Em14, Em18, Em22, Em30, Em34, and Em38. The 10 items for unconditionality of regard

scale are U3, U7, U11, U15, U19, U23, U27, U31, U35 and U39. The 10 items for congruence scale are C4, C8, C12, C16, C20, C24, C28, C32, C36 and C40. However, only C16, Em30 which were positive items in the Barrett-Lennard Relationship Inventory: Form OS-64, are presented in a negatively worded form in the form OS-40. For example, "_____ doesn't expresses his/her true impressions and feelings with me" and "_____doesn't understand me" in the OS-40, whereas "_____ expresses his/her true impressions and feelings with me" and "_____understand me" in the OS-64. Because the data was collected following by the OS-64, the data of item C16 and Em30 were recoded into reversed variables to meet the OS-40 in the software SPSS version 23.

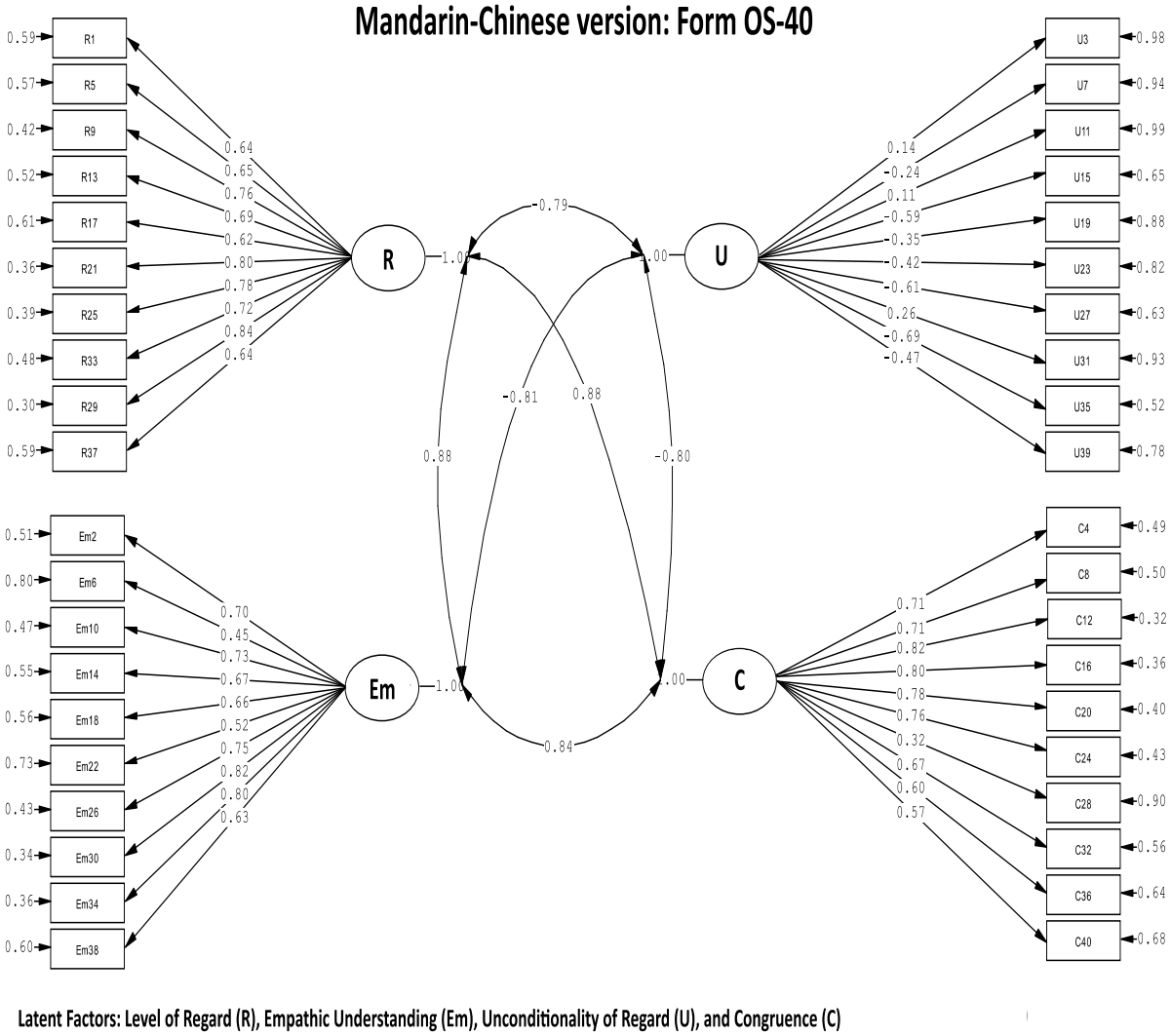
Four latent factors of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-40: level of regard (R), empathic understanding (Em), unconditionality of regard (U), and congruence (C), were displayed in the correlation matrix (Table 5-6) where all the factors showed logical interrelationships. R correlated highly with Em ($r = .88$, $p < .001$), U ($r = -.79$, $p < .001$) and C ($r = .88$, $p < .001$). Em correlated highly with U ($r = -.81$, $p < .001$) and C ($r = .84$, $p < .001$), and lastly, C was also correlated significantly with U ($r = -.80$, $p < .001$).

Table 5- 6 Correlation Matrix of Independent Variables of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-40

	Level of Regard (R)	Empathic Understanding (Em)	Unconditionality of Regard (U)	Congruence (C)
Level of Regard (R)	1.00			
Empathic Understanding (Em)	0.88	1.00		
Unconditionality of Regard (U)	-0.79	-0.81	1.00	
Congruence (C)	0.88	0.84	-0.80	1.00

Software: LISREL Version 8.7

Figure 5- 3 CFA Model of the Barrett-Lennard Relationship Inventory



The OS-40 four-factor solution model (Figure 5-3) demonstrated a satisfactory Normed Fix Index (NFI)=0.95 (≥0.95 for acceptance), Comparative Fit Index (CFI)=0.96 (≥0.95 for acceptance), Incremental Fix Index (IFI)=0.96 (≥0.95 for acceptance), Root Mean Square Residual (RMR)= .069 (smaller, the better), and Root Mean Square Error of Approximation (RMSEA)=0.091 (< .6 to 0.8 with confident interval) (Nasser & Wisenbaker, 2003, p.733). Despite item Em6 (r=0.45) in empathic understanding sub-scale, U3 (r=0.14), U7(r=-.24), U11 (r=0.11), U19 (r=-.35), U23 (r=-.42), U31 (r=0.26) and U39 (r=-.47) in unconditionality of regard sub-scale, and C28 (r=0.32) in congruence sub-scale revealed lower loadings in CFA, most of the items in each sub-scale in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-40 had heavy loadings respectively.

Discussion

The Barrett-Lennard Relationship Inventory Mandarin-Chinese version aims to provide a Mandarin-Chinese version of relationship measurement to the Mandarin-Chinese community. Historically, the previous studies on the development and validation of the Barrett-Lennard Relationship Inventory had reinforced the need for evaluating relationships using psychometric assessment instruments, such as for the therapeutic relationship, friendship, and teacher-student relationship, etc. Despite previous studies with the Barrett-Lennard Relationship Inventory using exploratory factor analysis supporting its validity, to our knowledge no other investigation has been conducted using confirmatory factor analysis. This means that for the first time in over half century there are data available to confirm the theoretical model underpinning the therapeutic relationship questionnaire proposed by Barrett-Lennard (1962). This study has also reported the CFA validation of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and Form OS-40 in a sample of people (n=658), whose first language is Mandarin-Chinese and are 18 years old and above evaluating their perceptions of a relationship with a friend.

The findings of this study suggest that the translated 64-items in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version can reliably assess the effect of level of regard, empathic understanding, unconditionality of regard and congruence in relationships. The Cronbach's alpha of the sample set of 658 variables (162 males, 495 females, and one other) exceeds .96 which was higher than the original English version (.80) and indicates a high internal consistency across individual items (Barrett-Lennard, 2015, pp. 17-18, 43). The Cronbach's alpha of both male and female sample groups also shows strong internal correlation between each item. Thus, the reliability of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version is as significant as the original version and it can be applied towards all genders. Furthermore, the separate Cronbach's alpha of each sub-scale is .94 for level of regard, .84 for empathic understanding, .75 for unconditionality of regard and .89 for congruence scale, which is considered an excellent level of reliability across 16 items in each sub-scale in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version. The results of Gurman's validation study reported that the mean coefficient for the sub-scales were .91 for level of regard, .84 for empathic understanding, .74 for unconditionality of regard and .88 for congruence scale (Barrett-Lennard, 2015, p. 43;

Gurman, 1977). It implies that the Barrett-Lennard Relationship Inventory Mandarin-Chinese version also provided strong internal consistency in the entire scale and individual sub-scales as did the Barrett-Lennard Relationship Inventory.

The Barrett-Lennard Relationship Inventory Mandarin-Chinese version has been confirmed theoretically. It has found that the first five components in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version could be extracted and identified as representative of the four latent factors in the original Barrett-Lennard Relationship Inventory through PCA. In the CFA conducted within this study, the results of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and Form OS-40 further support the original hypothesized four-factor structure which were designed to measure therapeutic relationships. Both the OS-64 and OS-40 models exhibit a good fit for the data and present a consistent correlation between each of the four factors. The result of our analysis of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version has revealed the scale translation can be used to measure relationships using the four factors of the Rogerian therapeutic relationship in a Mandarin-Chinese context. Due to the data was collected from people in general with different occupations evaluating their friendships, it further implies that Taiwanese people are capable of differentiating between the different relationship factors important to therapeutic relationships and based on Rogers's person-centred theory. Regarding the friendship length, 63.7% respondents associated the term "friendship" intuitively with a person, excluding family relations or romance, with whom they have shared a long-term relationship. For example, a more-than-5-year friendship in this study. This phenomenon might evoke a thought whether a therapeutic relationship in clinical settings can be developed in three to five sessions between the Mandarin-Chinese speaking therapists and clients? Barrett-Lennard (1962) has suggested that at least five sessions of psychotherapy are required before an accurate rating could be gained, yet Murphy and Cramer's study in 2014 revealed that after three sessions people can predict the outcome using the scores of the Barrett-Lennard Relationship Inventory and similarly other studies have shown early ratings predict later improvement (Barrett-Lennard, 2015; Murphy & Cramer, 2014; Murphy *et al.*, 2012). However, the existence of a high percentage of the respondents evaluating the long-term friendships in this study did not countervail the reliability of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version but

might have exceeded it instead, and it might also have reinforced the validity of the translated inventory.

In terms of those few low loading single items which exist in each sub-scale. For instance, there is one in level of regard, three in empathic understanding, nine in unconditionality of regard and three in congruence sub-scale in the OS-64. The Unconditionality of Regard items involve quite subtle distinctions, difficult to render clearly even in English and for respondents with differing attitudes. Even with the care taken in the translation process in the present study, it is possible the items were not quite as well translated and understood by respondents in Mandarin as they might in English wherein, they were originally constructed. Nevertheless, the analytical result provided strong internal consistency, reliability and construct validity, thus the Barrett-Lennard Relationship Inventory Mandarin-Chinese version could be considered as a well-translated version that manages to evaluate relationships in Chinese culture.

Implication

The study has reported very promising results regarding the reliability and construct validity of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version for the measurement of relationships. A survey on the Chinese counselling approach conducted in 1988 revealed that behaviourism, psychoanalysis and cognitive therapy have been the mainstream theoretical orientations of Chinese counsellors (Chang, Tong, Shi, & Zeng, 2005). Although there are few studies on the practical approaches of person-centred counselling in the development of counselling and psychotherapy in China, the result of validating the Barrett-Lennard Relationship Inventory Mandarin-Chinese version has provided evidence that the translation imparts and establishes the sensitivity of the original Barrett-Lennard Relationship Inventory. It also indicates that the therapeutic conditions of Rogers's person-centred therapy can be identified by the people in Taiwan and also applied in the Mandarin-Chinese community. Thus, transcending Carl Rogers's person-centred theory into a variety of fields in Chinese Society, such as the therapeutic relationship within social services and clinical settings, teacher-student relationship in education, family

relationship, relationship between organizations, relationship in business, etc., to grow a mutual understanding of humanistic interaction.

Regarding the mental health professionals' training, Barrett-Lennard has revealed one of his studies on the experiences of helping mental health professionals' experiential learning in three 2-week workshops where Barrett-Lennard and his colleagues had indicated that the Barrett-Lennard Relationship Inventory was used as a rating instrument to evaluate the outcome effects of the learning (Barrett-Lennard, 2017, p.331-338). Therefore, the Barrett-Lennard Relationship Inventory Mandarin-Chinese version could be used in educational settings in the Mandarin-Chinese speaking world. Taking China as an example, the counselling and psychotherapy services in medical settings like special counselling and mental health centres have been developed rapidly since the 1980s because of the increasing psychological problems, such as depression and suicide (Chang *et al.*, 2005; Higgins *et al.*, 2008; Qian *et al.*, 2011). Using adapted forms of Barrett-Lennard Relationship Inventory Mandarin-Chinese version, such as the Other toward Self (OS) and Me toward Other (MO) forms, to evaluate the effectiveness of training programs from therapists' and clients' perspective (Barrett-Lennard, 2017, p.331-338).

Last but not the least, the Barrett-Lennard Relationship Inventory Mandarin-Chinese version would be one of the vehicles which give the current Chinese counselling and psychotherapy services the momentum to go beyond the medical settings for their communities. The theoretical structure in the Barrett-Lennard Relationship Inventory, which Carl Rogers's person-centred approach emphasizes an interpersonal relationship with unconditional positive regard would carrying out psychological changes for clients, would meet Chinese culture where Mandarin speaking clients' adjustment often relates to their relationship with others, such as family and friends, and the interaction with their social circles, such as neighbours, teachers at school, colleagues at work, etc. The full 64-item and 40-item Form of Barrett-Lennard Relationship Inventory has been gradually adapted into many versions, for instance 'other toward self' (OS), 'myself toward other' (MO-40), 'observer' (Obs-40), 'teachers toward students' (MO-40:TS), 'students toward teachers' (OS-40: T-S), 'other toward young children' (OS-40CH), 'other in close relationship toward self' (OS-LR-40) and relationships between 'groups or organizations' (GS-40) version, which the researchers used

to measure relationships from different points of view (Barrett-Lennard, 1978, 2015, 2017, p.338; Gurman, 1977). Through the previous contributions of the Barrett-Lennard Relationship Inventory, the validated 64-item and 40-item Mandarin-Chinese versions can easily be transformed into the specific versions when it is needed. Hence, this Barrett-Lennard Relationship Inventory Mandarin-Chinese version would contribute to the international research community and extend the borders of the community of counselling and psychotherapy to those in the Mandarin-Chinese speaking world.

Limitations

There are several limitations to the present study. Firstly, the instrument of data collection could be further refined. Among the 658 respondents, only 2 people appeared in the age group of 66 and over. This might be related to varying levels of familiarity of computer usage and willingness to access and complete online surveys. Thus, distributing not only an online survey but also a paper and pen version of a questionnaire could multiply and better represent the sample size of older age groups.

Secondly, understanding of the scale item wording was varied as suggested by the feedback in an open dialogue box included at the end of the survey. For example, there might be scope for more intuitive translation that could be provided. It took approximately 30 minutes to complete the scale, therefore tiredness might have affected some online respondents. However, it should be noted that the item wording in the English version of the scale is reported to be quite complex and the full 64-item scale is time consuming to complete. In this sense, there is modest difference between the two versions of the scale. Items that require some careful consideration before responding can make participants really work to understand what they are being asked. Doing this, to the end of the task, may have been too much for some. Face to face administration could yield higher or more even validity.

Lastly, this study has gone some way to be the first study to translate the original version of the Barrett-Lennard Relationship Inventory into the Mandarin-Chinese version and examine the construct validity using confirmatory factor analysis. Whilst this was reported with

satisfactory results in this study, both the OS-64 and the OS-40 scales are long and time-consuming. The test-retest reliability could be conducted if a shorter version of the scale for future use could be developed. Therefore, it would be useful to pilot in a clinical sample as the next step which is using the shorter time frame for relationships and also test-retest statistics to be calculated.

Chapter 6 Evaluation of therapeutic relationship skills training for mental health professionals: The Therapeutic Relationship Enabling Programme (TREP)

6.1 The purpose of this study

The second study of this PhD research has presented a quantitative report conducting a quasi-experimental study to evaluate the effectiveness of an intense training for the Taiwanese mental health professionals' learning the person-centred therapeutic relationship skills.

Theoretically, the design of the training, Therapeutic Relationship Enabling Programme (TREP), was in accordance with Carl Rogers' person-centred theory, Godfrey Barrett-Lennard's experience of helping professionals in the Armadale Residential Workshop and the training experience from the Master's program in Person-Centred Experiential Counselling and Psychotherapy at the University of Nottingham, UK (Barrett-Lennard G. , 2018; Murphy, et al., 2017; Rogers., 1951) in 1962. The designed programme enhanced the participants engaging with self and each other simultaneously and also led them exploring the nature of the person-centred therapeutic relationship in psychiatry. The training schedule and the methodologies were presented in this publication.

The images of the demonstration videos for the workshop and the website photography of mPath are attached in the appendices. The research ethical approval form, information sheet, consent form and the instrument of measurement, B-L RI: MC Form OS-40, are also presented in the session of Appendix. This study has provided an evidence-based report of the feasibility and applicability of the person-centred innovation pedagogy for the Taiwanese mental health professional learning the therapeutic relationship competence. The investigation of how the Taiwanese mental health professionals learned the competence during the course will be reported qualitatively as the third study of this PhD research.

6.2 Original Manuscript

The publication is extracted from this PhD dissertation.

- As the published works thesis includes copies or offprints of journal articles, book chapters etc. which already have page numbers, the pages of the publications themselves will not be included in the pagination sequence of the dissertation.
- The font Calibri (Body) in this manuscript was set to differentiate itself from the dissertation.
- The tables, figures and page numbers are re-labelled and re-numbered for the systematic presentation in this PhD dissertation. Please refer to the published journal paper for the citations.
- The reference of this manuscript is collected in References (p.117).
- The word count of the manuscript is not included in the PhD dissertation.

(Please find the published version in Appendix G)

Evaluation of therapeutic relationship skills training for mental health professionals: The Therapeutic Relationship Enabling Programme (TREP)

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Published online: 25 May 2019.

To cite this article: Liao, F. & Murphy, D. (2019) Evaluation of therapeutic relationship skills training for mental health professionals: The Therapeutic Relationship Enabling Programme (TREP). *MedEdPublish, 8(2),* 42

To link to this article: https://doi.org/10.15694/mep.2019.000112.1

Evaluation of therapeutic relationship skills training for mental health professionals: The Therapeutic Relationship Enabling Programme (TREP)

Abstract

Background: A 3-day workshop in Taiwan, developed in accordance with Carl Rogers' person-centred theory, used a combination of experiential-learning pedagogy and a new learning technology 'mPath'. A quasi-experiment was designed to evaluate the effectiveness of a short-term course for mental health professional students assessing to what extent their therapeutic relationship competencies were developed.

Objective: To evaluate the training effects and investigate any changes in the level of therapeutic relationship competence of the participants before, at the end and two weeks after the intervention.

Methods: A sample of 59 mental health professional students from 7 medical schools studying in nursing, occupational therapy, medicine, clinical psychology and other specialties with a completion of psychiatry-relevant courses (N=59, mean age=24.22). 26 of 59 mental health professional students volunteered to form the experimental group, and 33 students in the control group were recruited by the members of the experimental group through snowball sampling. All of them completed the Barrett-Lennard Relationship Inventory OS-40 before, at the end and two weeks after the workshop. Mean values and statistical significance tests were computed to compare the results.

Results: Within 3 days, the mental health professional students in the experimental group (N=26) completed the Therapeutic Relationship Enabling Program (TREP) and showed a statistically significant level of change (Mean difference= +9.5, p=.002), which was in contrast to the outcome of the control group (N=33, Mean difference= +0.18, p=0.683), in the therapeutic relationship competences. The effecting growth curve of therapeutic relationship competence in the experimental group continually inclined two weeks after the intervention (Mean difference= +19.423, p=0.000) while the control group reflected a decline in therapeutic relationship competence (Mean difference= -0.515, p=0.812).

Conclusions: A person-centred-theory-based training workshop with the use of a specially designed technology enhanced Taiwanese mental health professional students' learning on therapeutic relationship competences. A further investigation into learning person-centred

therapeutic relationship qualities in the workshop as an innovative pedagogy and learning approach for medical education in psychiatry would be recommended.

Keywords: Education in psychiatry, Communication skills, Simulation and new technology, Curriculum Development/Evaluation, Physician/Patient Relationship, Person-centred

Evaluation of therapeutic relationship skills training for mental health professionals: the Therapeutic Relationship Enabling Programme (TREP)

Introduction

Physicians are trained for the major purpose of preparing themselves to provide a fusion of medical science and social science in which emphasis is often placed upon the importance of developing empathy towards patients in medical practice. This is specifically the case when their task is to learn about the psychiatric context within their medical education. As literature from the American Association of Medical Colleges (AAMC), General Medical Council (GMC) in the United Kingdom and the Liaison Committee on Medical Education (LCME) in Canada and the United States shows, empathy enhancement is one of the essential goals for learning in medical education. This is to ensure medical students' competency in developing and maintaining therapeutic relationships which can be relevant to patients' prognosis (Stephien & Baernstein, 2006; Dale, Bhavsar, & Bhugra, 2007; Shaprio, 2008; Bayne, 2011).

Psychiatry is an important branch of medicine. As such, medical trainings have seen increases to the total number of teaching hours assigned to psychiatry rotations, revising and expanding psychiatric teaching programs throughout the whole course, developing clinical placements in hospital wards starting in connection with other medical services, and developing the technique of psychiatric examination to parallel that of the physical diagnosis process (Dale, Bhavsar, & Bhugra, 2007; Bayne, 2011; Vestermark, 1952; Thompson, 1953; Law, et al., 2011). This study examines the effectiveness of a therapeutic relationship training program (TREP) for medical and psychiatry-related health professionals that used a combination of experiential learning methods supported by new technologies.

One of the most important elements of all psychiatric treatments is the relationship between healthcare professional and the patient. Qualitative researchers have suggested that the therapeutic relationship in mental health care plays an essential role in patients' recovery from severe mental illness, such as schizophrenia (McCabe & Priebe, 2004) and that the relationship directly effects outcomes (Bendapudi, Berry, Frey, Parish, & Rayburn,

2006) and this has been shown in studies that have investigated self or peer-rating assessments, observation studies, quasi-experiments, and interviews (Priebe, Richardson, Cooney, & Adedji, 2011; Ditton-Phare, Loughland, Duvivier, & Kelly, 2017). Conducting multi-faceted studies in therapeutic relationships and providing effective psychiatric healthcare are suggested to be increasingly crucial in response to the rise in psychological distress in the population (Ditton-Phare, Loughland, Duvivier, & Kelly, 2017; Fu, Lee, Gunnell, Lee, & Cheng, 2013; World Health Organization, 2014; Pescosolido, 2013). However, due to the heterogeneity of studies there is still little known about the therapeutic relationship within different psychiatric approaches (Ditton-Phare, Loughland, Duvivier, & Kelly, 2017; Maguire & Pitceathly, 2002), and the frameworks of the therapeutic relationship in psychiatric healthcare remain unclear (Bayne, 2011; Priebe, Richardson, Cooney, & Adedji, 2011). Thus, developing mental health professionals' therapeutic relationship knowledge and skills could be one of the essential focuses for the future of psychiatric and psychiatry-related professional education (Alberts & Eldstein, 1990; Messina, Sambin, & Palmieri, 2013).

The therapeutic relationship in psychiatry

In mainstream mental health care, the definitions and approaches of therapeutic relationship are varied; such as the term *therapeutic relationship* (Alexander & Coffey, 1997) meaning a therapist and a patient that engage with each other to effect beneficial change in the patient, *therapeutic alliance* (Clarkin, Hurt, & Crilly, 1987) which means creating a bond between patient and therapist to formulate and apply judgment precisely and help patients define and reach their goals, the *helping relationship* (Goering & Stylianos, 1988) which is a relationship between the helper and the helpee facilitating the quality of the relationship with five characteristics: listening attentively, understanding the other person's point of view, accepting the person non-judgmentally, caring enough to be committed and involved (but not overly involved), and being genuine, and lastly the *working alliance* (Gehrs & Goering, 1994) which consists of three parts: tasks, goals and bond agreed by both parties to help reach the client's goals.

Regardless of the various approaches to the therapeutic relationship, studies have indicated that a mutual experiencing of the therapeutic relationship is an influential factor to assist the clients through the treatment (Cornelius-White, Kanamori, Murphy, & Tickle, 2018; McGuire, McCabe, & Priebe, 2001). Moreover, a systematic review of research identified 129 studies between 1990 to 2009 that had addressed the correlation between the patients' prognosis and the therapeutic relationship. The review suggested there was an overall small effect size r= .22 (Martin, Garsle, & Davis, 2000). 33 of the 129 studies were identified as investigations on whether the therapeutic relationship predicted the outcome of the treatment; 22 of these studies used clinician- or patient-rated measures and results reported in 3 of 6 studies with hospitalized patients showed that a better therapeutic relationship was associated with fewer hospitalizations, 3 of 10 measured the level of patient's symptoms and reported that the therapeutic relationship was one of the most influential factors for symptom reduction, and 6 out of 6 studies evaluating the patient's functioning showed significant associations with the therapeutic relationship (Priebe, Richardson, Cooney, & Adedji, 2011).

A systematic review on current approaches of communication skills for those in the psychiatric and psychiatry-related professions indicated an improvement in empathy and interview skills after experiencing therapeutic-relationship-related training protocols (Ditton-Phare, Loughland, Duvivier, & Kelly, 2017). Medical students in a quasi-experimental study on learning doctor-patient communication reported that 84 students (male=32, female=52, mean age=21.9) showed significant learning progress on communication skills ($p< .001$) at the beginning and the end of a 39-hour course over two semesters. The course involved tutors with groups of 8-12 students working together, using doctor-patient role play, giving and receiving feedback, analysing video, and a video exam (Cämmerer, Martin, & Rockenbauch, 2016). Another quasi-experimental study on psychiatric nurses' communication skills training was conducted as a short-term course with lectures, problem solving, brain storming, members sharing experiences and discussion, and using personal computer and whiteboards as educational tools. The study discovered that the level of stress of the random-assigned members in the experimental group (N=23, mean stress score difference = -.1) decreased significantly one month after the intervention while and the control group's stress level (N=22, mean stress score difference = +.4) continued to

increase. Ghazavis concluded that psychiatric nurses are often influenced by the stressful working environment which leads to desensitizing in therapeutic relationship with their patients, and he also suggested providing an appropriate working environment for ward nurses to learn communication skills that could lower the work load and improve the therapeutic relationship with patients (Ghazavi, Lohrasbi, & Mehrabi, 2010).

Despite these recent studies, the underlying premise of the therapy relationship in psychiatric education remains confusing as it can be positioned from multiple theoretical perspectives. There are at least six conceptual and theoretical frameworks of mental health professional training that have traditionally been applied, and five of them have emphasized the importance of developing therapeutic relationship competence during training. For example, the *role theory* focuses upon the functions and patterns of behaviours of the practitioners and patients in the relationship, the *social constructionism* looks at the process of patients' interpretation about their experience through the communication with the practitioners, the *systems theory* is functioning as a re-construction of patients' external systems, such as their family, in the therapeutic settings, the *social psychology* emphasizes the interpersonal interaction between the practitioners and patients; and lastly, the *cognitive behaviourism* bridges patients' cognition and behaviours by facilitating a working relationship in the psychiatric settings (McGuire, McCabe, & Priebe, 2001).

Carl Rogers, a pioneer of Humanistic Psychology and psychotherapy and specifically the person-centred approach, developed the theory of the six necessary and sufficient conditions of the therapeutic relationship (Rogers C. , 1957). Rogers gave therapeutic relationship a wider definition where it also advocates providing a non-judgmental and non-directional therapeutic atmosphere where clients and therapists experience six therapeutic conditions, three of which are specific to the therapist: *empathic understanding, unconditional positive regard, and congruence* (Rogers C. , 1957). Rogers' therapeutic relationship conditions would be a complex of mutual, reciprocal, and dual interaction between mental health professionals and their clients (Rogers C. , 1957; Barrett-Lennard G. , 2011; Murphy, Cramer, & Joseph, 2012). The six necessary and sufficient conditions are as follows (Rogers C. , 1957, p. 95): *1) Two persons are in psychological contact. 2) The first, whom we shall term the client, is in a state of incongruence, being vulnerable or anxious. 3)*

The second person, whom we shall term the therapist, is congruent or integrated in the relationship. 4) The therapist experiences unconditional positive regard for the client. 5) The therapist experiences an empathic understanding of the client's internal frame of reference and endeavours to communicate this experience to the client. 6) The communication to the client of the therapists' empathic understanding and unconditional positive regard is to a minimal degree achieved. By maintaining an experience of these conditions, a therapeutic relationship would benefit both clients and professional practitioners. The theory provides a useful framework for positioning the therapeutic relationship within psychiatry.

Pedagogy in Psychiatry

The registered number of psychiatrists in South East Asia and Africa in 2014 has increased 25% since 2011, and the population of other mental health professionals, such as psychiatric nurses, has also grown by 37% (World Health Organization, 2014, p. 53). This increasing supply of mental health professionals reflects the growing prevalence of psychological distress in the general population. For example, in Taiwan in East Asia, it was reported that there were 1 in 4 people suffering from common mental health problems, such as depression and anxiety disorder (Fu, Lee, Gunnell, Lee, & Cheng, 2013). The numbers of mental health service users are still multiplying rapidly (World Health Organization, 2014). Therefore, providing an effective training for mental health care becomes essential.

According to McCann *et al.* (2012), there are currently five approaches applied to developing a mental health professional covering pedagogical and quality aspects including: *professional development*, *topics and teaching methods*, *practice placements and supervised sessions,* and *quality assurance mechanisms*. Firstly, *professional development* provides students with current policy, services and practice development. Secondly, *topics and teaching methods* typically is a mixture of lecture format and other didactic methods, self-directed learning, and experiential learning. Thirdly, *assessment of learning* is used in assessing students on most courses. Fourthly, *practice placements and supervised sessions* require students to complete formal reports on placement supervision. Lastly, most courses use external examiners and formal feedback from students as the *quality assurance mechanisms* in the educational programs (McCann, 2012). Hypothetically, mental health

professional students acquire knowledge and skills to work in psychiatric healthcare and achieve the expectations of

> *"working in partnership, respecting diversity, practicing ethically, challenging inequality, promoting recovery, identifying people's need and strengths, user-centered care, making a difference, promoting safety and positive risk taking, and personal development and learning.:* (McCann, 2012, p. 383).

The current medical education in the Mandarin-speaking world, and specifically Taiwan, has been influenced by Western culture due to the colonial and post-colonial history (Cheng, 2001). For example, standard Taiwanese medical education is a 7-year Western education program for doctors and a 4 or 5-year program for other health professionals, such as nurses, dentists and psychotherapists. The curriculum of doctors' education includes 2 years of pre-medical courses, 2.5-3 years of clinical course and 2.5-3 years of clerkship and internship. The program of nurses and psychotherapists' education comprises 1-1.5 years of integrated and basic clinical courses, and 2.5 years of practical placement in the medical settings (Chou, Chiu, Lai, Tsai, & Tzeng, 2012). Before determining which subfield to serve in, medical students in Taiwan are required to follow the curriculum of medical education provided by the Ministry of Education (Chou, Chiu, Lai, Tsai, & Tzeng, 2012). Following the principle of medical education given by the Accreditation Council for the Graduate Medical Education (ACGME) in the United States, the medical education in Taiwan has stated that the performance of health providers is determined by the framework of their competencies of medical knowledge, practice-based learning and improvement, professionalism, systems-based practice, patient care, and interpersonal and communication skills (Rider & Nawotniak, 2010). Importantly, ACGME has emphasized the capabilities of taking care of patients and the abilities of interacting and communication should be taught to students within medical education (Rider & Nawotniak, A Practical Guide to Teaching and Assessing the ACGME Core Competencies (2 ed.), 2010). Acknowledging the professional practitioner-patient communication and the improvement of practitioners' empathy skills are essential factors to influence patients' prognosis and overcome the potential shortcomings associated with limited health-literacy capabilities (Bendapudi, Berry, Frey, Parish, & Rayburn, 2006; Chu & Tseng, 2013). In this vein, the Ministry of Education in Taiwan has embraced the American and British standards of practitioner's training to bring humanities

into many areas of medical education, such as curriculum, licensing, student enrolment and the continuing education in health services (Chiu & Tsai, 2009). There is not only the medical knowledge and practice to be gained through the 7-year program, but also seminars about professional practitioner-patient relationship, such as empathic understanding of patients, communication skills and so on, which have to be learned during the pre-medical courses as part of the curriculum as required by the Ministry of Education in numerous of the medical schools (Chou, Chiu, Lai, Tsai, & Tzeng, 2012; Chu & Tseng, 2013; Chiu & Tsai, 2009).

This challenges the current medical educators, clinical supervisors, preceptors and medical staffs in the psychiatric departments to consider revising current pedagogy and to design suitable educational programs for mental health professional students. Although proactively applying a range of traditional and non-traditional learning methods to introduce health professional students to humanities courses, pre-medical and clinical courses (Chou, Chiu, Lai, Tsai, & Tzeng, 2012; Chiu & Tsai, 2009; Chu & Tseng, 2013), the Ministry of Education Taiwan has requested more medical education concepts and models from other countries to be developed (Chou, Chiu, Lai, Tsai, & Tzeng, 2012).

Learning Interpersonal Skills in Psychiatry

Integrating the five pedagogical approaches of developing mental health professional students, using the *Helping Skills Model* becomes one of the common educational methods for mental health professional students (Hill & Lent, 2006) and is considered an experiential learning method (Slovák, et al., 2015). It integrates aspects from three traditional methods: *Human Relation Training* (Carkhuff, 1972), *Micro-Counselling* (Ivey, 1971), and *Interpersonal Process Recall* (Kagan, 1984). *Human Relation Training* (HRT) develops mental health professional students by rotating the roles of practitioner, client and observer during the interpersonal skills practice. *Micro-Counselling* (MC) focuses on developing specific interpersonal skills during role-paly practice, with tutor's feedback and guidance. *Interpersonal Process Recall* (IPR) helps mental health professional students review their practice with the peers to reflect and deepen the understanding of what happened in the practice session (Slovák, et al., 2015). The methods of the *Helping Skills Model* include *direct instruction* where the instructor gives information about target skills, *modelling* involves

demonstration of specific skills, and *feedback* from either the instructor or the other participants. These methods are often performed through the use of audio recording and video capture to facilitate practice (Slovák, et al., 2015). Studies have found that video recording with peer feedback in real-time consultation is in favour in contemporary medical education with UK medical students (N=162) during training (Eeckhout, Gerits, Bouquillon, & Schoenmakers, 2016), and also has indicated that self-reflecting on non-verbal behaviours, such as facial expression, un-purposive moment, body position, unnecessary giggling improved the communication skills of the medical students in the experimental group (N=134) with a significant change through using video training (Park & Park, 2018).

mPath, a new technology software, advances the methods of the *Helping Skills Model*, as an innovative online software system developed specifically for mental health professional students. It provides the opportunity for a structured analysis of the mental health professional students' practice sessions and aims to elicit and receive specific feedback from clients. The software has been produced by a cross-disciplinary team and offers the possibility for new technology to be added to existing methods of developing therapeutic relationship helping skills (Slovák, *et al.*, 2015; Murphy, *et al.*, 2017; Murphy, *et al.*, 2019). It does this by deploying multiple tools to reflect on various aspects of peoples' experiences. The entire process is all tightly linked with the video-recording of the session and designed to facilitate a time-efficient reflective feedback process.

To gain a deeper self-reflection on the session of mental health professional students' education, mPath provides the opportunity of a structured reflection for students, allowing the opportunity to process a self-analysis whilst attaching specific thoughts or comments left as text annotations to the recorded video. mPath also creates the space for interactions between the students as practitioners to collaborate with their clients. For example, the clients are able to share their thoughts, feelings and internal processes with the practitioners by giving feedback to them within the system. Furthermore, mPath offers the chance to enhance students' therapeutic relationship competence by making annotation notes on the recorded practice videos, adapting to review different perspectives, requesting client's feedback, deepening understanding of affect, and observing body movements (Slovák, *et al.*, 2015; Murphy, *et al.*, 2017; Murphy, *et al.*, 2019).

Methods

Objective

The aim of the study was to test the effectiveness of a 3-day training on mental health professional students' competence in the Rogerian therapeutic relationship skills. The objectives were to clarify the group's and individual's baseline at the beginning of the study and evaluate the training effects at both group and individual level. To this end, the following research questions were posed.

- *Is there any difference in baseline performance (pre-test, the first assessment) in terms of maturation by specialties education, such as nursing, occupational therapy, medicine, clinical psychology and others?*
- *If the participants obtained same baseline competence of Rogerian therapeutic relationship skills, do the control and experimental group show a significant difference in escalating behaviour before, at the end of and two weeks after the training intervention?*
- *If the participants obtained difference in baseline of Rogerian therapeutic relationship skills, does each group of each medical specialty show a significant difference in developing the competence before, at the end of and two weeks after the training intervention?*
- *Do the training results depend on time of exposure in the experiential learning?*

Design

A pre-posttest with follow-up within-and-between-group design was used. A cross-sectional analysis was performed to understand the participants' competency in person-centred therapeutic relationship skills with and without the intervention to evaluate whether the therapeutic relationship skills could be learned in a short period of time and if the impact can be sustained at two weeks after the intervention (Law, *et al.*, 2011; Barrett-Lennard, 2011; Barrett-Lennard 1962; Barrett-Lennard, 2018; Aukes, Geertsma, Cohen-Schotanus, Ziwerstra, & Slaets, 2008; Nau, Halfens, Needham, & Dassen, 2010).

The Therapeutic Relationship Enabling Program (TREP) was designed as a process- and theory-oriented workshop where the participants were divided into two groups: the experimental group and control group (Barrett-Lennard, 2011; Barrett-Lennard, 2018; Law, *et al.*, 2011). The control group did not receive the TREP intervention while the experimental group was exposed to the 3-day TREP workshop. Each group was presented

with three assessments of the Mandarin-Chinese version of Barrett-Lennard Relationship Inventory (B-L RI:MC) (Liao, Murphy, & Barrett-Lennard, 2018) used to rate their relationship competency, at the beginning, end of and two weeks after the intervention (Liao, Murphy, & Barrett-Lennard, 2018; Barrett-Lennard, 1974/1975). By comparing the multi-faceted outcomes of the within-and-between evaluations of the two groups, the effectiveness of the TREP would be considered.

Sample and participants

Estimating an effective sample size for increasing the degree of confidence is preferred to recruit a statistical population on the basis of a relatively small amount of sample data (Ellis, 2010; Kelley & Preacher, 2012). Cohen suggested that the effect sizes of small, medium, and large are with a *d* of .2, .5, and .8 (Hill & Lent, 2006; Cohen, 1988). According to the meta-analysis of the effectiveness of helping skills trainings surveyed by Hill and Lent, the aggregated effect size (d_+) was .89 for conducting a training program (Hill & Lent, 2006).

In 2016, there were 8,661 mental health professionals registered to work in psychiatric settings in Taiwan which includes hospitals, psychiatric clinics, day-care institutions and psychiatric nursing homes. There were 1,601 psychiatrists, 5,146 psychiatric nurses, 521 social workers, 685 clinical psychologists, 708 occupational therapists, 897 administers, 483 para-medical personnel, and 47 others worked in the licensed mental health professionals who have been working in the psychiatric settings and approximately 1,201 students studied in learning and practicing psychiatric knowledge in medical schools (University Admissions Committee, 2014; Ministry of Health and Welfare, 2015). The target population is less than 2% of the entire population of Taiwan. Taiwanese mental health professional students are considered as a rare population. As the result of the estimation of an effective sample size, the minimum required sample size of the therapeutic relationship enabling program will approximately be 26 participants if the desired statistical power level is set as .8 and the probability level is .05 comparing to the whole population in Taiwan where there are 23,496,813 people. In this study, the aim was to have 3 workshops where 8 participants were in the experimental group in each workshop in order to reach 24 participants for the experimental group and 24 people for the control group sufficiently in

this study. Therefore, it aimed to recruit more than 48 Taiwanese mental health professional students across two groups. The characteristics of the target group would be mental health professional students from medical-relevant professions in medical school in Taiwan, such as psychiatrists, psychiatric nurses, clinical psychotherapists, occupational therapists, and the students practicing/learning psychiatric knowledge in the psychiatric settings/schools and would be considered as a specific group providing psychiatric healthcare.

To identify prospective participants, the snowball sampling was one of the suitable methods to access the target population (Voicu & Babonea, 2011). The snowball sampling, also named referral sampling, is often used to target hidden populations, such as a particular group of people which is less than 2% of the entire population (Voicu & Babonea, 2011). It allows researchers to use the participant's social networks to refer to other prospective participants who could potentially contribute to the research (Heckathorn, 1997). However, this study aimed to recruit more than 24 Taiwanese mental health professional students for each experimental and control group to evaluate change in the person-centred therapeutic relationship competence before, at the end and two weeks after the Therapeutic Relationship Enabling Programme.

Measuring Therapeutic Relationship in Psychiatry: Barrett-Lennard Relationship Inventory Mandarin-Chinese Version OS-40

The Barrett-Lennard Relationship Inventory (B-L RI) is a multiple-choice questionnaire, which is designed specifically for evaluating interpersonal relationships. It was developed by Barrett-Lennard when working with Carl Rogers in the University of Wisconsin where Rogers and his colleagues studied psychotherapy with people with a diagnosis of schizophrenia during the later 1950s and early 1960s (Thorne & Sanders, 2013, p. 112). Acknowledging the positive impact of Rogers' theory, the B-L RI has been expanded and applied in evaluating different kinds of relationship. For example, therapist-client relationship, teacher-student relationship, family relationship, friendship, partnership, etc. B-L RI has been gradually adapted into different forms, such as 64-items and 40-items (Liao, Murphy, & Barrett-

Lennard, A confirmatory factor analysis of the Mandarin-Chinese version of the Barrett-Kennard Relationship Inventory, 2018).

In this study, the Mandarin-Chinese version of Barrett-Lennard Relationship Inventory: Form Other Toward Self-40 (OS-40) will be used as the measure indicates a promising reliability and construct validity in measuring therapeutic relationship conditions in Mandarin contexts (Liao, Murphy, & Barrett-Lennard, 2018). In form OS-40, there are four dimensions in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version, *level of regard, empathic understanding, unconditionality of regard* and *congruence*, and each dimension obtains 10 items (Liao, Murphy, & Barrett-Lennard, 2018; Barrett-Lennar, 2015). The *level of regard* refers to the affection of one person's response to another, and it might embed positive or negative feelings (Barrett-Lennard G. , 2015, p. 11). The concept of *empathic understanding* is defined as one person is conscious of and feels awareness of another (Barrett-Lennard G. , 2015, p. 10). The definition of *unconditionality of regard* is given as the affective response and self-experiences of one person towards another (Barrett-Lennard G. , 2015, p. 11). Finally, the concept of *congruence* is the consistency between whole present experience and awareness. For example, a congruent person can be honest, sincere and direct to another without hesitation or feeling compelled during the communication (Barrett-Lennard G. , 2015, p. 11). Each item is rated on differing strengths of No or Yes in the range -3 to +3 (Barrett-Lennard G. , 2015, pp. 26-34; 40-41). Each score of the scale would result in a possible range of -30 to +30. If avoiding negative values is necessary, it could add a constant of +30 to each obtained scale score to convert the scores with a possible range of 0 to 60 (Barrett-Lennard G. , 2015, p. 122). Applying the standard scoring method of the 64-item scale in the 40-item scale, B-L RI:MC OS-40 would result a score with a range of -30 (or -3 x10) to +30 (or +3 x 10) in each 10-item. A sub-score of 20 would indicate an average item score of 2 after converting the scores to the negatively worded items and represents an obvious affirmation of a person who experiences a positive therapeutic condition, like empathy, level of regard, etc. A sub-score of 15 would represent a less helpful relationship. Lastly, with a sub-score of 10, an assessment would discover a respondent experiencing a conceivably less than adequate level of therapeutic relationship (Barrett-Lennard G. , 2015, pp. 39-42). However, the development and adaption of Barrett-Lennard Relationship

Inventory and its Mandarin-Chinese version was absolutely aligned with the core concept of person-centred therapeutic relationship (Liao, Murphy, & Barrett-Lennard, 2018).

Therefore, the Mandarin-Chinese version of Barrett-Lennard Relationship Inventory (B-L RI:MC) was administered to the participants in both the control group and experimental group prior to the TREP as a pre-test evaluation. The post-test evaluation was conducted at the end of the TREP. The final assessment was performed 2 weeks after the TREP and before a qualitative interview took place (Liao, Murphy, & Barrett-Lennard, 2018; Messina, Sambin, & Palmieri, 2013).

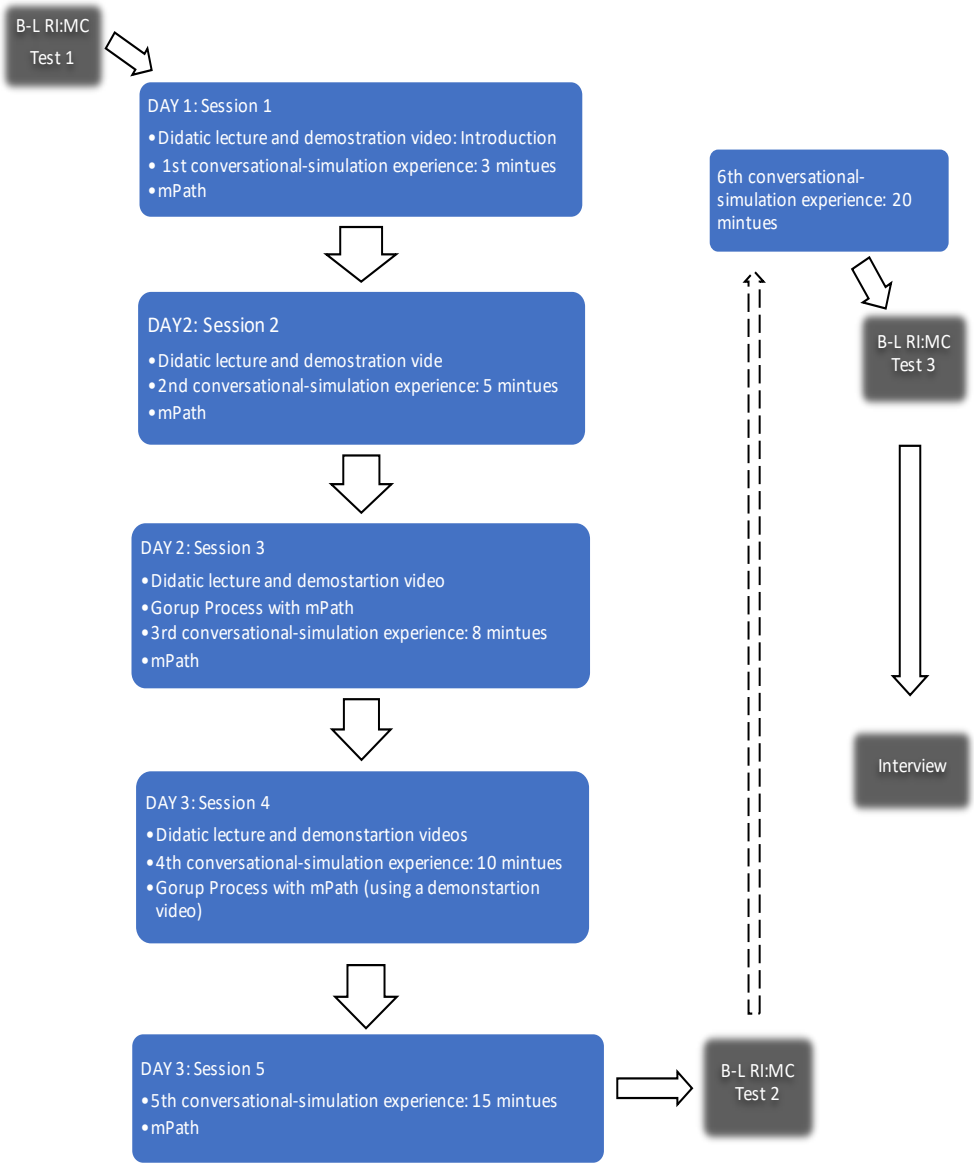
Intervention: Therapeutic Relationship Enabling Programme

The TREP consisted of a 3-day workshop of 5 didactic lectures, 5 conversational-simulation experiential exercises, and 5 non-directive reflection and self-reflecting processes with technology support which was followed by one more conversational-simulation experience and a semi-structured interview after two weeks (Figure 6-1) (Aukes, Geertsma, Cohen-Schotanus, Ziwerstra, & Slaets, 2008; Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011; Cornelius-White, Kanamori, Murphy, & Tickle, 2018; Slovák, *et al.*, 2015). There were 5 sessions designed in the intervention. Each session took 2 hours consisting with 1 didactic lecture, 1 conversational-simulation experience, 1 technological-based reflection with mPath and a break. The first and second assessments took place before and after the intervention to evaluate any change of participants' performance and the effectiveness of the intervention. The final assessment was given after the 6^{th} conversational-simulation experience and before the interview to investigate the sustainability and development of the effect over time.

In the first session, an interactive activity was conducted to help learn about the different perspective of unconditional positive regard of each individual. The concepts of Rogers' person-centred therapy and therapeutic relationship were addressed by giving an introduction and a demonstration video. After giving a tutorial of mPath the participants, with their practice partner, were requested to videotape a 3-minute communicative practice and upload it to the software system, and then leave some annotations on mPath.

Secondly, one of four dimensions of Rogerian therapeutic relationship was addressed in the course followed by another demonstration video. The participants then videotaped a 5-minute conversational-simulation experience with their peers, and then self-processed with the use of mPath. Thirdly, another dimension of Rogerian therapeutic relationship was given followed by a group process activity on mPath and an 8-minute conversational-simulation experience. The participants would self-analyse, share their thoughts and ask their partner for feedback in the system. Fourthly, the final two dimensions of Rogerian therapeutic relationship were introduced in mini-lecture format, and the participants had a 10-minute conversational-simulation experience. Finally, the participants had a 15-minute conversational-simulation experience with their partners, and then made annotation notes on the recorded practice videos, adapting to review different perspectives, requesting the partners' feedback, deepening understanding of emotional affect, and observing their body movements.

Figure 6- 1 Procedure of Therapeutic Relationship Enabling Programme and the Quasi-Experiment



The workshop was developed to fulfil three requirements. First of all, it aimed to ensure that Rogers' person-centred theory was well-implemented in the workshop. For instance, the medical-educated trainer must specialize in the person-centred approach to counselling and psychotherapy in order to create a non-directive and non-judgmental atmosphere and adjust the training schedule flexibly for the participants to experience the nature of person-centred approach and enhance their learning (Rogers C. , 1957; Aukes, Geertsma, Cohen-Schotanus, Ziwerstra, & Slaets, 2008; Barrett-Lennard, 2011; Barrett-Lennard, 2018).

Secondly, it promoted the development of knowledge and competency of therapeutic relationship skills by giving the definitions of 4 conditions in Rogerian therapeutic relationship and then illustrating some of the examples of therapeutic competences in the person-centred and experiential psychotherapy using video clips (Rogers, 1957; Freire, Elliott, & Westwell, 2014; Barrett-Lennard, 2011; Barrett-Lennard, 2018). Lastly, it delivered the theoretical, conception and empirical evidence for each element in the TREP. For example, the research ethics and rationale of the training workshop, the results of the validation of Barrett-Lennard Relationship Inventory Mandarin-Chinese version, and the publications of the development and application of the helping learning technology mPath (Slovák, *et al.*, 2015; Liao, Murphy, & Barrett-Lennard, 2018; Barrett-Lennard, 2018; Barrett-Lennard, 1962).

Results

Demography of Participants

59 mental health professional students, with a mean of age 24 in Taiwan were recruited to this study, including 26 people in the experimental group and 33 people in the control group. 50 of 59 participants were female, and 9 of them were male (Table 6-1). 30 were nursing students, 6 were studying in occupational therapy, 10 were medical students, 10 were in clinical psychology, and 3 were students in other mental-health-relevant professions. All participants had completed psychiatric-related lectures in medical schools, such as neurology, psychology, psychiatric nursing, psychotherapy, psychological occupational therapy, however, they reported little or no prior exposure to psychiatric settings.

In the experimental group, the participants were requested to participate in the TREP in pairs to evaluate the change of the therapeutic relationship competence of their partners. There were 24 females and 2 males with a mean of age 22 years. 15 of them were trained in nursing, 5 in occupational therapy, 4 in medicine, 2 in clinical psychology, and none in other mental-health-relevant professionals. 18 of 26 participants in the experimental group were rating a peer-relationship with 3 to 5 years. 8 of them were rating relationships with either 1 to 3 years or more than 5 years.

On the other hand, the ratees in the control group were recruited through the snowball sampling. They were required to complete 3 evaluations of the therapeutic relationship competence of a mental health professional student who did not experience the Therapeutic Relationship Enabling Program. With a mean of age 24 years, the majority of the control were female and nursing students. 26 females and 7 males. There were 15 ratees studying in nursing, 1 in occupational therapy, 6 in medicine, 8 in clinical psychology and 3 in other mental-health-relevant specifies. In terms of years of the evaluated peer-relationship, the relationship with 3 to 5 years were mostly rated, and then the one with 1 to 3 years went second, and finally one with more than 5 years was the last. None of the evaluated relationship was less than 12 months.

The result of the Mandarin-Chinese version of Barrett-Lennard Relationship Inventory: Form OS-40 (B-L RI:MC OS-40), 59 participants rated a total mean score of 43.20 and standard deviation of 23.10 in the scale where the sub-scales of *level of regard* (M=17.49, SD=6.64), *empathic understanding* (M=9.92, SD=8.73), *unconditionality of regard* (M=2.14, SD=6.20) and *congruence* (M=13.66, SD=8.74) were embedded (Table 6-4). The result above was aligned with other samples where the average score of *level of regard* tended to be higher than other sub-scales and the scores of *unconditionality of regard* were the lowest one in the scale (Barrett-Lennard G. , 2015, p. 41).

Table 6- 1 Characteristic of the Sample of Mental Health Professional Students in Taiwan

	Experimental Group (N=26)		Control Group (N=33)		Total (N=59)	
Characteristic	N	%	N	%	N	%
Age (years)						
20-29	24	92.30	27	81.82	51	86.44
30-39	1	3.85	3	9.09	4	6.78
40-49	1	3.85	1	3.03	2	3.39
>50	0	0.00	2	6.06	2	3.39
Means (M)	22.96		25.21		24.22	
Standard Deviations (SD)	5.64		8.02		7.10	
Gender						
Male	2	7.70	7	21.20	9	15.30
Female	24	92.30	26	78.80	50	84.70
Other	0	0.00	0	0.00	0	0.00
Specialties						
Nursing	15	57.70	15	45.50	30	50.80
Occupational Therapy	5	19.20	1	3.00	6	10.20
Medicine	4	15.40	6	18.20	10	16.90
Clinical Psychology	2	7.70	8	24.20	10	16.90
Others	0	0.00	3	9.10	3	5.10
Year of Evaluated Peer-relationship						
Less than 6 months	0	0.00	0	0.00	0	0.00
6-12 months	0	0.00	0	0.00	0	0.00
1-3 years	4	15.38	12	36.36	16	27.10
3-5 years	18	69.23	15	45.45	33	55.90
More than 5 years	4	15.38	6	18.18	10	16.90

Examining Participants' Baseline Competence of Rogerian Therapeutic Relationship: Between Specialties

A one-way between subject ANOVA was conducted to compare the baseline competence rating of therapeutic relationship skills of the mental health professional students across specialties: nursing, occupational therapy, medicine, clinical psychology and others (Table 6-2; Table 6-3). There was no significant difference in amount of baseline competence on participants' specialties at the $p > .05$ level for the five specialties [F (4, 54) = .28, p=.887]. This tests the null hypothesis that the error variance of the dependent variable is equal across groups. Furthermore, the baseline competence of therapeutic relationship of participants who specialize in nursing (N=30, M= 46.43, SD=21.55) did not significantly differ from the participants who were studying in occupational therapy (N=6, M=48.17, SD=23.77), medicine (N=10, M=43.30, SD=25.54), clinical psychology (N=10, M=32.30, SD=25.56) and others (N=3, M=37.00, SD=23.90) (Table 6-2; Table 6-3). In the table of the pairwise comparisons between specialties, with $p > .05$, it shows that there was no significant difference of the therapeutic relationship competence between each specialty of the mental health professional students. For example, the *p-value* resulted in .868 with the occupational therapy students, .713 with the medicine students, .102 with the clinical psychology students, and .506 with the students in other subjects if pair-comparing with the nursing students. With the occupational therapy students, there was no significant difference between the students in medicine with a p value of .687, clinical psychology with a *p value* of .192 and other subjects with a p value of .500. The medicine and clinical psychology students also showed no statistically significant difference from each other with a p value .295 (Table 6-3).

Table 6- 2 Descriptive Statistics Between Specialties of Participants Dependent Variable

Specialties	Mean	Std. Deviation	N
Nursing	46.43	21.548	30
Occupational Therapy	48.17	23.769	6
Medicine	43.30	25.539	10
Clinic Psychology	32.30	25.561	10
Others	37.00	23.896	3
Total	43.20	23.099	59

Table 6- 3 Pairwise Comparisons Between Specialties Dependent Variable

(I) Specialties		Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
Nursing	Occupational Therapy	-1.733	10.396	.868	-22.577	19.110
	Medicine	3.133	8.489	.713	-13.885	20.152
	Clinical Psychology	14.133	8.489	.102	-2.885	31.152
	Others	9.433	14.077	.506	-18.789	37.655
Occupational Therapy	Nursing	1.733	10.396	.868	-19.110	22.577
	Medicine	4.867	12.005	.687	-19.201	28.934
	Clinical Psychology	15.867	12.005	.192	-8.201	39.934
	Others	11.167	16.438	.500	-21.790	44.123
Medicine	Nursing	-3.133	8.489	.713	-20.152	13.885
	Occupational Therapy	-4.867	12.005	.687	-28.934	19.201
	Clinical Psychology	11.000	10.396	.295	-9.843	31.843
	Others	6.300	15.303	.682	-24.381	36.981
Clinical Psychology	Nursing	-14.133	8.489	.102	-31.152	2.885
	Occupational Therapy	-15.867	12.005	.192	-39.934	8.201
	Medicine	-11.000	10.396	.295	-31.843	9.843
	Others	-4.700	15.303	.760	-35.381	25.981
Others	Nursing	-9.433	14.077	.506	-37.655	18.789
	Occupational Therapy	-11.167	16.438	.500	-44.123	21.790
	Medicine	-6.300	15.303	.682	-36.981	24.381
	Clinical Psychology	4.700	15.303	.760	-25.981	35.381

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Examining Participants' Baseline Competence of Rogerian Therapeutic Relationship: Between Conditions

An independent-sample t-test was conducted to compare participants' competence of therapeutic relationship in the intervention and non-intervention conditions. There was not a significant difference in the total score of Barrett-Lennard Relationship Inventory Mandarin-Chinese version for the experimental group (M=44.50, SD=18.99) and the control group (M=42.18, SD=26.14); $t(57) = .38$, $p = .71$. These results suggest that the participants in both experimental and control group obtained similar baseline competence of Rogerian therapeutic relationship skills at recruitment (Table 6-4; Table 6-5). A report of Box's test of Equality of Covariance Matrices also indicated the null hypothesis that the observed covariance matrices of the dependent variables ($p = .024$) are equal across groups. Therefore,

it can be concluded that there was no statistically significant difference in Rogerian therapeutic relationship competence between participants and the two groups.

Table 6- 4 Groups Statistics BEFORE the Intervention

	Group	N	Mean	Std. Deviation	Std. Error Mean
Total Score of B-L RI:MC	Experimental Group	26	44.50	18.98	3.72
	Control Group	33	42.18	26.14	4.55
	Experimental + Control Group	59	43.20	23.10	3.01
Level of Regard	Experimental Group	26	17.92	5.97	1.17
	Control Group	33	17.15	7.19	1.25
	Experimental + Control Group	59	17.49	6.64	0.86
Empathic Understanding	Experimental Group	26	10.38	6.93	1.36
	Control Group	33	9.55	10.01	1.74
	Experimental + Control Group	59	9.92	8.73	1.14
Unconditionality of Regard	Experimental Group	26	2.35	6.21	1.22
	Control Group	33	1.97	6.29	1.09
	Experimental + Control Group	59	2.14	6.20	0.81
Congruence	Experimental Group	26	13.85	8.55	1.68
	Control Group	33	13.52	9.01	1.57
	Experimental + Control Group	59	13.66	8.74	1.14

Table 6- 5 Independent Samples Test of Experimental and Control Group BEFORE the Intervention

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total Score of B-L RI:MC	Equal variances assumed	3.07	0.09	0.38	57.00	0.71	2.32	6.10	-9.90	14.54
	Equal variances not assumed			0.39	56.67	0.70	2.32	5.88	-9.46	14.09
Level of Regard	Equal variances assumed	1.48	0.23	0.44	57.00	0.66	0.77	1.75	-2.74	4.28
	Equal variances not assumed			0.45	56.83	0.65	0.77	1.71	-2.66	4.20
Empathic Understanding	Equal variances assumed	3.58	0.06	0.36	57.00	0.72	0.84	2.31	-3.78	5.46
	Equal variances not assumed			0.38	56.17	0.71	0.84	2.21	-3.59	5.27
Unconditionality of Regard	Equal variances assumed	0.26	0.61	0.23	57.00	0.82	0.38	1.64	-2.91	3.66
	Equal variances not assumed			0.23	54.12	0.82	0.38	1.64	-2.91	3.66
Congruence	Equal variances assumed	0.00	0.97	0.14	57.00	0.89	0.33	2.31	-4.30	4.96
	Equal variances not assumed			0.14	55.01	0.89	0.33	2.30	-4.27	4.93

Changes and Influences on Learning Progress

A one-way repeated measures ANOVA was conducted to compare the change of the competence of Rogerian therapeutic relationship on mental health professional students, before, at the end and 2 weeks after the Therapeutic Relationship Enabling program. There was a significant change of the competence, Wilk's Lambda= .731, *F* (2, 56) = 10, *p*=.000 (Table 6-6). It reported that the participants' competence of Rogerian therapeutic relationship had a significant difference overall.

Table 6- 6 Multivariate Tests of Repeated Measure One-Way ANOVA

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Before_At theEnd_Two Weeks After	Pillai's Trace	.269	10.286[b]	2.000	56.000	.000	.269
	Wilks' Lambda	.731	10.286[b]	2.000	56.000	.000	.269
	Hotelling's Trace	.367	10.286[b]	2.000	56.000	.000	.269
	Roy's Largest Root	.367	10.286[b]	2.000	56.000	.000	.269
Before_At theEnd_Two Weeks After * Condition	Pillai's Trace	.289	11.396[b]	2.000	56.000	.000	.289
	Wilks' Lambda	.711	11.396[b]	2.000	56.000	.000	.289
	Hotelling's Trace	.407	11.396[b]	2.000	56.000	.000	.289
	Roy's Largest Root	.407	11.396[b]	2.000	56.000	.000	.289

a. Design: Intercept + Condition
Within Subjects Design: Before_At theEnd_Two Weeks After
b. Exact statistic

To measure the within-subjects effects in the test (Table 6-7), the result of Greenhouse-Geisser correction reported that when using an ANOVA with repeated measures with a Greenhouse-Geisser correction, the mean scores for the evaluations were statistically significantly different (F (1.709, 97.386) = 14.721, *p*=.000) between time points. It also indicated a significant difference between the experimental and control group with the mean scores F (1.709, 97.386) = 16.38, *p*=.000. Thus, it can say that those attending the TREP showed a statistically significant change in the level of competence in developing the therapeutic relationship with others over time.

Table 6- 7 Tests of Within-Subjects Effects

Measure

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Before_At theEnd_Two Weeks After	Sphericity Assumed	2600.023	2	1300.011	14.721	.000	.205
	Greenhouse-Geisser	2600.023	1.709	1521.787	14.721	.000	.205
	Huynh-Feldt	2600.023	1.787	1455.001	14.721	.000	.205
	Lower-bound	2600.023	1.000	2600.023	14.721	.000	.205
Before_At theEnd_Two Weeks After * Condition	Sphericity Assumed	2894.644	2	1447.322	16.389	.000	.223
	Greenhouse-Geisser	2894.644	1.709	1694.228	16.389	.000	.223
	Huynh-Feldt	2894.644	1.787	1619.874	16.389	.000	.223
	Lower-bound	2894.644	1.000	2894.644	16.389	.000	.223
Error (Before_At theEnd_Two Weeks After)	Sphericity Assumed	10067.605	114	88.312			
	Greenhouse-Geisser	10067.605	97.386	103.378			
	Huynh-Feldt	10067.605	101.857	98.841			
	Lower-bound	10067.605	57.000	176.625			

The repeated measure ANOVA (RM ANOVA) reported Mauchly's Test of Sphericity between three evaluation [Mauchly's W= .830, $X^2(2)= 10.475$, $p=.005$] and three paired samples t-tests of were used to make post hoc comparisons between each evaluation and the contrasts between groups reported significant [$F(1, 57)= 4.461$, $p=.039$] (Figure 6-2). In the experimental group, a first paired sample t-test indicated that there was a significant difference between the mental health professional students' competence of Rogerian therapeutic relationship before (M=44.50, SD=18.98) and at the end (M=54, SD=19.05) of the intervention; t (25) = -3.51, $p=.002$. A second paired samples t-test indicated that there was a significant difference between the mental health professional students' competence of Rogerian therapeutic relationship at the end of (M=54, SD=19.05) and two weeks after (M=63.92, SD=17.83) the intervention; t (25) = -3.48, $p=.002$. A third paired samples t-test indicated that there was a significant difference between the mental health professional students' competence of Rogerian therapeutic relationship before (M=44.50, SD=18.98) and two weeks after (M=63.92, SD=17.83) the intervention; t (25) = -5.12, $p=.000$ (Table 6-8). Hence, it can be concluded that Therapeutic Relationship Enabling Program initiates the

participants' therapeutic relationship competence in a short-term period, furthermore, the competence remains and increases while the participants were no longer exposed to the training environment.

Figure 6- 2 Estimated Marginal Means of Score

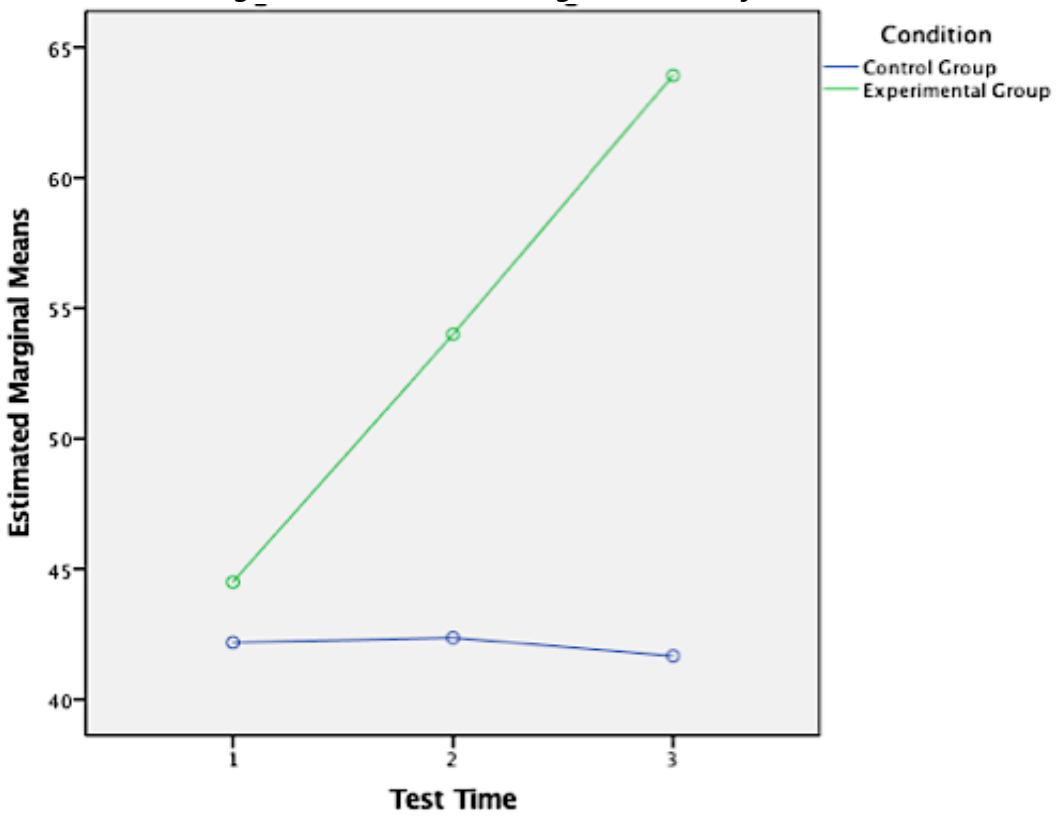


Table 6- 8 Descriptive Statistics and Paired Samples T-Test of Experimental Group and Control Group

	Descriptive Statistics					Paired Differences					t	df	Sig. (2-tailed)
	Test Time	Mean	SD			Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
									Lower	Upper			
Experimental Group (N=26)	*Before*	44.50	18.98	**Pair 1**	*Before - At the End*	-9.500	13.785	2.703	-15.068	-3.932	-3.514	25	.002
	At the End	54.00	19.05	**Pair 2**	*At the End - Two Weeks After*	-9.923	14.555	2.854	-15.802	-4.044	-3.476	25	.002
	Two Weeks After	63.92	17.83	**Pair 3**	*Before - Two Weeks After*	-19.423	19.346	3.794	-27.237	-11.609	-5.119	25	.000
Control Group (N=33)	*Before*	42.18	26.14	**Pair 1**	*Before - At the End*	-.182	9.551	1.663	-3.568	3.205	-.109	32	.914
	At the End	42.36	27.51	**Pair 2**	*At the End - Two Weeks After*	.697	9.729	1.694	-2.753	4.147	.412	32	.683
	Two Weeks After	41.67	24.29	**Pair 3**	*Before - Two Weeks After*	.515	12.314	2.144	-3.851	4.881	.240	32	.812

In contrast, the report of three paired samples t-test in the control group showed no significant difference between each evaluation. A first paired sample t-test indicated that there was no significant difference between the mental health professional students' competence of Rogerian therapeutic relationship before (M=42.18, SD=26.14) and at the end (M=42.36, SD=27.51) of the intervention; t (33) = -.109, *p*=.914. A second paired samples t-test indicated that there was no significant difference between the mental health professional students' competence of Rogerian therapeutic relationship at the end of (M=42.36, SD=27.51) and two weeks after (M=41.67, SD=24.49) the intervention; t (32) = .412, *p*=.683. A third paired samples t-test indicated that there was no significant difference between the mental health professional students' competence of Rogerian therapeutic relationship before (M=42.18, SD=26.14) and two weeks after (M=41.67, SD=24.49) the intervention; t (32) = .240, *p*=.812 (Table 6-8). Thus, it can conclude that the

level of therapeutic relationship competence of the participants who were not exposed to the Therapeutic Relationship Enabling Program showed no significant difference before and at the end of the intervention. Nevertheless, instead of remaining at the level of competence, there was a decrease in the participants' therapeutic relationship competence appeared over time.

Discussion

The goal of this study was to examine the expectation that a theoretically informed, experiential-based training workshop with the use of a theory-designed technology would enhance mental health professional students' learning on therapeutic relationship skills. The workshop, Therapeutic Relationship Enabling Program (TREP), has given the participants a person-centred-theory-based definition of therapeutic relationships in mental healthcare and provided an interactive method for fostering self-reflection in mental healthcare training. These findings provide some evidence that a short-period training is suitable to enhance Taiwanese mental health professional students' competence in therapeutic relationships, and after attending a person-centred learning workshop, students' competence remained and further increased.

Participants' Baseline Competence of Therapeutic Relationship

The study showed the participants obtained an identical baseline of therapeutic relationship competence regardless of which group they were in the Therapeutic Relationship Enabling Program and their specialties in medical schools. As the result in this study, the statistical report with $p > .05$ indicated that the students who are specializing in nursing, occupational therapy, medicine, clinical psychology and other subjects had no difference significantly to each other before they participated in the Therapeutic Relationship Enabling Programme (Table 6-3). It showed that the current medical education in Taiwan had provided mental health professional students with a similar insight of therapeutic relationship with a mean score 43.20 and standard deviation 23.10 regardless various pedagogical approaches in the educational programs (Table 6-2). Therefore, it could be concluded that although the participants were voluntarily recruited and snowball-sampled from 7 medical schools in Taiwan, they nevertheless shared a similar level of understanding the therapeutic relationship.

The findings also showed although the specialty of participants, including the experimental and control group, were very, there was no significant difference of therapeutic relationship competence between the nursing (N=30), medicine (N=10), clinical psychology (N=10), occupational therapy (N=6) and others (N=3) students before the intervention. In table 3,

the *P* values of each comparison between the groups of nursing, occupational therapy, medicine, clinical psychology and other students all resulted in more than .05 which accepted the null hypothesis of no difference of the baseline therapeutic relationship competence between each specialty. It also evidenced that the overall mental health professional students in Taiwan would demonstrate a similar level of therapeutic relationship competence regardless of their specialties, educational pedagogies, and learning environments. Taiwanese medical education is considered as a cluster of a medical knowledge framework, problem-based learning and improvement and professionalism, systems-based practice, patient care, and interpersonal communication skills (Albanese, 2000; Cheng, 2001; Chiu & Tsai, 2009; Chou, Chiu, Lai, Tsai, & Tzeng, 2012). It would advantage the health professional students achieve an adequate level of therapeutic relationship competence and skills in mental healthcare effectively. However, its disadvantage might result in a consequence for the future mental health professionals responding to their clients/patients non-organically and inflexibly while having an ineffective learning in an ossified educational environment.

Taiwanese mental health professional students' level of experiencing the 4 domains of the therapeutic relationship in practice varied. First of all, with the mean score of 17.49 (above score of 15) in the *level of regard* sub-scale before the intervention, the score suggests that participants perceived a minimal degree of *level of regard* with their practice peers before the workshop intervention. From this, it is possible to consider that mental health professional students might deliver a lower but not least satisfying level of regard towards prospective clients/patients in a therapeutic relationship. Thus, it could be suggested to further investigate how the existing communication skills training supports delivering a level of positive regard towards patients Secondly, the mean score of *empathic understanding* 9.92 was slightly less than a standard score of 10 which indicated that the participants experienced on average a minimally lower level of being empathically understood. Theoretically, mental health professional would be expected to empathize with their clients/patients in an adequate level in a therapeutic relationship (Hung, Huang, & Lin, 2009; Ng & Chan, 2000; Parker & Leggett, 2012; Rogers, Gendlin, Kiesler, & Truax, 1967; Goering & Stylianos, 1988; Goering & Stylianos, 1988). The Ministry of Education Taiwan has applied the American and British standards of practitioners training in the pedagogy of medical

education for many years, for example, introducing humanistic lectures and seminars alongside with the clinical and non-clinical courses (Chou, Chiu, Lai, Tsai, & Tzeng, 2012). However, the result of this study has discovered that there is still a way to go for Taiwan mental health professional students to develop and deliver a satisfactory level of empathic understanding towards their clients/patients. This raises the question as to whether the current pedagogy favourably accommodated the demand in psychiatry? Besides the traditional learning methods, could technology facilitate mental health professional students to gain more insight of therapeutic relationship? Hence, re-examining and evaluating the advantages and disadvantages of the current courses content and context on communication skills in medical education would be one of the suggestions for mental health professional students acquiring communication competency. Furthermore, the mean score of the sub-scale *unconditionality of regard* 2.14 endorsed the results of other studies where the score of *unconditionality of regard* usually is rated lowest across the Barrett-Lennard Relationship Inventory (Barrett-Lennard G. , 2015, p. 41). It would be worth exploring possible causes of the low rating for Taiwanese mental health professional students. For example, from educational programs, cultural perspective, social context, etc. Lastly, the mean score of the *congruence* sub-scale 13.66 was lower than a mean score of 15 indicated the participants experiencing a minor level of fruitful helping relationship with their peers. This could raise an assumption that clients/patients might not perceive a consistently positive attention and attitude from Taiwanese mental health professional students in a therapeutic relationship. On the other hand, Taiwanese mental health professional students might not show expectedly sincere and direct feelings when communication takes place, so that their clients/patients might be feeling hesitation or obliged to act a certain way in a therapeutic relationship.

Changes in Competence of Therapeutic Relationship on Learning Progress

The statistics reported in Table 6-6, 6-7 and 6-8 indicated a positive outcome of the intervention where the participants who attended the program have gained competence in the therapeutic relationship, and the ones who did not participate in the workshop remained at the same level of competence. In contrast, members in the control group

encountered a decrease two weeks after the intervention while the experimental group participants' competence increased continuously and organically (Figure 6-2).

For the experimental group, the result showed a significant change in the participants' competence of Rogerian therapeutic relationship at the end of the intervention with a *p* value of .000 which rejected the null hypothesis that there was no significant difference between each measurement. Pairing the changes between the time point *before* (M=44.50, SD=18.98) and *at the end of the intervention* (M=54.00, SD=19.05), the mean scores statistically increased with a *p* value of .002 which represents that the participants in the experimental group had gained a statistically significant increase in level of competence of therapeutic relationship. It also evidenced that the effectiveness of a short theory-based training workshop with the use of a theory-designed technology is significant and sufficient for mental health professional students in Taiwan to develop their clinical communication skills in practice. The TREP can be considered an innovative 3-day workshop that facilitates learners enhancing the understanding and competence of Rogerian therapeutic relationship experientially with the usage of an interactive interface mPath, in a person-cantered design curriculum. The program allows learners to gain ownership over their learning experience and modify their learning approaches (Rousmaniere, 2014; Forbes, et al., 2016; Kolb D. A., 1984). For example, the learners inspiringly inquired to have a group analysis on a demonstration clip on mPath. Everyone was encouraged to create tracks of annotation, such as body languages and affection of emotion, together as a group. Through the group dynamics, the discussions and debates between each individual imprinted and clarified the notion of the conditions of a Rogerian therapeutic relationship in practice, meanwhile, the individual voice about the understanding of Rogerian therapeutic relationship was heard and their doubts about their own confidence in developing a therapeutic relationship with clients/patients was reduced (Barrett-Lennard G. , 2018; Murphy, et al., 2019). It might be worth to further investigate the participants' experiences of learning the Rogerian therapeutic relationship and any highlights in the workshop. These further research studies might shed light on to further develop therapeutic relationship training in psychiatry in medical schools.

Surprisingly, the therapeutic relationship competence of the experimental group seems not only to have been sustained but also to have increased over the following two weeks after the short-term intervention. In Table 6-8, the data discovered that there was a continual growth of therapeutic relationship competence with a *p* value of .002 in the paired sample t-test between the assessments of *at the end* and *two-week-after*. In Figure 6-2, it also displayed a climbing growth process with mean scores of 44.50, 54.00 and 63.92 in three test times. On this evidence, it could be said that the short-term theory-based Therapeutic Relationship Enabling Program with new technology involved has brought substantial concordance and appreciable changes for the experimental group. In contrast, the development of therapeutic relationship competence of the control group members showed a reverse and decreasing mean scores of 42.18 (*p*=.914), 42.36 (*p*=.683) and 41.67 (*p*=.812) in three evaluations where they did not attend the workshop (Figure 5-2; Table 5-8).

Having established the effects of the TREP workshop, further research is now required to investigate more detail the individual components of the learning process. For example, inquiry into which learning experience made the change in competence during and after the workshop: didactic lectures, demonstration videos, conversational-simulation experience, mPath or other? Of which aspects that the participants experienced enabled them to increase the therapeutic relationship competence in a continuous manner? Was there any effect or impact that occurred to them in terms of experienced relational and personal change during or after the workshop? If there was significant change in attitudes and perspectives as a mental health professional, why and how did it happen? The results of this study have clearly created more research questions to investigate. Doing so will carry our understanding forward about the suitability and possibility of modifying current teaching and learning approaches in medical education for psychiatry and the applicability of introducing innovative pedagogies for mental health professional students.

Conclusion

The study supports the assumption that the definition of Carl Rogers' person-centred therapeutic relationship could be accepted and applied in psychiatric contexts in medical education. The statistical data reports that the expectation that a theory-based training workshop with the use of a theory-designed technology enhanced mental health professional students' learning on the therapeutic relationship was satisfied. A significant growth curve in therapeutic relationship competence of the experimental group was found in the follow-up assessment meaning that the competence has not only sustained but also grown organically after a short exposure of person-centred experientially learning.

A further investigation on how Taiwanese mental health professional students learnt Rogerian therapeutic relationship in the intervention, in which sessions that they came to a realization of the nature of Rogerian therapeutic relationship personally and what enhanced the learning experience the most might be recommended. Although there are various courses on humanity have been given in medical education, for example, seminars, group discussions and problem-based learning, Taiwanese mental health professional students' baseline competence of therapeutic relationship still reached a degree of less satisfaction. However, the current medical pedagogy has been delivered in medical schools for years and undeniably benefited public health, for instance, epidemic prediction and prevention, cure rate improvement, birth control and so on. Regarding the increasing population of psychological distress and the demand of mental health care, looking into the impact on learning therapeutic relationship that the Therapeutic Relationship Enabling Programme (TREP) has brought the participants, and evaluate what works for mental health professional students in future practice might be beneficial.

Limitations

An advantage of this study was the variety of mental health professional students' specialty from seven medical schools in Taiwan, for example, student nursing, occupational therapy, clinical psychology and medical students, and it could reflect the current mental health education in Taiwan. Although the number of mental health professional students in the control group is more than the number in the experimental group, the unequal distribution of the characteristics of target population could still be argued as a possible week point in this study.

Firstly, the study findings could have been strengthened with the introduction of a follow-up evaluation after 3 months to evidence a sustained efficacy and change in participants' behaviour and/or outcomes. Future studies ought to factor this element into their design. Additionally, qualitative research conducted in which the participants were interviewed to investigate the depth of learning would also help medical educators grasp how the therapeutic relationship skills are acquired in such a short period as shown in this study. Secondly, there were less than 10 male mental health professional students recruited in the experimental and control group where 50 female students participated in the study. A compared analysis on therapeutic relationship could be conducted to discover the initial understanding and competence of therapeutic relationship between genders, and furthermore, to look into if there is any growth or decrease of the competence at the end and two weeks after the intervention. However, the difference of numbers of genders did not influence the overall results of studying into the baseline competence and increase/decrease in a therapeutic relationship. Thirdly, the number of mental health professional students' specialty could be recruited equally. In this study, there were 15 nursing students participated in both experimental and control group, whereas 5 occupational therapy students exposed in the intervention and 1 in the control group. Unquestionably, the empirical findings discovered there was no specific correlation between the baseline competence of therapeutic relationship and the participants' specialties. However, if there were an equal number of students in each specialty individually which would possibly enable to explore a further study on the growth/decrease of therapeutic relationship competence in each specialty for medical education. Lastly, a follow-up study could be conducted systemically at a later time point, such as six months

and one year in medical education, or even one year after exposing in psychiatric settings as staffs.

The results of this study have shown the participants in the experimental group a growth of therapeutic relationship competence two weeks after the intervention, nevertheless, it might be worth to study on to what extent the effect of the intervention continues, whether it increase/ decrease at a later time, and what the factors are if the level of therapeutic relationship does increase/decrease.

Chapter 7 Exploring the mental health professionals' learning therapeutic relationship: a qualitative study

7.1 The purpose of this study

The final stage of the PhD study aimed to strengthen the reports of the former studies "*A Confirmatory Factor Analysis of the Mandarin-Chinese Version of the Barrett-Lennard Relationship Inventory* "and "*Evaluation of the therapeutic relationship skills training for mental health professionals*".

Through interviewing the participants of the experimental group, it reflected the level of acceptability of the participants towards the definition of Carl Rogers' person-centred therapeutic relationship, and it also revealed how the Taiwanese mental health professionals acquire the competence of therapeutic relationship in an intensive training environment with the use of new technology mPath.

The research ethical approval form, information sheet, consent form, are also presented in the section of the Appendix. The results have highlighted the latent factors affecting learning the competence of therapeutic relationship: A. redefining therapeutic relationship, B. transferring theory into practice, C. awareness arising through mPath and D. self-growth. This study has provided an evidence-based report of the factors affecting a sample of Taiwanese mental health professionals' learning therapeutic relationship. It also indicated the possible modification of the emphasis in the current pedagogy for the therapeutic relationship in psychiatry, such as returning power back to the clients, increasing the meaningful verbal and subverbal communication training and conducting therapeutic interaction with the clients.

7.2 Abstract

Background: Studies on establishing therapeutic relationship with clients has been investigated for years. Medical experts are often expected not only to be the healthcare providers but only be the communicators. This study is focused on investigating how the Taiwanese mental health professionals have gained and continually grown the person-centred therapeutic relationship competence through a three-day workshop with the use of a new technology - mPath. This study will give the accounts and explain perspectives on re-defining the therapeutic relationship, person-centred learning approach and applying mPath in a psychiatric training context for the mental health professionals.

Methods: This qualitative project used purposive and snowballing sampling. There were 26 voluntary participants from 7 medical schools in Taiwan who were interviewed for the study about their learning experience on the person-centred therapeutic relationship competence using the TREP. These 26 mental health professionals were specialising in nursing, occupational therapy, medicine and clinical psychology, and they were at the middle stage of their final training year. Their de-identified interview transcripts were independently coded into themes, and the categories of the emergent data were refined through thematic analysis. Data collection ceased after theoretical saturation was achieved.

Results: The central theme that emerged from these data was that of "beyond medical knowledge and clinical skills" which could be described in relation to four main subthemes: A. Redefining therapeutic relationship, B. transferring theory into practice, C. awareness arising through mPath and D. self-growth. A cross-cutting theme was returning power to clients, with the person-centred learning approach and the theory-based learning technology perceived as inter-dependent in the mental health professionals training.

Conclusion: The results highlighted that, the concept of person-centred therapeutic relationship could be understood as an applicable definition in the clinical context through the person-centred approach and the use of mPath. It enabled the participants to return humanistic power back to the clients, produce meaningful verbal and subverbal communication, and conduct a positive therapeutic interaction with the clients. It also gives a qualitative evidence of the effecting factors for the previous research result. Further research is also recommended.

Keywords: person-centred learning approach, therapeutic relationship, mental health, professional, medical education in psychiatry, new technology

7.3 Introduction

Research has established the universal goals for the field of medical education to train excellent health and mental health professionals (Taylor & Hamdy, 2013) as medical experts, communicators, collaborators, managers, health advocates, scholars and professionals (Frank, et al., 2005). Various pedagogies in medical education have been applied in achieving professional development (Newble & Entwistle, 1986; Prideaux, 2003; Phillips, 2008; Nilsson, Pennbrant, Pilhammar, & Wenestam, 2010; Collins, et al., 2018). For instance, Miller's pyramid (1990), the organ/discipline-based, problem-based learning (PBL) and experiential learning approach have all been used in medical education contexts (Albanese, 2000; Colliver, 2000; Dornan, Boshuizen, King, & Scherpbier, 2007; Miller, 1990; Phillips, 2008; Taylor & Hamdy, 2013; Thistlethwaite, et al., 2012). Research indicated there has been a shift in the contemporary medical education from emphasizing students' medical knowledge to their interpersonal skills (World Federation for Medical Education, 2003).

Taiwan, one of 15 Asia Pacific countries, where medical and medical education system has been influenced greatly by Western culture because of the colonial and post-colonial history (Cheng, 2001). For example, Taiwanese medical education has stated the expectation of health and mental health providers' performance is addressed in accordance with the framework of the Accreditation Council for the Graduate Medical Education (ACGME): competencies of medical knowledge, practice-based learning and improvement, professionalism, systems-based practice, patient care, and interpersonal and communication skills (Rider & Nawotniak, 2010). All the Taiwanese medical students are required by the Ministry of Education to learn these competencies through this principle-based curriculum of medical education (Chou, Chiu, Lai, Tsai, & Tzeng, 2012). The Lancet's global analysis of Healthcare Access and Quality (2017) has revealed that Taiwan, where patients were able to receive high-quality care during the acute stage of the sickness, was ranked 45th of 195 countries where Japan was 11th, Singapore 21st, South Korea 23rd, and the United States was ranked at the 35th in 2015 (Lancet, 2017). Yet, there is some improvement urgency to be made for the care of chronic disease and mental health problem. For example, the actual and chronic renal failure and schizophrenia are rated as two of the top ten diseases in Taiwan according to the annual report of the National Health Insurance in 2017. It was assumed that there is a growth of mental health medical care on demand due to the increasing awareness of mental health problem (Economist Intelligence Unit, 2016; National Health Insurance Agency Medical Management Unit, 2018). However, the higher level of the mental health

integration, including the cultural acceptance to the explanatory models of mental illness and the treatments, and the positive family and societal attitudes towards mental illness, in Taiwan (National Health Insurance Agency Medical Management Unit, 2018; Economist Intelligence Unit 2016; Ng, 2018), the higher quality of the mental healthcare is demanded and a better mental health professional-patient relationship is expected.

Regarding the medical education in Taiwan, evidently, health, including mental health, professionals' competency in developing and maintaining positive interpersonal relationships is directly relevant to patients' prognosis (Stephien & Baernstein, 2006; Dale, Bhavsar, & Bhugra, 2007; Shaprio, 2008; Bayne, 2011). Excellent health care cannot be separated from communication skills, professionalism, ethics, advocacy and accountability of a health and mental health professional. Traditionally, the Taiwanese health and mental health professionals learn the communicational and interpersonal skills through lectures, seminars and group discussions, such as humanities courses, pre-medical courses and clinical course (Chou, Chiu, Lai, Tsai, & Tzeng, 2012). However, there were an increasing number of medical conflicts due to the misunderstanding and miscommunication between the health professionals and the patients according to the annual survey of Taiwan Healthcare Reform Foundation (THRF) in 2015. It indirectly examined the effectiveness and suitability of the current learning methods of medical education, such as lectures, seminars and group discussions. The Ministry of Education Taiwan has urged for more medical education concepts and models from other countries as reference for modifying the current learning methods and developing an innovative pedagogical approach which might benefit Taiwanese health providers when communicating with patients (Chou, Chiu, Lai, Tsai, & Tzeng, 2012). The survey reflected Carl Rogers' theory that the practitioner-client relationship skills with the therapeutic conditions can be taught in the classroom, but some competences of interpersonal interaction in the relationship, such as the attitudes toward patients, can only be refined by having some experiential practices (Rogers, 1957; 1983). Thus, the goal and vision of medical education across the world is to elevate the importance of these skills, such as communication skills, in modern medical education (Harden, Crosby, & Davis, 1999). For the mental health professionals' training, Carl Rogers' person-centred theory has been supported and evidenced as inter-culturally and inter-disciplinarily suitable the Mandarin-Chinese speaking world and other sectors (Cornelius-White, Motschnig-Pitrik, & Lux, 2013; Murphy & Joseph, 2018; Liao, Murphy, & Barrett-Lennard, 2018; Liao & Murphy, 2019), and it could inform the development of professional practice and educational methods, across

diverse fields such as counselling, social pedagogy, and learning for special needs, etc (Murphy & Joseph, 2018; Liao, Murphy, & Barrett-Lennard, 2018).

7.3.1 Learning the person-centred therapeutic relationship with the technology mPath

To contribute in the therapeutic relationship training in the mental healthcare for the modern medical education, this study was conducted in the development of the person-centred therapeutic relationship skills acquisition through help of the learning technology mPath[4], which might be able to translate Carl Rogers' person-centred theory and therapeutic relationship into an innovative mental health practice learning (Clouston & Whitcombe, 2007; Dearing, 1997; Whitcombe, 2004; Murphy & Joseph, 2018).

mPath, integrated with the methods of *Helping Skills Model* and *Carl Rogers' person-centred theory*, is an innovative online software system originally developed for the counsellor's training (Slovák, *et al.*, 2015; Murphy, *et al.*, 2017). The software has been produced by a cross-disciplinary team from Newcastle University and the University of Nottingham in the United Kingdom, and the Technical University Vienna in Austria since 2011. It provides the counselling trainees opportunities for a structured analysis of the mental health professionals' practice sessions to elicit and receive specific feedback from their client (Murphy, et al., 2019). The service has offered the possibility for new technology to current methods of *Helping Skills Model* with multiple tools to reflect on various facets of peoples' experiences, all tightly linked with the video-recording of the session and designed to facilitate a time-efficient process (Slovák, *et al.*, 2015; Murphy, *et al.*, 2017).

To gain a deeper self-reflection in the session of training, mPath provides the users with the opportunities of a structured reflection for the students and it allows them to process self-analysis with the recorded video. mPath additionally creates the space of interactions for the students as practitioners to collaborate with their clients. For example, the clients will be able to share their thoughts, feelings and internal processes with the practitioners by giving feedback to them. Furthermore, mPath could enhances the users' therapeutic relationship competence by making annotation notes on the recorded practice videos, adapting to review different perspectives, requesting client's feedback, deepening understanding of affect, and observing the body movements (Murphy, et al., 2019). Therefore, the Therapeutic Relationship Enabling Programme (TREP) has used mPath as a learning enhancement for the participants developing their therapeutic relationship

[4] https://mpath.org.uk/

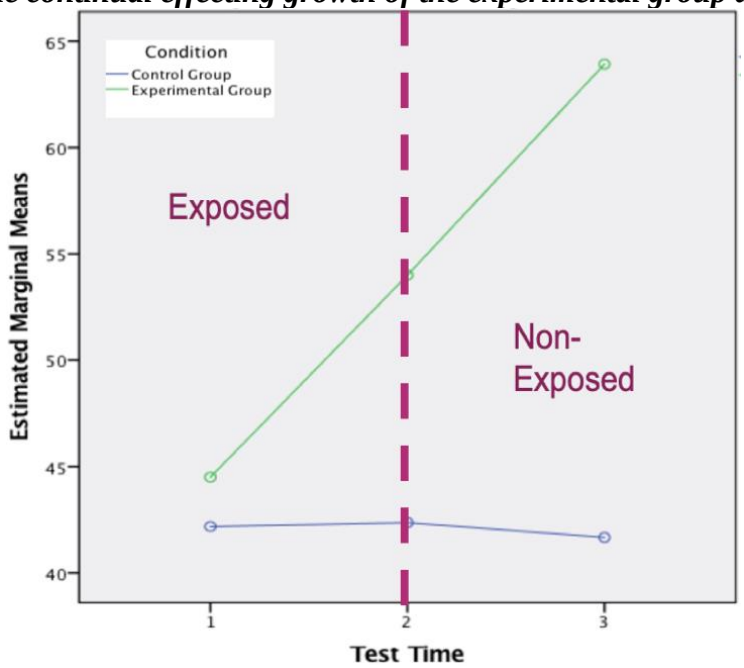
competence in the previous study (see Chapter 6).

7.3.2 The participant's growth during and after the workshop

Therapeutic Relationship Enabling Programme (TREP) in the previous study (Liao & Murphy, 2019) consisted of 5 sessions including the didactic lectures, the conversational-simulation experiential exercises, and the non-directive reflection and self-reflecting processes with the use of the theoretical-designed technology, mPath (Slovák, *et al.*, 2015; Murphy, *et al.*, 2017; Murphy, *et al.*, 2019; Liao & Murphy, 2019). The designed programme for the Taiwanese mental health professionals learning the therapeutic relationship skills (Liao & Murphy, 2019) has transferred the person-centred experience approach to the learning pedagogy (Murphy, et al., 2017) and imported the new digital technology mPath, a new website-based system and software tool (Slovák, *et al.* , 2015) as a part of the practice. mPath has previously demonstrated its accessibility for students/trainees to maintain their autonomy, increase their authenticity, deepen the in-depth reflection, and conduct the visualised analytical reports (Murphy, *et al.*, 2019; Slovák, *et al.*, 2015; Murphy, *et al.*, 2017) while learning skills in human relation. The key features of mPath provide the users with the opportunities to gather their annotations and affections in either a textual form or a graphics format (Slovák, *et al.*, 2015; Murphy, *et al.*, 2017; Murphy, *et al.*, 2019; Liao & Murphy, 2019).

As the statistical results of the effectiveness of the Therapeutic Relationship Enabling Programme, the 26 Taiwanese mental health professionals in the experimental group resulted in a significant change of therapeutic relationship competence during the workshop (Mean difference= +9.5, p=.002) and presented a continual effecting growth (Mean difference= +19.423, p=.000) two weeks after the intervention (Figure 7-1) while the control group reflected a decline in therapeutic relationship competence (Mean difference= -.515, p=.812). The test of Repeated Measures ANOVA resulted in the Mauchly's Test of Sphericity between three measuring times [$X_2(2) = 10.475$, p=.005], and the Post hoc test reported the comparisons between groups [$F(1, 57)= 4.461$, p=.039].

Figure 7- 1 The continual effecting growth of the experimental group after the TREP



Therefore, this investigation aimed to look into the reasons of these 26 Taiwanese mental health professionals in the experimental group experiencing an effective change of their therapeutic relationship competence during and after the intervention and how they acquired the person-centred therapeutic relationship skills in the workshop and experienced the continuous growth of it. Through this study, it would provide the current medical education with an insight of enhancing the mental health professionals' learning during the training stage and evidence the applications of Carl Rogers' person-centred theory in the field of medical education.

7.4 Methods

7.4.1 Study design overview

The qualitative study followed a quasi-experimental research design utilizing a 3-day workshop, the Therapeutic Relationship Enabling Programme (TREP), as an intervention for the Taiwanese mental health professionals acquiring the therapeutic relationship competence. The qualitative interviews were conducted to grasp an understanding of the participants' learning experience on the person-centred therapeutic relationship competence during the TREP workshop, and further explore the scope for the plausible factors influencing their development of the competence in the workshop. The interview questions were classed into three categories as follows:

1. What motivated the mental health professionals to participate in the Therapeutic Relationship Enabling Programme (TREP)?
2. What did the mental health professionals consider helpful in regard to their learning experience during the intervention?
3. To what extent were the mental health professionals able to maintain/develop the competence during and after the intervention?

7.4.2 Participant recruitment

The Taiwanese mental health professionals were eligible for inclusion in this study if they had completed the Therapeutic Relationship Enabling Programme. All participants were invited to participate voluntarily in an interview session. All participants needed to be able to provide informed consent to participate in this study. Attempts were made to purposively recruit every participant of the experimental group which was successful. Each recruited participant was to represent the variety of specialities in mental health care from each of seven medical schools in order to provide a range of viewpoints on their learning experience either in the workshop or in the medical school. It resulted in a total sample of 26 interview participants including two males and 24 females: 15 participants were specialized in nursing, five in occupational therapy, four in medicine and two in clinical psychology. Majority of the participants were in the age range 20-29, female, and have experienced the early clinical exposure as clerks or interns in the psychiatric settings and hospitals. A summary over of the participants' characteristics are presented in Table 7-1 below.

Table 7- 1 Demographic Characteristics of Participants

Characteristic	N	%		N	%
Age (years)			Speciality		
20-29	24	92.30	*Nursing*	15	57.70
30-39	1	3.85	*Occupational Therapy*	5	19.20
40-49	1	3.85	*Medicine*	4	15.40
>50	0	0.00	*Clinical Psychology*	2	7.70
Means (M)	22.96 (years)				
Standard Deviations (SD)	5.64				
Gender			Experienced Early Clinical Exposure		% of each speciality
Male	2	7.70	*Nursing*	14	93.33
Female	24	92.30	*Occupational Therapy*	2	40.00
			Medicine	4	100.00
			Clinical Psychology	0	0.00
			Total	20	76.92

The interviews were set as similar to the practicing environment in the Therapeutic Relationship Enabling Programme. The justification of having the interviews following the familiar setting of the practice groups was to capture the thoughts and perceptions of each participant independently without being influenced by the other pairs. It would reproduce a familiarity of the practicing environment in an interview setting and provide them with an opportunity to reflect the learning experience without inhibition.

7.4.3 Data Collection

A combination of the semi-structured interview and focus group was considered to be valuable to address the research questions. It would allow the researcher to collect the information but also it encourages the participants to communicate, discuss and comment on each other's experience and perspectives openly, and help them reflect the learning experience (Crewell, 2013; Nestel, et al., 2010; Kitzinger, 2006).

Written informed consent was obtained from all participants prior to data collection. Participants were interviewed by the researcher two weeks after the TREP either face-to-face in person (n=24) or through a conference call such as Skype (n=2) due to the participants' availability and preference. The interview was semi-structured with questions relating to key topics (Table 7-2). Each interview, which took place as soon as the final assessment of the quantitative study was completed, lasted approximately 45 minutes to one hour in duration.

Table 7- 2 Interview Question Protocol

Interview topic areas	• Can you tell me about what motivated you to sign up for the Therapeutic Relationship Enabling Programme (TREP)? • To what extent have you learnt about the therapeutic relationship in psychiatric context in your university? How do you find it? • What was your learning experience in the TREP, including using mPath? What session/activity that you felt you achieved a good outcome? How effective was this? • When using mPath, what features assist you to acquire the therapeutic relationship competence effectively? Why? • In what particular occasion that you felt you have developed the therapeutic relationship competence? • After participating in the TREP, to what extent that the current pedagogy in psychiatry could be modified to enhance the effectiveness of learning?

7.4.4 Analysis

Following the six phases of thematic analysis suggested by Braun and Clarke (2006), all verbal interviews were recorded independently and transcribed word for word (Braun & Clarke, 2006). The transcriptions were confirmed with the interviewees to ensure the reliability and remain the original information. Each transcription was read thoroughly and repeatedly to generate the codes across the interviews. The coded data were categorized as themes to capture the sense of significance. The emerging data were also discussed and explored if they purposefully referred to the unexpected finding in the study. Re-examining the initial themes and refining the coding framework to generate a satisfactory thematic map of the study. Before presenting the final report, the final thematic map was ensured to coheres the conceptual framework of the research and consistently correlate the content of the data (Braun & Clarke, 2006; Pope, Ziebland, & Mays, 2000). The results below are presented alongside extracts form the participant interviews to illustrate the key findings arising from the data.

7.5 Results

7.5.1 Motivations of Self-recruitment

Participants placed high importance on the therapeutic relationship between the clients and mental health professionals and were in favour of developing their therapeutic relationship skills. In terms of the motivation of self-recruiting in the Therapeutic Relationship Enabling Programme (TREP), these could be categorized as a) implementation of theory, which the participants looked for a comprehensive implement applying in the psychiatric settings (e.g. learning more about the person-centred theory; demonstration of the implementation of the theory; course-designed practice), b) interest, which the participants described their interest in psychiatry and developing the therapeutic relationship skills (e.g. professional development; curiosity of the person-centred approach in psychiatric context) and c) insufficiency of learning methods, which the participants addressed the current learning formats did not accommodate them to apply the knowledge of therapeutic relationship in the clinical practice (e.g. seminars; lectures; case studies; group discussions; role plays). The summary of interviewees' self-recruited motivation is presented in Table 7-3 below:

Table 7- 3 Motivation of self-recruitment

Category*	%
Implement of theory	69%
Interest	49%
Insufficiency of learning methods	41%

*These categories were extracted from the answers to the open questions. Each interviewee might have more than one answer.

7.5.2 Beyond medical knowledge and Clinical skills

The central theme that emerged from the data was that of "beyond medical knowledge and clinical skills". The participants viewed the therapeutic relationship as taking an essential part in the psychiatric contexts. From implicit to explicit, the competence of developing the therapeutic relationship with patients/clients is more a communicational skill but also a form of delivering non-invasive treatments to increase the quality of medical care and patient satisfaction (Finkke, Light, & Kitko, 2008; Mullan & Kothe, 2010; Nørgaard, Ammentorp, Kyvik, Kristiansen, & Kofoed; Karlsen, Gabrielsen, Falch, & Stubberud, 2017). In this context, the competence of therapeutic relationship would develop if a person-centred experiential pedagogy with the use of new technology mPath existed for the participants to interact positively with the practice partners (Liao & Murphy, 2019). Conversely, the level of therapeutic relationship was rated lower if the participants did not expose in such a person-

centred experiential pedagogy (Liao & Murphy, 2019). The report of the effectiveness of the Therapeutic Relationship Enabling Programme indicated the level of therapeutic relationship of participants in the experimental group elevated during and after the workshop (Liao & Murphy, 2019). As a result, this central theme could be described in relation to four main subthemes: A. Redefining therapeutic relationship, B. transferring theory into practice, C. awareness arising through mPath and D. self-growth. A cross-cutting theme *returning power to clients* and *the person-centred learning approach with mPath* were perceived inter-dependently in the mental health professionals training.

7.5.2.1 Returning power to clients

A. Redefining therapeutic relationship

Participants reported that they have found the definition of therapeutic relationship was not in a clear format in their training programmes at the medical schools whereas Carl Rogers (Rogers, 1957; Rogers., 1951) and Godfrey Barrett-Lennard (Barrett-Lennard, 2015; Barrett-Lennard, 1962) had stated four measurable factors of the nature of the person-centred therapeutic relationship: level of regard, empathic understanding, unconditionality of regard and congruence, and six necessary and sufficient conditions of therapeutic relationship need to be met (Rogers, 1957):

> *1) Two persons are in psychological contact.*
> *2) The first, whom we shall term the client, is in a state of incongruence, being vulnerable or anxious.*
> *3) The second person, whom we shall term the therapist, is congruent or integrated into the relationship.*
> *4) The therapist experiences unconditional positive regard for the client.*
> *5) The therapist experiences an empathic understanding of the client's internal frame of reference and endeavours to communicate this experience to the client.*
> *6) The communication to the client of the therapists' empathic understanding and unconditional positive regard is to a minimal degree achieved.*

Conversely, the nature of the therapeutic relationship the participants have learned shares a similar level of medical staff understanding their patients and responding to them empathically. The tips of the communicational skills were given, such as remaining eye contact, acknowledging patients' chief complaints etc. However, some of the participants appeared surprised the concept of level of regard is more than respect.

> *Participant B10: What I've learnt in medical school is to consistently give patients directions. The message is like "I am the expert, and I know what the best for my patients is". However, in a person-centred therapeutic relationship, even patients with mental illness are their*

own expert and they are trying their best to make things work! I am shocked and supervised! And I am still trying to fully comprehend the depth of this concept. (Medicine, female, 23 y/o, experienced early clinical exposure)

Participant A1: I thought to respect, such as looking into other's eyes when a conversation takes place, is a form of level of regard to establishing a therapeutic relationship with patients/clients. However, sometimes I found myself "fade out" and sort of "acting" that I understood them while my patients were describing their inner conflicts and doubts in life. I did listen to their words, but I did not understand the core meaning of the conversation. In the workshop, the definition of the level of regard gave me a broader view of respect. It is like giving my patients my whole presence, not fading out and try to grasp what they meant. (Nursing, female, 21 y/o, experienced early clinical exposure)

Some participants found the person-centred therapeutic relationship deepen the degree of empathic understanding towards the patients. The trust in patients' intention of recovery and capability of purposing a better life has been placed after redefining the nature of the therapeutic relationship.

Participant C6: I used to try to put myself in the other's shoes and pictured myself in their position, but it was not easy to do. In person-centred theory, I overcame the barrier by understanding other people are their own experts and doing their best to make things work. It gains my trust in others' capability to pursue a better life. (Medicine, male, 25 y/o, experienced early clinical exposure)

Participant B5: I couldn't tell the difference between sympathy and empathy. Teachers told us to be empathic, but no one showed us how to empathize. I've realized that I was sympathizing with my patients and I would try to fix their problem as soon as possible instead of allowing myself to be in their shoes and giving them time to process. (Nursing, male, 22 y/o, experienced early clinical exposure)

Perceiving clients unconditionally would be one of the unexpected factors for the Taiwanese mental health professionals to learning the person-centred therapeutic relationship. However, the participants acknowledged that the concept of unconditionality would increase the level of acceptance towards the clients in the neighbourhood.

Participant B9: I didn't know a therapeutic relationship is a combination of four elements. My judgment used to be influenced by the patient's medical records, such as age, gender, illness history, family tree, diagnosis, etc. Somehow it makes sense when unconditionality takes place. It takes me to a deeper level of understanding my patient's chief

complaint with less blind spots. (Medicine, female, 23 y/o, experienced early clinical exposure)

Participant C4: Unconditionality is quite important for Taiwan Society for them overcoming the stigma towards clients in the future. Some patients are not accepted by the community simply because of the stigma. (Occupational therapy, female, 20 y/o, no experienced early clinical exposure)

Regarding the congruence factor in the person-centred therapeutic relationship, a participant reported her finding of being congruent enhancing the level of the nurse-patient relationship. It also made her reflect the way she approached the patients before.

Participant A2: Being congruent to me, it is more than being a listener but also you could understand what other people meant and what I feel/think at the same time. If a patient cry, I would consider he is sad. But I couldn't receive the message "he is sad" and responded in a genuine way to him at the same time. (Nursing, female, 21 y/o, experienced early clinical exposure)

However, Carl Rogers' person-centred theory has given the therapeutic relationship a clear definition which enhances the Taiwanese mental health professionals' learning. The participants reported that a positive therapeutic relationship would increase patients' recovery, and it would be beneficial if the concept of "person-centred" could be clarified and explained in the medical settings and schools.

Participant B8: We were taught to develop a good therapeutic relationship with patients, but it was just like an abstract to us and nothing more. In this workshop, I felt that I was able to dig deeper concerning the meaning of the therapeutic relationship with proper practice and practical definition. (Nursing, female, 21 y/o, experienced early clinical exposure)

Participant B3: Many practitioners claim that they perform "person-centred care", but do they truly know what they are doing? Or just thought they are delivering a person-centred approach? (Occupational therapy, female, 22 y/o, experienced early clinical exposure)

B. Transforming theory into practice

Six of the participants reported that they had learned about Carl Rogers' person-centred theory during the first/second academic year, such as clinical psychology and occupational therapy, for them to have more knowledge of humanistic theories. Due to the current pedagogy in most of the medical schools, it seems fewer opportunities for the mental health professionals putting theories into practice until they start the placement/clerkship in the clinical settings. By focusing on investigating the reason for the Taiwanese mental health professionals having an effective learning outcome, *transforming theory into practice* would be considered as one of the affecting factors for them acquiring a growing level of the therapeutic relationship competence during the intervention. They said:

Participant C1: We barely have opportunities to practice any theory we have learnt in the clinical psychological courses. There were many theories that were given in one module but not many practical sessions for us to learn more about therapeutic relationship skills. (Clinical Psychology, female, 21 y/o, no experienced early clinical exposure)

Participant B4: We have learnt all kinds of theories in the university. I passed the exams and completed the coursework, but I still don't understand much of them. We have to wait until having the placement in the hospital to experience what therapeutic relationship looks like and choose a theory that works for me. (Occupational therapy, female, 20 y/o, experienced early clinical exposure)

Participant C2: I once doubted the idea of "non-directional" of Carl Rogers' person-centred theory as I considered the patients would lose control, but through the practice, it felt orderly when we returned the power back to the clients. However, through practice, I talked myself out of my recent problem. It was surprising. I was expecting to give answers from others. I've never thought that I was the one who actually came out of a solution and that suits me well. It felt like "self-direction". (Clinical psychology, female, 20 y/o, no experience of early clinical exposure)

Probing on the continuous growth of the therapeutic relationship competence, the participants described the realization of transforming theory into practice in life and in the clinical settings. Through practising the theory in the workshop, the participants reported how practising theory benefits their personal relationship and change their behaviours and attitudes towards their patients and friends.

Participant B3: I applied the person-centred theory in the conversation with my boyfriend. We were able to talk things through, and he told me that he was able to talk about what he couldn't with me. I heard of this theory, but I didn't know how to use it. After this workshop, I am

able to practice it in my daily life. I am sure it would help my patients in the hospital as well. (Occupational therapy, female, 20 y/o, experienced early clinical exposure)

Participant C1: I have always been in favour of Carl Rogers' person-centred theory and have been very curious about the application in psychiatric training in the last three years. In the workshop, the practice helped me experience the nature of "empathic understanding". It is not what I, a clinical psychologist, want, but what the client wants. (Clinical psychology, female, 21 y/o, no experience of early clinical exposure)

7.5.2.2 The person-centred learning approach with mPath

C. Self-awareness arising through mPath

Involving the new technology mPath in the Therapeutic Relationship Enabling Programme it seemed to create the objective aspects for the participants who gained self-awareness of their psychological states and behaviours. For example, in-depth reflecting on the body languages and facial expression, and pondering on their possible response to the foreseen situations when conducting a conversation with the clients in the future.

Participant C5: mPath helped me to be more aware of my body language. And also, I start to observe my friends' body language while they were talking. I kept asking myself why I have those movements and what they represent? I reflect it a lot now. It gets clearer if I am in a third-person perspective. (Medicine, male, 23 y/o, experienced early clinical exposure)

Participant A8: I didn't notice it until I saw my recording in mPath. I smirked when I was sad. My clinical instructor once responded to a patient "It is hard for you", and the patient was touched. It was like the instructor resonated with the patient. It was more than showing empathy, wasn't it?... I found that I am not congruent at all. I couldn't even sense my feelings and express them directly to my close friends and family. (Nursing, female, 20 y/o, experienced early clinical exposure)

Another participant said that through engaging with mPath, it allowed them to take notice of the details and missing information in the practising sessions. Traditionally, they would request the groupmates to comment on their behaviours in a specific scenario. However, watching the recording sessions repeatedly would enhance the in-depth self-reflection from an objective perspective rather than a subjective opinion from others.

Participant A7: There were so many details in one practice session. mPath helped me to watch the recording videos multiple times. I was not a fan of my own voice, so I really tried it hard to get the best out of my recordings. In the end, I found it helpful when I watched it repeatedly because I could than map in my mind and ask myself, "what if it happened in the hospital?" and "what kind of response I could take next time?" (Nursing, female, 21 y/o, experienced early clinical exposure)

The analytical visualization of mPath grouped the multiple information for the participants. For example, the categorized annotation on the tracks, the recording of ratings using affect slider and the analytical logs (Murphy, et al., 2019). The participants reported the presentation in the mPath interface help them gain a deeper understanding of themselves on the specific issues.

Participant C2: When I grouped all the tracks together in mPath, I was aware that the body language, affect graphics and the annotation are relevant to each other. It showed me if I am congruent or not. It helped me be more aware of myself and my practice partner. (Clinical psychology, female, 20 y/o, no experienced early clinical exposure)

D. Self-growth

The Therapeutic Relationship Enabling Programme seemed to provide the users with the opportunities for their self-growth. Self-growth took place when the participants gain their self-awareness through the objective perspectives and explore it more about themselves. It increased the positive experience of learning the person-centred therapeutic relationship competence. One of the participants found herself was unknowingly influenced by the social stigma towards the clients when she unintentionally labelled the patients in mental healthcare. This is what she said after reflecting her therapist-patient relationship with her patients:

Participant B4: I've found it hard not to label the patients in psychiatric wards, even though I was taught in the school to see patients as who they are but not through which diagnosis they are under. After the workshop, I have learnt to listen to them and understand their values as human beings. (Occupational therapy, female, 20 y/o, experienced early clinical exposure)

Another Participant found herself intended to be the centre of the therapeutic relationship. She has realised that she could give other people/patients more opportunities to express themselves in the beginning of establishing the therapeutic relationship rather than projecting herself as a professional/informative person to her patients and keep directing the conversation most of the time.

Participants A3: I intended to take the lead in a conversation with whomever I talked to. Before the workshop, I thought my pervious approach would gain the patients' trust if I present myself as I am professional and be in control. After the workshop, I've learnt to give ways to others and should try to be a listener in the first place. (Occupational therapy, female, 20 y/o, experienced early clinical exposure)

One participant mentioned her self-growth on expressing true feelings to her close friends. She explored herself deeply when she experienced the unconditionality factor in the peer-practising sessions. The experience of being treated unconditionally enabled her to experience what it is like to be congruent.

Participant B1: I used to hide my negative feelings from my friends because I was afraid that they might not be able to take it. I don't like conflicts. I was not aware of me expecting my friends to accept me unconditionally. In this workshop, I was treated unconditionally by the practice peers. I realized that unconditional acceptance could benefit and grow a relationship. Hiding is not an answer to my fear anymore. (Nursing, female, 21 y/o, experienced early clinical exposure)

Self-growth brought not only an impact on the participants' therapeutic relationship competence in psychiatric training but also a degree of influence on their daily friendship. It might give an explanation to the continuous growth of the therapeutic relationship competence without exposing in the interventional environment (Liao & Murphy, 2019).

Participant C6: I found myself did not truly care about what happens in the surrounding. I become more congruence especially when I have conversations with others. I would be aware of how genuine I am and if I am resonating with others. I am more aware of what happened with the people surround me now. (Medicine, female, 25 y/o, experienced early clinical exposure)

Participant A6: I cut another people's line when I talk. I wanted to know more details of the story, so I found that I cannot hold my comments and questions while listening to my patients. After understanding the meaning of the level of regard, I shall not try to make comments in such a hurry. I shall respect them and believe they can tell their own story. (Nursing, female, 21y/o, experienced early clinical exposure)

7.6 Discussions

A central theme emerging from these data was that of "*beyond medical knowledge and clinical skills*". The participants described an organic and circular relationship between therapeutic effectiveness and good therapeutic relationship between patients and mental health professionals. This study has added to the findings of previous studies in Chapter 5 and 6 in three main ways: firstly, the previous findings on determinants of the change of the participant's therapeutic relationship skills have been triangulated by conducting the interviews with each practice group. Secondly, the reciprocity of the change of the therapeutic relationship has been explored, and the previous findings have been evidenced through the qualitative research method to investigate the effective factors of acquiring the person-centred therapeutic relationship competence.

7.6.1 Returning power to clients

A good therapeutic relationship was often perceived as mainly an indication of good interaction with clients, patient compliance of psychiatric medications and patient adherence of psychotherapy in the clinical settings. Conversely, building the therapeutic relationship in psychiatric settings was commented as a difficult achievement to reach. For example, the participants found it hard to establish a good interaction with their patients at the first encounter, difficult to improve the patients' compliance of medications and therapies.

Through re-defining the nature of the person-centred therapeutic relationship in the Therapeutic Relationship Enabling Programme, the participants in the experimental group commented that the person-centred theory addresses a logical lens of the mental health professionals' position in the relationship which the clients are their own experts. With the change of the mental health professionals' pre-set position, the clients would be able to feel accepted at the beginning of the medical treatment. When facing the psychotherapies and medical treatments, the clients, for instance, schizophrenic individuals, often respond in four characteristics: non-motivation, silence, non-exploration and intense subverbal interaction (Gendlin, 1962). The mental health professionals might encounter a scenario that the clients, who were prescribed to receive treatments and therapies, did not refuse or resist the intervention, yet they appeared no desire and unapproachable for the professionals (Gendlin, 1961). Carl Rogers once stated that the client-centred method is not defined by specific techniques or responses, but rather by certain basic attitudes of the therapists (Rogers, 1957; Rogers, 1959). To initiate the treatment and induce the client compliance of psychiatric

medications and psychotherapy, the mental health professionals could apply the person-centred theory in developing a benign therapeutic relationship with regarding the autonomy of clients and perceiving them unconditionally.

Iinevitably, returning the power back to clients may be considered unpredictable and risky by medical professionals. Nevertheless, it might cause an obstacle conceptually and emotionally for the mental health professionals to grasp the clients' intention when the clients remain silent (Gendlin, 1962). Altering the current therapeutic approach and finding an alternative method could be harmless and reducing conflict and tension between the mental health professionals and clients. Carl Rogers stated that "*It is the client who knows what hurts, what directions to go, what problems are crucial, what experiences have been deeply buried"* (Rogers, 2004, p. 11). Therefore, a person-centred mental health professional who is applying the therapeutic conditions in altering the modes of response toward the clients might be able to neutralise the intenseness in the therapeutic relationship by entitling in a power shifting between the clients and professionals in psychiatric settings.

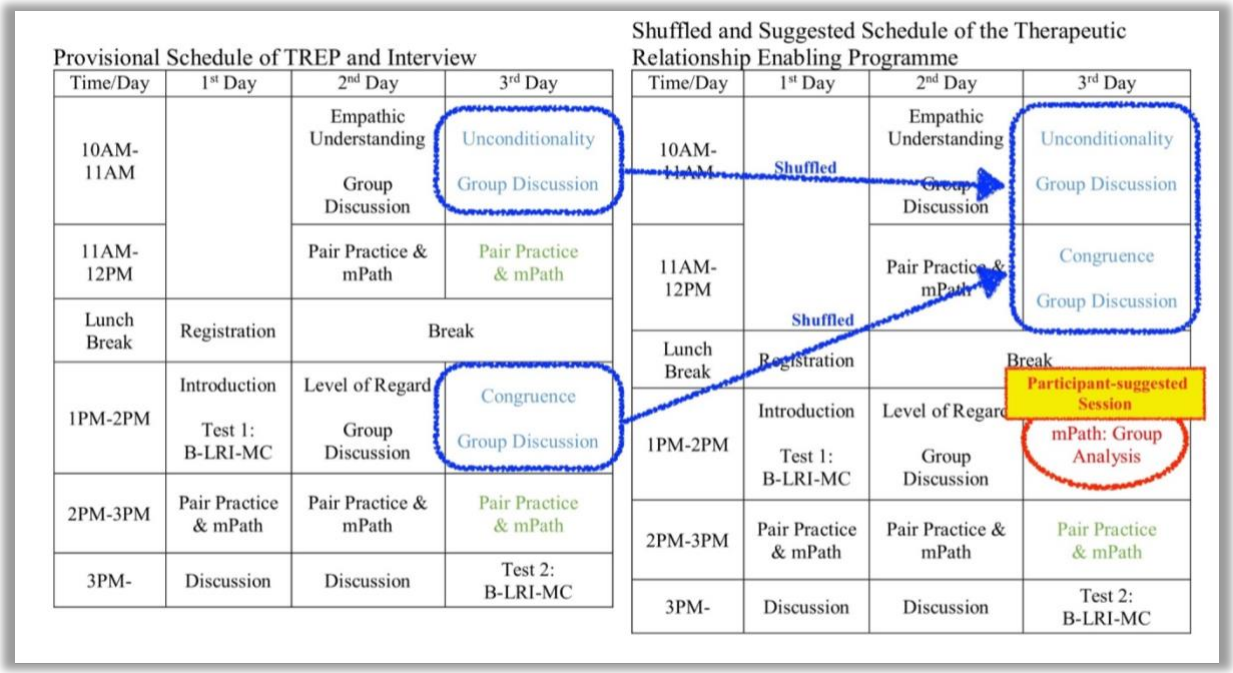
7.6.2 The person-centred learning approach with mPath

The findings resonated with the previous studies of the person-centred approach in trainees' learning experience and the technology integration in pedagogy (Barrett-Lennard, 2018; Clouston & Whitecombe, 2005; Dearing, 1997; Drewitt, Pybis, Murphy, & Barkham, 2018; Forbes, *et al.*, 2016; Rogers, 1983; Rogers, 2004; Rogers., 1951; Rousmaniere, 2014; Clouston & Whitecombe, 2005; Cornelius-White, Motschnig-Pitrik, & Lux, 2013; Gendlin, 1962; Liao, Murphy, & Barrett-Lennard, 2018; Lockeman, *et al.*, 2017; Murphy, *et al.*, 2017; Murphy, *et al.*, 2019; Ng, 2018; Parker & Leggett, 2012; Slovák, *et al.*, 2015; Verbeek, Manhaeve, & Schrijvers, 2016; Whitcombe, 2004). The Therapeutic Relationship Enabling Programme (TREP) provided the participants with the opportunities to develop their therapeutic relationship competence in a person-centred learning approach environment. It facilitated them a non-directive curriculum in a culture of trust, non-judgmentalism, honesty and participation to nurture and enhance the participants' engagement and self-directive learning (Rogers, 1983; Barrett-Lennard, 2018).

In the workshop, the participants enabled to engage simultaneously with others and conducted an open discussion on specific questions, such as "how could a mental health professional not to be an expert for the clients?" and "what if a client ignores you

completely? What do we do as in the therapeutic relationship?" while they could just develop the competence of therapeutic relationship through the traditional methods in the medical schools, for instance, lectures, seminars and learning groups (Chou, Chiu, Lai, Tsai, & Tzeng, 2012). One interesting event occurred in the workshop demonstrating the participants' increasing learning motivation due to the person-centred learning environment. The participants spontaneously required changing the learning schedule which shuffled the didactic lectures, conversational-simulation experiential exercises and mPath sessions (Figure 7-2), which it suggests that the person-centred learning approach would be an essential factor for the participants acquiring the changed level of therapeutic relationship competence.

. Figure 7- 2 Person-centred Learning Approach: A participant-led learning schedule



Using videos to support teaching and learning of clinical skills seemed an informative method help the trainees improve their skills (Arguel & Jamet, 2009; Forbes, *et al.*, 2016; Murphy, *et al.*, 2017; Murphy, *et al.*, 2019), for instance, Carl Rogers recorded counselling sessions for demonstrations in education (Rousmaniere, 2014; Kirchenbaum, 2007) and some researchers in the field of implementing information and communications technology have acknowledged that video playback facilitates the users less resistance and defensiveness to learn from the recording sessions and dissect the process and of course gain a deep understanding in the practice sessions (Barnett, 2011; Kirchenbaum, 2007; Murphy, *et al.*, 2017; Murphy, *et al.*, 2019). The participants in the Therapeutic Relationship Enabling

Programme especially noticed their body language, facial expression and speaking tone would affect the level of the therapeutic relationship with the clients. Some characteristics of clients were reported as an emphasis on the subverbal interactions (Gendlin, 1962). For example, a slight movement might constitute an intense subverbal conversation. One participant noticed she smirked subconsciously while she heard of sad stories through analysing her recording. The facial expression might hinder her to develop a positive therapeutic relationship with the clients if she was not aware of it. Furthermore, mPath allowed the participants to self-direct and self-process to enhance the self-reflection from an objective angle. Collins' statistical report (2018) indicated that the experiential learning style of the majority of the medical education participants is *assimilating* which Kolb (1984) categorised the intention of *seeking new knowledge* accommodates the medical education participants' interest in learning (Collins, et al., 2018; Kolb D. A., 1984). Therefore, it boldly assumes that mPath enhanced their acquisition of the person-centred therapeutic relationship competence in psychiatric settings due to it provided the participants with the objective non-verbal information including graphics data about themselves and created a free space for them to self-learning and look-in the details.

7.7 Conclusion

This study was conducted two weeks after the intervention and the last evaluation. It used a qualitative investigation to understand the Taiwanese mental health professionals' perception of the factors which might influence their learning outcome of the person-centred therapeutic relationship competence during and after the workshop. The results highlighted the person-centred learning approach and the use of mPath. The concept of person-centred therapeutic relationship could be applied when the mental health professionals agree with the meaning of retuning humanistic power back to the clients and communicate with their clients with meaningful verbal and subverbal interaction. The result of the TREP evaluation (see Chapter 6) has indicated a continuous growing competence of the person-centred therapeutic relationship occurred to the participants which have met the hypothesis of Carl Rogers' person-centred therapeutic relationship competence could grow organically when a person is in a person-centred environment (Rogers, 2004; Rogers, 1957; Rogers., 1951). This study not only gave the qualitative evidence of the affecting factors for the Taiwanese mental health professionals' developing the therapeutic relationship competence during and after the Therapeutic Relationship Enabling Programme but also discovered a direction of innovating a person-centred pedagogy of medical education which would enhance the mental health professionals' learning. It also pictured the possibilities of making interdisciplinary contributions to the field of the person-centred approach and medical education.

7.8 Limitations

There were some limitations in this study. Firstly, there was no interview conducted for the 33 participants in the control group which might help the researcher to understand the baseline differences in the competence level and the prior skills learning experience of each group. However, all 26 participants were interviewed to help explore the difference between the previous and current learning experiences. Secondly, apart from conducting the practising partner group interview, the speciality-focus group interview could be conducted to grasp more information about how nursing, medical, occupational therapy and clinical psychology students learnt the therapeutic relationship skills before, during and after the intervention. Lastly, the sample sizes for each speciality were not even. The group of nursing students are far more than the other three groups. Recruiting similar sizes of the participants in each speciality for further research would be recommended.

Chapter 8 Cinclusion

"The degree to which I can create relationships, which facilitate the growth of others as separate persons, is a measure of the growth I have achieved in myself."
(Carl R Rogers, On Becoming a Person: A Therapist's View of Psychotherapy)

8.1 Introduction

The PhD research was conducted as a mixed-method study has explored the acquisition of the person-centred therapeutic relationship competence for the Taiwan mental health professionals in psychiatry. This study adopted Carl Rogers' person-centred theory as the theoretical framework, and it aimed to decrease the medical burden in psychiatry by increasing the mental health professionals' humanistic approach in Taiwan. The hypotheses of the PhD research below were investigated:

1. *Carl Rogers' person-centred therapeutic relationship can be interpreted and comprehended by the Mandarin-Chinese speakers through a full Mandarin-Chinese version of Barrett-Lennard Relationship Inventory (B-L RI:MC)*
2. *The person-centred therapeutic relationship competence can be acquired by the Taiwanese mental health professionals, such as doctors, nurses, clinical psychologists and occupational therapists, through an intensive training.*
3. *mPath enhances the mental health professionals' learning of the person-centred therapeutic relationship skills in the psychiatric context.*

This concluding chapter has been structured, firstly, to summarise the empirical findings of three studies; and, secondly, to make explicit the contribution to knowledge of the research. Lastly, the limitations of the study, considering practical implications and recommendations for future research were concluded.

8.2 Summary of the empirical findings & contribution to knowledge

The impetus for the PhD research was the urge of improving the current mental healthcare in Taiwan. Facing the rapid growth of the clients and the raising pressure experienced by the medical staff in Taiwan, looking for a possible improvement in the health provider-patient relationship might bring some fresh perspective in the clinical practice. In addition, this mixed-method studies which consisted of three studies: firstly, "*A Confirmatory Factor Analysis of the Mandarin-Chinese Version of the Barrett-Lennard Relationship Inventory"* to prepare the measuring instrument for the intervention in the second study, and this study provided an insight that the concept of the therapeutic relationship becomes more accessible

toward the Mandarin-Chinese speaking world and supports intercultural transmission of ideas. Secondly, "*Evaluation of the therapeutic relationship skills training for mental health professionals*" conducted a quasi-experiment to evaluate to evaluate the effectiveness of the Taiwanese mental health professionals' learning the person-centred therapeutic relationship in a person-centred-theory-based workshop with the use of new technology mPath. The pre-during-post-test measurement indicated the effectiveness of learning and triggered the next investigation of *how them learnt* in the third study. Lastly, "*A qualitative study on therapeutic relationship competence acquiring in a three-day workshop: mental health professionals' learning in Taiwan*" aimed to resolve the question in the second study and discuss about the mental health professionals' learning with the help of mPath.

The three sets of data resulted with responses of promising hypotheses regarding the PhD research below:

1. *Carl Rogers' person-centred therapeutic relationship CAN be translated and interpreted in Chinese written characters, and it is FULLY comprehended by the Mandarin-Chinese speakers through the validated Mandarin-Chinese version of Barrett-Lennard Relationship Inventory (B-L RI:MC).*

In the study of "*A Confirmatory Factor Analysis of the Mandarin-Chinese Version of the Barrett-Lennard Relationship Inventory*", the translated version was rated by 658 Mandarin-Chinese native speakers evaluating their friendship with a friend. The findings suggested that the translated 64-items in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version can reliably assess the effect of *level of regard, empathic understanding, unconditionality of regard* and *congruence in relationships*. The Cronbach's alpha of the sample set of 658 variables exceeds .96 whereas the original English version was .80 (Barrett-Lennard, 2015, pp. 17-18, 43).

The reliability of the translated version has been indicated as significant as the original version. The separate Cronbach's alpha of each sub-scale is .94 for level of regard, .84 for empathic understanding, .75 for unconditionality of regard and .89 for congruence scale whereas The results of Gurman's validation study were .91 for level of regard, .84 for empathic understanding, .74 for unconditionality of regard and .88 for congruence scale (Barrett-Lennard, 2015, p. 43; Gurman, 1977). It strongly implied that the Barrett-Lennard Relationship Inventory Mandarin-Chinese version also provided strong internal consistency in the entire scale and individual sub-scales as did the original version Barrett-Lennard

Relationship Inventory. In the confirmatory factor analysis, the Mandarin-Chinese version supported the original hypothesized four-factor structure of the person-centred therapeutic relationships by exhibiting a good fit for the data and presenting a consistent correlation between each of the four factors.

The analytical result provided strong internal consistency, reliability and construct validity. The Barrett-Lennard Relationship Inventory Mandarin-Chinese version has been successfully interpreting and transferring Carl Rogers' person-centred theory to the Mandarin-Chinese culture which not only by words but also the cultural images. It has also represented that the Westerners and Chinese's perception of a relationship are at a similar level.

2. *The person-centred therapeutic relationship competence CAN be acquired by the Taiwanese mental health professionals through the Therapeutic Relationship Enabling Programme.*

The Therapeutic Relationship Enabling Programme was a theoretically informed, experiential-based training workshop with the use of a theory-designed technology. It aimed to enhance mental health professionals' learning on therapeutic relationship skills. The findings suggested that the change of the mental health professionals' competence in the experimental group had shown significance significantly whereas the mental health professionals' competence in the control group remained and slightly decreased.

In the beginning of the intervention, there was no significant difference in the degree of baseline competence on participants' specialties at the $p > 0.05$ level for the five specialties: medicine, nursing, clinical psychology, occupational therapy and others [F (4, 54) = .28, p=.887]. There was also not a significant difference in the total score of Barrett-Lennard Relationship Inventory Mandarin-Chinese version for the experimental group (M=44.50, SD=18.99) and the control group (M=42.18, SD=26.14); t (57) =0.38, p=0.71. The participants in both experimental and the control group obtained similar baseline competence of Rogerian therapeutic relationship skills at recruitment.

With 3 measurements, it was reported that the participants in the experimental group has presented a significant change of the Rogerian therapeutic relationship competence overall [Wilk's Lambda= .731, F (2, 56) = 10, p=.000). Greenhouse-Geisser correction, the mean scores for the evaluations were statistically different significantly [F (1.709, 97.386) =

14.721, p=.000[between time points. It also indicated a significant difference between the experimental and control group with the mean scores [F (1.709, 97.386) = 16.38, p=.000]. Thus, it can be said that those attending the Therapeutic Relationship Enabling Programme showed a statistically significant change in the level of competence in developing therapeutic relationships with others over time.

Interestingly, the post hoc comparisons between each evaluation (Figure 7-1) has addressed the result of three sets of paired samples t-test across three measurements: before (Test 1), at the end (Test 2) and two weeks after (Test 3) the intervention. In the experimental group, the paired sample t-test of Test 1 and Test 2 have expectedly shown a significant difference during the intervention when the participants were learning Rogerian therapeutic relationship competence intensively. However, the change seems to keep growing two weeks after the intervention while the participants were not exposed in the learning climate. Hence, it concluded that Therapeutic Relationship Enabling Program initiates the participants' therapeutic relationship competence in a short-term period, and furthermore, the competence remains and increases organically while the participants were no longer exposed to the training environment. It led to an assumption that the Therapeutic Relationship Enabling Programme could be considered as a model of the workshop that facilitated the participants a non-directive curriculum in a culture of trust, non-judgmentalism, honesty and participation (Rogers, 1983; Kolb, 1984 ;Barrett-Lennard, 2018) to nurture and enhance the participants' engagement and self-directed learning (Barrett-Lennard, 2018). The learning technology mPath (Slovák, *et al.*, 2015; Rousmaniere, 2014) could be another element to affect the participants' further reflection of the therapeutic relationship while they were not exposed in the intervention.

However, the study of "*Evaluation of the therapeutic relationship skills training for mental health professionals*" has successfully supported the assumption that the definition of Carl Rogers' person-centred therapeutic relationship could be accepted and applied in the psychiatric contexts. The statistical data reported the expectation that a theory-based training workshop with the use of a theory-designed technology enhanced the Taiwanese mental health professional students' learning on the therapeutic relationship was satisfied. A significant growth curve in therapeutic relationship competence of the experimental group was found in the follow-up assessment meaning that the competence has not only sustained but also grown organically after a short exposure of person-centred experientially learning. A

further investigation on how the Taiwanese mental health professionals not only acquired the person-centred therapeutic relationship competence but also encountered a continuous growth after the intervention had been conducted as a qualitative research in the third study.

3. *mPath DOES enhance the learning of the person-centred therapeutic relationship skills in psychiatry.*

The study "*A qualitative study on therapeutic relationship competence acquiring in a three-day workshop: mental health professionals' learning in Taiwan*" was conducted interviews to explore how the participants acquired the person-centred therapeutic relationship competence and had it grown organically. Fifteen nursing, five occupational therapy, four medical and two clinical psychology students were interviewed after giving the final Barrett-Lennard Relationship Inventory measurement. The Marjory of the interviewees, who were self-recruited in the Therapeutic Relationship Enabling programme, were seeking a comprehensive implement to apply the theories they learnt in the medical school in the clinical practice. For example, learning more about the person-centred theory, looking for demonstration of the implement of the theory and having course-designed practice were the motivation of registering the programme.

The central theme "*beyond medical knowledge and clinical skills*" emerged from the interview data. Redefining therapeutic relationship, transferring theory into practice, awareness arising through mPath and self-growth were described as four main subthemes. *Returning power to the clients* and *the person-centred learning approach with the theory-based learning technology* were found as the essential factors for the continuous growth in the competence of the person-centred therapeutic relationship in psychiatric settings.

mPath was reported that it has provided an important element for the mental health professionals learning the therapeutic relationship. Due to the specific characteristics of the clients, their subverbal communication skills, such as facial expressions, body languages, congruence and unconditionality of regard, have become an important factor to initiate a positive therapeutic relationship in psychiatry. The results highlighted that it allowed the participants to experience self-growth and arise self-awareness with the use of mPath in the practice sessions. Analysing the videotapes allowed them to reflect and imply the theory into the next practice, and gradually it affected the Taiwanese mental health professionals'

behaviours outside of the clinical environment. It gave qualitative evidence of the competence changes without the intervention.

Over all, this PhD research has produced some contributions to knowledge of research: the validated full Mandarin-Chinese version of the Barrett-Lennard Relationship, transferring Carl Rogers' person-centred theory with practical implement into the Mandarin-Chinese community and the field of medical education in psychiatry, innovating a short but effective person-centred experiential training course for the mental health professionals acquiring the competence of therapeutic relationships, and last but not least, integrating the use of the helping learning technology mPath to the humanistic courses in the medical education in Taiwan.

8.3 Limitations of the study

Although the contributions to knowledge through this PhD research were promising, there were some limitations that existed. First of all, the design of the mixed-method studies could be implemented. A comparative study between the UK and Taiwan could be conducted to investigate the cultural and other factors on the mental health professionals acquiring the therapeutic relationship competence. Secondly, a cross-time evaluation and interview of the therapeutic relationship competence learning could be performed at the time of two weeks, three months and six months after the intervention. It could also evidence a sustained efficacy and change in the participants' behaviour and/or outcomes in terms of the person-centred therapeutic relationship competence. Thirdly, the distributing method in the first study could be modified as an online survey and the paper-and-pen version of the questionnaire. There were only 2 respondents in the age group of 66 and over among the 658 ratees. This might be related to varying levels of familiarity of computer usage and willingness to access and complete online surveys. Fourthly, the number of mental health professionals in each specialty could be recruited equally. For example, having an identical number of each specialty could broaden the investigation of learning in each specialty. Lastly, a follow-up interview could be conducted systematically at a later time point, such as six months and one year in medical education, or even one year after exposing in psychiatric settings as medical staff. Due to time-and-space restriction, this PhD research has encountered the limitations above. It could have collected more data sets and would have produced more research contribution if these limitations overcame.

8.4 Implements and recommendations for future research

This PhD research could be implemented into two key directions: firstly, the extending development of the person-centred experiential digital learning technology. mPath is an innovative helping learning technology designed specifically for interpersonal communication skills training (Slovák, *et al*., 2015). It provides students with opportunities to analyse their training constructively and allows them to receive specific feedback from their peers and supervisors explicitly (Liao & Murphy, 2019). The current service offers the users multiple tools to reflect on various facets of peoples' experiences. mPath is tightly linked with the video-recording of the session and designed to facilitate a time-efficient process (Slovák, *et al.*, 2015). To contribute to medical education, advancing some of the features of mPath might help facilitate the student's communication skills trainings in a simulated clinical practice. For example, improving the usability including navigation, responsive interface, multi-language versions for international users, functionality and features like biometric detection and index, psychometrics, image analysis and export, and log and report could be implemented. mPath would then be advanced and developed continually.

Secondly, innovating the person-centred mental health practice. As literature from the American Association of Medical Colleges, the General Medical Council and the Liaison Committee on Medical Education have identified that medical students' competency in developing their communication competence and maintaining therapeutic relationships with patients is an essential goal of learning in medical education. Carl Rogers' person-centred approach addressing the theory of the six necessary and sufficient conditions of relationships have been demonstrated and adopted into multiple fields (Murphy & Joseph, 2018; Liao, Murphy, & Barrett-Lennard, 2018; Barrett-Lennard G. , 2018). Therefore, expanding the previous research experience and results globally, the innovative pedagogical model could be piloted and collaborated both in the Mandarin-Chinese speaking universities in East Asia.

As the transition of medical pedagogy from dialogic methods to problem-based small group learning has advanced, this research intends to contribute to modern medical education in the development of therapeutic relationship skills acquisition through translating person-centred learning theory into an innovative mental health practice. The recommended implications would continually improve future mental health practice integrating the further investigation of the effectiveness of the health professionals' performance by using new helping learning technology in the training context.

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Appendices

Appendix A. Research ethics approval forms

a. The ethics approval of the validation of the Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory

2016/3/

School of Education – PGR Research Ethics Comments Form

The University of Nottingham

Name **Faith Ruofan Liao**
Supervisors **David Murphy**
Course **PhD**
Title of Research Project: Validation of the Mandarin-Chinese Version of Barrett-Lennard Relationship
Is this a resubmission? No **Date statement of research ethics received by Research Office:** 25/04/2016

Review C – Summary Review		
Date of review	16 May 2016	
Outcome of review	**Revise and Resubmit**	
	Approved	✓

Comments:

Thank you for your application. Approval is given subject to receiving confirmation about the following:

1. Question 1b: We consider this research is concerned with a sensitive topic and hence the answer should be No.
2. Questions 2a and 2b – if the answer to 2a is Yes, the answer to 2b therefore be N/A.
3. This is a validation study of an instrument, only parts of which have been previously translated. This will test a complete translation of the instrument and thereby offer more valid comparison for professionals and researchers.
4. Is permission is sought to use the data collected during this test phase for other research? Please clarify this aspect.

Confirmations and clarifications can be provided in the form of an email.

b. The ethics approval of conducting the workshop of the therapeutic relationship: Therapeutic Relationship Inventory (TREP)

The University of Nottingham
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Our **Ref: 2016/40/EP**

Dear Faith Liao
CC David Murphy

Thank you for your research ethics application for your project:

"Workshop of Therapeutic Relationship Skills: Therapeutic Relationship Enabler Programme"

Our Ethics Committee has looked at your submission and has the following comments.

- Appropriate safeguards have been put in place for protecting the participants in this study. It is noted that the student already has ethical approval for the research – this application represents a study within the main study.

Based on the above assessment, it is deemed your research is:

- **Approved**

We wish you well with your research.

Dr Kay Fuller
Chair of School of Education Ethics Committee

c. The ethics approval of interviewing Taiwanese mental health professionals

The University of Nottingham
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Our **Ref: 2016/3/BD**

Dear Faith Ruofan Liao
CC David Murphy

Thank you for your request for an adjustment to the research ethics application for your project:

"Interviewing Taiwanese mental health professionals"

Our Ethics Committee has reviewed your request and your re-submission and has the following comments.

- On 21 April 2016 we thanked you for addressing the minor modifications as requested and for providing a clear indication of where they have been addressed.
- We are pleased to approve the request to carry out the research project without first conducting a pilot study.
- The approval given to the pilot study applies to this study.

Based on the above assessment, it is deemed your research is:

- **Approved**

We wish you well with your research.

Dr Kay Fuller
Chair of School of Education Ethics Committee

Appendix B. Research information sheet

a. The study information sheet of the validation of the Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory

Study Information Sheet

This PhD study is aiming to valid the Mandarin-Chinese translated version of Barrett-Lennard Relationship Inventory. The Barrett-Lennard Relationship Inventory was developed in 1964 by Dr Godfrey T. Barrett-Lennard, who is an Australian counselling psychologist and well-known in the study of Carl Rogers' therapeutic relationship. The work of the inventory was inspired by Carl Rogers' person-centred theory and it had been revised and adapted by Dr Barrett-Lennard until 1986. Nowadays, Barrett-Lennard Relationship Inventory has been expanded and applied in evaluating different kinds of relationship. For example, therapist-client relationship, teacher-student relationship, family relationship, friendship, partnership, etc. Since 1964, Barrett-Lennard Relationship Inventory has been translated worldwide in 19 languages: *American Sign, Arabic, Chinese (Mandarin) , Czech Republic, Dutch, French, German, Greek, Hebrew, Iranian, Italian, Japanese, Korean, Malaysian, Polish, Portuguese, Slovak, Spanish, Swedish, Turkish* (Barrett-Lennard, 2014). Unfortunately, the Chinese version was only translated partially. Thus, translating a complete Mandarin-Chinese version of Barrett-Lennard Relationship Inventory will benefit the society to evaluate and develop any interpersonal relationship, for instance, therapist-client relationship, teacher-student relationship, family relationship, friendship, partnership, etc.

You are invited to participate in the research, which is approved by the University of Nottingham and verified by the Institutional Review Board on Humanities & Social Science Research Taiwan, concerning the validation of the Barrett-Lennard Relationship Inventory Mandarin Chinese Version (BLRI-MC). Through Bristol Online Survey (BOS), a system of online survey, which co-operates with the University of Nottingham, the BLRI-MC will be distributed to you to complete. There are 64 statements which describe some feelings about a relationship. In the inventory, please mentally evaluate the relationship between you and one of your friends. According to the current states of the relationship between you and one of your friends, you may select the most suitable suggested answer to each statement. The suggested six answers are:

"Yes, I strongly feel that it is true.
Yes, I feel it is true.
(Yes) I feel that it is probably true, or more true than untrue.
(No) I feel that it is probably untrue, or more untrue than true.
No, I feel it is not true.
No, I strongly feel that it is not true" (Barrett-Lennard, 2014)

To prevent the confidential agreement form being abused, the answers in the inventory will be only accessed by the members of the research team who would be the translators. Aligning with and protecting by Good Practice in Research Data Management, the University of Nottingham Research Data Management Policy and the Personal Data Protection Act, Taiwan, all the data, such the demographical information, which are collected in the research will remain confidential and anonymous, and they will be stored securely on the password-protected server of the University of Nottingham and will be accessible only by you and selected researchers involved in the study (Faith Ruofan Liao, Wen-I Lee, I-Wen Chen, Dr David Murphy and Dr

Max Biddulph). We keep everything absolutely confidential according to The University of Nottingham's Ethical Framework which comprises a comprehensive set of principles, structures, policies and procedures which together demonstrate the ethical standards that the University sets across all of its activities. Meanwhile, the Institutional Review Board (IRB) in Taiwan considers the ethical approval from the University of Nottingham as a permission of conducting researches in Taiwan. The IRB in Taiwan confirms the official documentations of the ethical approval in the University of Nottingham as the affirmation of the permission before the research takes place in Taiwan.

Furthermore, the content of each participant will be also protected in accordance with the Personal Data Protection Act Taiwan which was put into effect a comprehensive amendment in October 2012. To be more specific, the confidentiality of any personal data, which is sufficient to identify that person directly or indirectly, will be remained. For example, *a natural person's name, date of birth, national identification number, passport number, special features, fingerprints, marriage, family, education, occupation, medical records, medical history, generic information, sex life, health examinations, criminal records, contact information, financial status, social activities and other data.* Therefore, the data will be confidential and would only be used in the subsequent associated researches in the future if you give the permission (Please tick the box of the optional consent in the form if you agree for the data to be used.) If you wanted to exclude any of the researchers from having access to your session, please contact us through the details below.

If at any point you feel want to withdraw from the study, you have the right to do so by contacting the researchers. Alternatively, if you do not wish to contact any of the researchers in the team for any concern, you have the right to contact Education Research Ethics, the University of Nottingham. As a participant, you will be guaranteed complete confidentially, and so does the information you provided as well. If you have any question, please do not hesitate to ask. You may contact us at any time for information about the research or in relation to consent, the contact details are below:

Faith Ruofan Liao (PhD Student) School of Education Room C16, Dearing Building Jubilee Campus NG8 1BB Mobile: +44(0)750 272 6170 Email: ttxfl17@nottingham.ac.uk	**Dr David Murphy (Supervisor)** School of Education Room B11, Dearing Building Jubilee Campus NG8 1BB Tel: +44(0)115 846 6455 Email: david.murphy@nottingham.ac.uk
Wen-I Lee (Master Student) School of Education Dearing Building Jubilee Campus NG8 1BB Tel: +44(0)7754267695 Email: ttxwl4@nottingham.ac.uk	**Associate Professor Dr Max Biddulph (Supervisor)** School of Education Room B14, Dearing Building, Jubilee Campus NG8 1BB Tel: +44(0)115 915 4457 Email: max.biddulph@nottingham.ac.uk
I-Wen Chen (Master Student) School of Education Dearing Building, Jubilee Campus NG8 1BB Tel: +44(0)7519-663103 Email: ttxic8@nottingham.ac.uk	**Education Research Ethics** School of Education Jubilee Campus NG8 1BB Tel: +44 (0) 115 951 4543 Email: educationresearchethics@nottingham.ac.uk

Please remember that although your participation in this study is very much appreciated, **you may withdraw from this study at any time.**

b. The study information sheet of conducting the workshop of the therapeutic relationship: Therapeutic Relationship Inventory (TREP) and interviewing Taiwanese mental health professionals

Study Information Sheet

About this study

This PhD study is aiming not only to understand how Taiwanese mental health professional students learn the skills of therapeutic relationships through the use of new technologies, it also aims to consider the feasibility of new technologies in Taiwanese medical education in the future. The literature shows that there are few investigations on mental health professionals' therapeutic relationship skills in Taiwan in the past 10 years. Hence, conducting a study on developing Taiwanese mental health professional students' therapeutic relationship skills may help educators improve the current teaching method of therapeutic relationship skills and develop effective learning aids for their students, such as new technologies.

What is involved?

You are invited to participate in the Therapeutic Relationship Enabler Programme (TREP), a therapeutic relationship skills workshop as part of a study approved by the University of Nottingham and verified by the Institutional Review Board on Humanities & Social Science Research Taiwan. First you will be asked to complete a questionnaire. The Mandarin-Chinese version of Barrett-Lennard Relationship Inventory (B-LRI:MC), BEFORE, DURING and AFTER the workshop. During the workshop, you and your partner will practice the therapeutic relationship skills. This will involve making and reviewing recorded video clips of skills sessions. You will be able to make annotations on your own video clip. You and your partner will upload the clips of recorded practice onto the new web-based technology, mPath. mPath has been produced by a cross-disciplinary team from the University of Nottingham and Newcastle University in the United Kingdom, and the Technical University Vienna in Austria. It provides the opportunity for structured reflection and allows you to conduct self-analysis on the recorded video clips, receive feedback from peers and your instructor. Finally, you will be asked to take part in an interview on your experience of using the mPath software within the TREP workshop.

Language and translations

To reducing the possible language barriers, the workshop will be conducted in your native language: Mandarin-Chinese. All the information you have provided will be transcribed in Mandarin-Chinese, and then translated in English with your permission. To ensure the ethical integrity, the researcher, as the translator, will not amend the contents of the transcripts. The translated data will be available to be confirmed with you as the participant whenever you would like.

Confidences

To protect the confidentiality the content of the interview will only be accessed by members of the research team. All research data will be stored in alignment with Good Practice in Research Data Management, the University of Nottingham Research Data Management Policy and the Personal Data Protection Act Taiwan. For example, all personal data, in accordance with the Data Protections Act, will be kept confidential and used solely for the purpose for which it was acquired. The video recordings and the annotations, which are collected and generated in the research, will be stored securely on the password-protected server of the University of Nottingham and will be accessible only by selected researchers involved in the study (Faith Ruofan Liao, Dr David Murphy and Dr Max Biddulph). Furthermore, the data would only be used in the subsequent associated researches in the future if you give the permission (Please tick the box of the optional consent in the form if you agree for the data to be used.) We will keep confidentiality according to The University of Nottingham's Ethical Framework. The Institutional Review Board (IRB) in Taiwan considers the ethical approval from the University of Nottingham as a permission of conducting research in Taiwan. The IRB in Taiwan confirms the official documentations of the ethical approval in the University of Nottingham as the affirmation of the permission before the research takes place in Taiwan.

Contacts

If you have any question, please do not hesitate to ask. You may contact me or the research team at any time for information about the research or in relation to consent, the contact details are below: If at any point you feel want to withdraw from the study, you have the right to do so by contacting the researchers. Alternatively, if you do not wish to contact any of the researchers in the team for any concern, you also have the right to contact Education Research Ethics, the University of Nottingham.

Faith Ruofan Liao (PhD Researcher) School of Education Room C16, Dearing Building Jubilee Campus NG8 1BB Mobile: +44(0)750 272 6170 Email: faith.liao@nottingham.ac.uk	**Dr David Murphy (Supervisor)** School of Education Room B11, Dearing Building Jubilee Campus NG8 1BB Tel: +44(0)115 846 6455 Email: david.murphy@nottingham.ac.uk
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Please remember that although your participation in this study is very much appreciated, **you may withdraw from this study at any time.**

Appendix C. Research consent form

a. The research consent form of the validation of the Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory

Study Consent Form

This is to confirm that I have agreed to take part in a study of the validation of the Mandarin-Chinese translated version of Barrett-Lennard Relationship Inventory (BLRI-MC). I have read the information sheet provided and I understand what is involved.

- I confirm that I am over the age 18 or over.
- I understand that the researcher will collect data detailing my answers on the BRLI-MC and my answers to the inventory, which is aligned with Good Practice in Research Data Management─the University of Nottingham Research Data Management Policy, in accord with the details contained in the information sheet. The researcher guarantees that this data will be stored and protected in accordance with the Data Protection Act 1998, the University of Nottingham's Ethical Framework, and the Personal Data Protection Act Taiwan 2012, namely on a password-protected drive managed by the University of Nottingham and only for the duration for which it is required. It will only be accessible by those directly involved in the research. The raw data will be deleted at the latest on 2021-09-30, expect data pertaining to participants who explicitly have given their optional consent that their data may be retained for future research (see below).
- I am aware of that the Institutional Review Board (IRB) in Taiwan counts the ethical approval certified the University of Nottingham as a permission of conducting researches in Taiwan. The IRB in Taiwan has confirmed the official documentations of the ethical approval in the University of Nottingham as the affirmation of the permission before the research takes place in Taiwan.
- I am invited for completing the BRLI-MC through the Bristol Online System which co-operates with the University of Nottingham, the United Kingdom.
  I agree to complete the inventory and be interviewed, and I am aware that the data for the research will be stored and accessed in the same manner as described above.
- I agree to be under the Personal Data Protection Act in Taiwan 2012 and IRB, and I will keep the confidentiality for the person who I refer to during and after the completion of the BLRI-MC. I will only select the suggested answers according to my own experience, and the details of my reference will not be mentioned in the inventory.
- I understand and agree that the information given in the inventory will be collected and analysed by the members of the research team. I understand that I have the right to withdraw the information prior to analysis, and the researchers will respect the content in the inventory, and they will not amend it. I also will have access to the information I gave if I would like to.
- I agree to the use of this data in an anonymised form in the associated research.
- I understand that I can withdraw at any time and my personal data and given information will be erased from the records.
- I may withdraw consent from the study at any time or after the task for any reason without penalty by contacting the researcher on the address below. In this event all my data will be erased. I have the right to contact Education Research Ethics, the University of Nottingham, if I do not wish to contact any of the researchers below in the team for any concern.

Faith Ruofan Liao (PhD Student) School of Education Room C16, Dearing Building Jubilee Campus NG8 1BB Mobile: +44(0)750 272 6170	**Dr David Murphy (Supervisor)** School of Education Room B11, Dearing Building Jubilee Campus NG8 1BB Tel: +44(0)115 846 6455

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I-Wen Chen (Master Student) School of Education Dearing Building, Jubilee Campus NG8 1BB Tel: +44(0)7519-663103 Email: ttxic8@nottingham.ac.uk	**Education Research Ethics** School of Education Jubilee Campus NG8 1BB Tel: +44 (0) 115 951 4543 Email: educationresearchethics@nottingham.ac.uk

Optional consent: (Tick where appropriate)

□ *I agree that the researcher can take demographic information during the study and that these can appear in publications. If the demographic information allows me to be identified, the researcher must ask me for an additional approval before publication.*

□ *I give permission for the data collected to be used in subsequent associated research.*

Signed _____ Researcher's signature

Name_____ _____

Address_____

_____

Contact Tel No: _____ Email: _____

Date: _____

b. The research consent form of conducting the workshop of the therapeutic relationship: Therapeutic Relationship Inventory (TREP) and interviewing Taiwanese mental health professionals

Study Consent Form

This is to confirm that I have agreed to take part in the study: Therapeutic Relationship Enabler Programme (TREP) which is a workshop exploring the Taiwanese mental health professional students' learning on therapeutic relationship skills through the use of new technologies. I have read the information sheet provided and I understand what is involved.

- I confirm that I am at the age 18 or over.
- I understand that the researcher will collect and gather data detailing my answers on the Mandarin-Chinese version of Barrett-Lennard Relationship Inventory (B-LRI-MC) and my annotations on the video recording of the therapeutic relationship practice sessions, which is aligned with Good Practice in Research Data Management the University of Nottingham Research Data Management Policy, in accord with the details contained in the information sheet.
- I understand the researcher guarantees that this data will be stored and protected in accordance with the Data Protection Act 1998, the University of Nottingham's Ethical Framework, and the Personal Data Protection Act Taiwan 2012, namely on a password-protected drive managed by the University of Nottingham and only for the duration for which it is required. It will only be accessible by those directly involved in the research. The raw data will be deleted at the latest on 2028-09-30, except data pertaining to participants who explicitly have given their optional consent that their data may be retained for future research (see below).
- I agree to participate in the activities of the workshop and complete the inventory, and I am aware that the data for the research will be stored and accessed in the same manner as described above.
- I am aware of that the Institutional Review Board (IRB) in Taiwan accepts the ethical approval certified by the University of Nottingham as permission of conducting research in Taiwan.
- I agree to be under the Personal Data Protection Act in Taiwan 2012 and IRB, and I will keep the confidentiality of the patients whose interpersonal interactions with me might be mentioned in the workshop. I will only share my own experience, and the details of my patients will not be mentioned in the interview.
- I understand and agree that the data generated in the workshop will be transcribed in Mandarin-Chinese and then translated in English by the members of the research team. I understand that I have the right to confirm the transcript of my data prior to translation and the translator will respect the content of the transcription and they will not amend it. I also will have access to the translated transcript if I would like to.
- I agree to the use of this data in an anonymised form in the associated research and publications.
- I understand that I can withdraw at any time and my personal data will be erased from the records.
- I may withdraw consent from the study at any time or after the task for any reason without penalty by contacting the researcher on the address below. In this event all my data will be erased. I have the right to contact Education Research Ethics, the University of Nottingham, if I do not wish to contact any of the researchers below in the team for any concern.

Faith Ruofan Liao (PhD Researcher) School of Education Room C16, Dearing Building Jubilee Campus NG8 1BB Mobile: +44(0)750 272 6170 Email: faith.liao@nottingham.ac.uk	**Dr David Murphy** School of Education Room B11, Dearing Building Jubilee Campus NG8 1BB Tel: +44(0)115 846 6455 Email: david.murphy@nottingham.ac.uk
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Optional consent: (Tick where appropriate)

□ *I agree that the researcher can take documentary photos during the study and that these can appear in publications. If photography allows me to be identified, the researcher must ask me for an additional approval before publication.*

□ *I give permission for the data collected to be used in subsequent associated research.*

Signed: _____
Printed Name: _____
Address: _____
_____
_____
Contact Tel Number: _____
Email: _____

Researcher's signature:
_____

Appendix D. License of the use of Barrett-Lennard Relationship Inventory

PARTIES:

1. **John Wiley & Sons Limited** (Company number – 00641132) (Licensor); and
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title:	The Relationship Inventory A Complete Resource and Guide
ISBN/ISSN:	9781118788820

publisher:	John Wiley & Sons Limited
figure number & title / caption	Barrett-Lennard Relationship Inventory: Form OS–64
page number	101
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Appendix F. Published Version of the Publication: A confirmatory analysis of the Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory

Asia Pacific Journal of Counselling and Psychotherapy

ISSN: 2150-7686 (Print) 2150-7708 (Online) Journal homepage: http://www.tandfonline.com/loi/rapc20

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To cite this article: Faith Liao, David Murphy & Godfrey Barrett-Lennard (2018) A confirmatory factor analysis of the Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory, Asia Pacific Journal of Counselling and Psychotherapy, 9:1, 20-45

To link to this article: https://doi.org/10.1080/21507686.2017.1419269

Published online: 18 Jan 2018.

ASIA PACIFIC JOURNAL OF COUNSELLING AND PSYCHOTHERAPY, 2018
VOL. 9, NO. 1, 20–45
https://doi.org/10.1080/21507686.2017.1419269

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Routledge Taylor & Francis Group

ARTICLE

A confirmatory factor analysis of the Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory

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ABSTRACT

The aim of this study was to translate and provide an initial validation for a full Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory (B-L RI:MC) to include forms Other toward Self-64 (OS-64) and Other toward Self-40 (OS-40) for use in the Mandarin-Chinese research and clinical contexts. B-L RI:MC OS-64 was translated by a bilingual panel and subsequently administered to 658 Mandarin-speaking Taiwanese respondents online using an age-stratified random sampling strategy. Through both the factor analytic strategy of principle component analysis (PCA) and confirmatory factor analysis (CFA), the reliability and construct validity were investigated. The final results support the original four subscale dimensionality of the inventory. B-L RI:MC OS-64 showed Cronbach's alpha was .96 and KMO = .97. PCA using Varimax rotation yielded a four-factor model supporting the sub-scales: level of regard, empathic understanding, unconditionality of regard and congruence, which explained 49.911% squared loading of the total variance. B-L RI:MC OS-64 and OS-40 were supported by the structures in CFA, which displayed NFI = .95 and .95, CFI = .97 and .96, IFI = .97 and .96, and RMSEA = .092 and .091, indicating a promising construct validity. In conclusion B-L RI:MC OS-64 and OS-40 versions can be considered appropriate for measuring the Rogerian therapeutic relationship conditions within a Mandarin speaking community.

ARTICLE HISTORY
Received 18 October 2017
Accepted 15 December 2017

KEYWORDS
Barrett-Lennard Relationship Inventory; Mandarin-Chinese version; confirmatory factor analysis; person-centred theory

Introduction

The Barrett-Lennard Relationship Inventory (B-L RI) is the most well-known questionnaire developed specifically for evaluating the interpersonal therapeutic relationship as defined by Rogers (1957). The scale was originally developed by Barrett-Lennard when working in the University of Wisconsin where Carl Rogers and his colleagues carried out studies into psychotherapy with people with a diagnosis of schizophrenia (Thorne & Sanders, 2013, p. 112). As a pioneer of contemporary psychological research, Rogers hypothesized there to be 4 conditions in therapeutic relationships: *empathic understanding, positive regard, congruence* and *unconditionality of regard* (Barrett-Lennard, 1959a, 1959b, 1962; Rogers, 1957). Acknowledging the positive impact of

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Carl Rogers' theory, the Barrett-Lennard Relationship Inventory has been gradually adapted into different forms, such as the full 64-item form and the basic 40-item form (Barrett-Lennard, 1978, 2015, pp. 26–34, 93–93; Gurman, 1977). It has been applied worldwide in evaluating different kinds of relationship, such as therapist-client relationship, immediate family, close peer friend relationship and teacher-student relationship (Barrett-Lennard, 2015, pp. 27–31; Berzon, 1964; Hollenbeck, 1961, 1965; Snelbecker, 1967; Walder & Little, 1969).

The basic 40-item form, which was reduced from the full 64 item version, has been adapted to measure relationships from different perspectives which come from 'other toward self' (OS), 'myself toward other' (MO-40), 'observer' (Obs-40), 'teachers toward students' (MO-40:TS), 'students toward teachers' (OS-40: T-S), 'other toward young children' (OS-40CH), 'other in close relationship toward self' (OS-LR-40) and relationships between 'groups/organizations' (GS-40) (Barrett-Lennard, 2015, pp. 116–148). Although the basic 64-item form has been used in more 100 published studies, Barrett-Lennard stated that the 40-item versions practically facilitate the conceptual common origins from the longer forms (Barrett-Lennard, 2015, p. 61).

There is a significant amount of evidence that points towards the positive relation between the therapeutic relationship conditions measured by the Barrett-Lennard Relationship Inventory with successful psychotherapy outcomes. This has been shown across a wide range of patients experiencing various forms of psychological distress, including adult out-patient services for depression in clinical trials (Ablon & Jones, 1999; Blatt & Zuroff, 2005; Zuroff & Blatt, 2006), treatment studies for depression (Watson & Geller, 2005; Watson, Gordon, Stermac, Kalogerakos, & Steckley, 2003), youth and family therapy (Karver, Handelsman, Fields, & Bickman, 2006), severe psychosis (Hewitt & Coffey, 2005; Rogers, Gendlin, Kiesler, & Truax, 1967), and within general counselling (Archer, Forbes, Metcalfe, & Winter, 2000). For this reason, there is ample justification to consider the effects of the therapeutic relationship conditions as set out by Rogers in Asian culture. However, before this can be done effectively the scale for measuring the therapeutic relationship conditions needs to be translated and validated.

The Barrett-Lennard Relationship Inventory has been either fully or partially translated into 20 languages: American Sign, Arabic, Mandarin Chinese (partially), Czech Republic, Dutch, French, German, Greek, Hebrew, Iranian, Italian, Japanese, Korean, Malaysian, Polish, Portuguese, Slovak, Spanish, Swedish, and Turkish since 1964 (Barrett-Lennard, 2015). The previous Mandarin-Chinese version was only partially translated encompassing just 14 items of the empathic understanding sub-scale of the full Barrett-Lennard Relationship Inventory 64-item version. These 14 items were initially translated in 2006 by Chu and Tseng (2013) to develop an inventory for evaluating the quality of relationships in medical care aiming to help improve relationships within public health work in Taiwan. Their study showed that empathy as measured by the Barrett-Lennard Relationship Inventory was a relevant factor in considering the health literacy and understanding information; with higher levels of physician empathy being related to higher health literacy and understanding information in patients. This study provides an important link between the therapeutic relationship condition empathic understanding with improved health outcomes in an Asian context.

There is a growing need for effective, culturally sensitive, psychotherapies as the reported level of mental health problems is increasing worldwide. It has been reported that 1 in 4 people in Taiwan, a country with a 23 million population (Table 1) located in the Asia Pacific region, are suffering from common mental health problems, such as depression and anxiety disorder (Department of Census, Directorate General of Budget Accounting & Statistics [DGBAS], 2016a, DGBAS, 2016b, DGBAS, 2016c, DGBAS, 2016d; Department of Household Registration Affairs, 2016; Fu et al., 2013; Ministry of Health and Welfare Taiwan, 2015). The World Health Organization (WHO) reported that the number of registered psychiatrists in South East Asia and Africa has increased 25% more than the number in 2011 according to the report of the Mental Health Atlas in 2014 (World Health Organisation [WHO], 2014). The population of other mental health professionals, such as psychiatric nurses, has grown by 37% (WHO, 2014, p. 53). In the Mandarin speaking world there is currently a surge in the development of psychological services to support people's mental wellbeing (Ministry of Health and Welfare Taiwan, 2015). These reports have led to a growing understanding that the proportion of the population experiencing psychological distress is increasing in developing countries. To meet the needs of the population those staff providing services need to be trained and equipped with evidence based approaches. Therefore, translating and validating the most widely used therapeutic relationship inventories can

Table 1. Demographic characteristic of the sample and census data in Taiwan.

Characteristic	Respondents	%	Demographics of Taiwan[a,b,c]
Age range (years)	(n = 658)		(Unit: Persons)
18–25	211	32.1	1,608,149
26–35	221	33.6	3,389,604
36–45	110	16.7	3,856,925
46–55	81	12.3	3,691,645
56–65	33	5	1,554,074
>65	2	0.3	1,554,074
Gender			
Male	162	24.6	11,719,270
Female	495	75.2	11,820,546
Other	1	0.2	N/A
Occupation/education			
Managers, directors and senior officials	12	1.8	2,764,332
Professional occupations	141	21.4	674,236
Associate professionals and technical	23	3.5	344,512
Administrative and secretarial occupations	67	10.2	486,017
Skilled trades	38	5.8	87,061
Caring, leisure and other service	10	1.5	460,160
Sales and customer service	76	11.6	1,656,678
Process, plant and machine operatives	8	1.2	3,245,599
Elementary occupations	57	8.7	2,463,369
Retired	13	2.0	98,495
Student	184	28.0	8,249,000
Unemployed	29	4.4	460,000
Duration of Friendship (years)			
<0.5	11	1.7	
0.5–1	41	6.2	
1–3	82	12.5	
3–5	105	16	
>5	419	63.7	

[a]The total population of Taiwan is 23,539,816 people.
[b]DGBAS (2016a); DGBAS (2016b); DGBAS (2016c); DGBAS (2016d).
[c]Department of Household Registration Affairs (2016).

contribute to the development of the quality of mental health care available (Lee, Li, Arai, & Puntillo, 2009; Murphy, Cramer, & Joseph, 2012; National Institute for Mental Health and Royal College of Psychiatrists, 2005; Priebe & Gruyters, 1993; Priebe, Richardson, Cooney, Adedeji, & McCabe, 2011; Rogers, 2004; Slovák et al., 2015). Access to a translated version of the Barrett-Lennard Relationship Inventory would also provide a scope for researchers and clinicians to make meaningful comparisons across cultural divides (Murphy et al., 2017; Pescosolido, Medina, Martin, & Long, 2013; Rogers & Murphy, 2017; WHO, 1988).

The Chinese speaking population is approximately 14.4% of the world's population. The language Mandarin-Chinese, otherwise known as Standard Chinese, shares the similar characteristics with other Chinese language groups, such as Wu, Min, Yue, Jin, Xiang, Hakka, Gan, Huizhou, and Pinghua (Lewis, Simons, & Fennig, 2015). It is considered as the official language of China and Taiwan, as well as one of the four official dialects in Singapore. Mandarin is also widely used in Malaysia and Indonesia (Kurpaska, 2010). The language Mandarin-Chinese often requires professional translation services within industry. However, translating one language into another is playing the role of an ambassador for languages which are carrying specific cultural images of nations, ethnic groups and individuals to introduce the cultural uniqueness to foreigners. Regardless of the variety of Chinese sub-languages, there are two written systems: Simplified and Traditional Chinese characters used in translating services, yet they represent the mutual meanings in Chinese contexts (Li, Ran, & Xia, 2010; Liu, 2014).

Some studies have argued that certain diversities in character or content of language and culture might cause a difficulty to address the cultural image in translating the work, such as, the religious belief and philosophy of life which could be distinguishable in Chinese society and English culture (Liu, 2014). In contrast, some researchers have found that brain areas, such as the ventral occipitotemporal regions and Cerebellum, are involved in reading in whichever language (Herbster, Mintun, Nebes, & Becker, 1997; Petersen, Fox, Posner, Mintun, & Raichle, 1988; Petersen, Fox, Snyder, & Raichle, 1990; Pugh et al., 1997; Rumsey et al., 1997). The comparison of brain images whilst reading Chinese orthographic characters and English alphabetic words through fMRI (the functional magnetic resonance imaging) experiments demonstrated that the left inferior prefrontal cortex was active and involved in processing both Chinese characters and English word recognition (Tan et al., 2001). Regardless of simplified and translational Chinese writing systems, a study in cognitive science displayed a high similarity between two written characters in Chinese reading and recognition (Liu, Chuk, Yeh, & Hsiao, 2016). Although readers of simplified Chinese might encounter difficulties when writing traditional characters, the data indicated their competence in learning to read and write using simplified characters was transferred to processing traditional characters conceptually and comprehensively (Liu et al., 2016). Thus, translating conceptually and comprehensively a complete Mandarin-Chinese version of Barrett-Lennard Relationship Inventory (B-L RI:MC) which crosses over two languages and two written systems is possible.

As the person-centred approach becomes more well established in the Asia-Pacific region and Eastern cultures it will be useful to have access to translated measures that can assess the theoretical constructs as originally intended (Motoyama & Murphy, 2017). This will enable and inform the cultural relevance for their clinical and research application. It

will also be advantageous to have the Barrett-Lennard Relationship Inventory translated to Mandarin as person-centred approaches to mental health care and psychotherapy need to be evaluated using theoretically consistent measures. In addition, the American Psychological Association and the Chinese Psychological Society have been working towards greater integration of these two systems (American Psychological Society [APA], 2016) suggesting the likelihood of future cross over in professional activity between USA and China will continue to grow. Having access to psychological measures of the therapeutic relationship available in both English and Mandarin will support the development of intercultural collaborations in research and practice.

Hence, the purpose of this study was to translate the complete 64 items and construct a Mandarin-Chinese version of Barrett-Lennard Relationship Inventory from the original English Barrett-Lennard Relationship Inventory. The aim is to use the form Other toward Self-64 (OS-64), and then validate both Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and OS-40 to provide a contextually comprehensive measurement to evaluate relationships in the Mandarin-Chinese speaking community. Confirmatory factor analysis (CFA) is one of the methods used to investigate construct validity of psychological measures (Fournier-Vicente, Larigauderie, & Gaonac'h, 2008). Instead of constructing an inductive theory like exploratory factor analysis (EFA), Confirmatory factor analysis is an instrument which extracts latent factors from the overall observed variables and specifies a model based upon hypotheses (McArdle, 1996). It is a procedure of theory deduction through the test of construct validity of hypothesis-based questionnaires (Atkinson et al., 2011). Therefore, we examined the collected data set to evaluate the construct validity of the form OS-64 and OS-40 of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version using confirmatory factor analysis. We hypothesized that the four-factor model (i.e. level of regard, empathic understanding, congruence and unconditionality of regard) would be replicated in the analysis of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 (B-L RI:MC OS-64) and OS-40 (B-L RI:MC OS-40).

Method

This study was carried out in three stages. The first stage involved the linguistic translation of the English language scale to the Barrett-Lennard Relationship Inventory Mandarin-Chinese version. The second stage consisted of testing the measurement properties of the 64 items in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version, which included the tests for reliability and construct validity of the items using principle component analysis (PCA). Subsequently, conducting an investigation on the fitness of models of Form OS-64 and OS-40 with the use of confirmatory factor analysis in the final stage. The research received ethical approval from the University Research Ethics Committee.

Cross-cultural translation

Cross-cultural translation of the original Barrett-Lennard Relationship Inventory English version to the Mandarin-Chinese version was completed in three stages.

Three bilingual translators, who each spoke Mandarin-Chinese as their first language and specialized in the person-centred approach to counselling and psychotherapy, translated the items of the Barrett-Lennard Relationship Inventory into Mandarin-Chinese. In order to retain the original meaning of the scale items accurately, and to generate an optimal comprehensive translation, it was considered essential for each translator to have inside knowledge of the theoretical constructs within the scale to also achieve conceptual and semantic equivalence (Flaherty et al., 1988; Wang, Lee, & Fetzer, 2006; Lee et al., 2009; Barrett-Lennard, 2015, p. 158). Two of the translators were person-centred counsellors and the third translator was completing doctoral research in to the person-centred approach (lead author of this article).

To begin, the forward translation approach was performed. Each translator was assigned a set of items across each of the different dimensions of the Barrett-Lennard Relationship Inventory and translated them individually. The translators translated the inventory in accordance with the knowledge and understanding of Carl Rogers's person-centred theory and the principle of maintaining the content and semantic equivalences in the translation. Secondly, the expert review panel was established. Each of the translators then reviewed the translations made by each of the other translators in a 'round-robin' to identify and modify any of the inaccurate expressions of concepts in the translation of each dimension. Lastly, a process of back translation was carried out by a language specialist. The back translator was a linguist, who did not have any prior knowledge or understanding of person-centred counselling and psychotherapy. In the back-translation process, the suitability of the amended Mandarin-Chinese version in the second stage was examined through reverse translation and comparison with the original English version, Barrett-Lennard Relationship Inventory.

The final stage of the translation process involved the pilot test of the penultimate Barrett-Lennard Relationship Inventory Mandarin-Chinese version. The scale was completed by three Taiwanese people who were not in the field of person-centred counselling and psychotherapy. Each respondent completed the Barrett-Lennard Relationship Inventory Mandarin-Chinese version and subsequently they were interviewed about any obstacles in completing the questionnaire and asked about their understanding of each item. All the suggestions and findings were considered to modify the final Barrett-Lennard Relationship Inventory Mandarin-Chinese version before going forward to further validation.

Participants

The target sample was to recruit approximately 640 Taiwanese potential respondents, who were 18 years old or over and spoke Mandarin-Chinese as their first language. According to Tabachnick (2007) when estimating the sample size of prospective respondents to a distributed questionnaire, theoretically, there should be at least 10 individuals multiplied by the total number of scale items in the questionnaire. It is important to ensure accuracy in the results of the validation in any study and proper determination of the number of respondents can help reduce research error and thus strengthen the impact of results (Martínez-Mesa & Bastos, 2014).

The stratified random sampling method was performed to ensure that at least one observation was picked from each of the strata and is a suitable method to recruit the

samples into stratum (Carl-Erik, Swensson, & Wretman, 2003). By stratifying the target population, the measurement can be placed into manageable groups and the representativeness of each group can be estimated. Stratification also provides a smaller error in estimation when there is a lower standard deviation in the measurement. In this study, the respondents were recruited by age grouping: 18–25, 26–35, 36–45, 46–55, 56–65, and over 66 years (see Table 1). In the final analysis, there were 658 Taiwanese respondents that completed the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 using an online survey, by following Watts' success in 1989 (Barrett-Lennard, 2015, p. 62; Watts, 1989), over a two-month period. Information concerning the demography of the respondents was also collected, such as gender, occupation, and the target relationship evaluated when completing the scale (Table 1).

Instruments

The original English version of the Barrett-Lennard Relationship Inventory was developed from the core concepts of Rogers's theory of the necessary and sufficient conditions for personality change in the therapeutic relationship (Barrett-Lennard, 1964). The Barrett-Lennard Relationship Inventory was developed as a Likert-type measurement for assessing relationships. The scale is constructed to enable obtaining an equal number of positively and negatively worded items for each sub-scale. Each item is rated on differing strengths of No or Yes in the range −3 to +3 (Barrett-Lennard, 2015, pp. 26–34, 40–41). The internal reliability of the original 64-item Barrett-Lennard Relationship Inventory exceeded .80 completed with a data set that consisted of 82 people, including 42 psychotherapy clients and 40 therapists (Barrett-Lennard, 2015, p. 43). An early review of the 64-item Barrett-Lennard Relationship Inventory indicated the internal reliability coefficients of four sub-scales: level of regard = .91, empathic understanding = .84, unconditionality of regard = .74 and congruence = .88 (Gurman, 1977).

The Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 was translated in accordance with the original English version which contains the four dimensions: level of regard, empathic understanding, congruence and unconditionality of regard. Each sub-scale dimension contains 16-items, including 8 positive items and 8 negatively worded items (Barrett-Lennard, 2015, pp. 26–34).

First, the level of regard refers to the regardfulness of one person's response to another, and it might embed positive or negative feelings (Barrett-Lennard, 2015, p. 11). Secondly, the concept of empathic understanding is defined as the degree to which one person truly recognizes the felt awareness and meaning of another (Barrett-Lennard, 2015, p. 10). Thirdly, the definition of unconditionality of regard is given as the non-judging affective response of one person towards another (Barrett-Lennard, 2015, p. 11). Finally, the concept of congruence is centred on the consistency between whole present experience and underlying awareness, for example, a congruent person can be honest, sincere and direct to another without hesitation or feeling compelled during the communication (Barrett-Lennard, 2015, p. 11). All the items in each sub-scale were arranged in the same order in the original Barrett-Lennard Relationship Inventory Form OS-64: one item of level of regard followed by an item for empathic

understanding then unconditionality of regard and finally an item for congruence. This repeating pattern continues throughout the entire scale.

In this study, the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: From OS-64 was administered to the respondents as a 64-item self-report measure of the relationship with a specific friend. The responses to items was recorded using a six-point Likert scale with scoring options: −3 = No, I strongly feel that it is not true, −2 = No, I feel it is not true, −1 = No, I feel that it is probably untrue, or more untrue than true, +1 = Yes, I feel that it is probably true, or more true than untrue, +2 = Yes, I feel it is true, and +3 = Yes, I strongly feel that it is true, which was located from right to left.

Results

Respondents' demographic characteristics

The sample that provided the data set consisted of 658 people including males (n = 162), females (n = 495) and other (n = 1). All respondents were aged 18 years or above and spoke Mandarin-Chinese as their first language. Further characteristics are displayed in Table 1. The distribution of age range was 18–25 (32.1%), 26–35 (33.6%), 36–45 (16.7%), 46–55 (12.3%), 56–66 (5%), and 65 years old or above (0.3%). The occupations of the sample consisted mostly of students (28%), then professional occupations (21.4%), followed by sales and customer service workers (11.6%), and administrative and secretarial occupations (10.2%).

The target relationship that respondents answered questions about were friendships that were mainly long-term relationships. For example, friendships used in the test had lasted less than 6 months (1.7%), 6 months to 12 months (6.2%), 1–3 years (12.5%), 3–5 years (16%), and more than 5 years (63.7%).

All the data were collected using an online survey advertised through social network sites. To prevent missing items, the online survey had a pre-setting to ensure the completion of each item in the questionnaire. Therefore, there were no missing data in this survey.

Data analysis

This study aimed to validate the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and Form OS-40, with confirmatory factor analysis (CFA). The data were analysed using SPSS Version 23.0 (SPSS Inc., 2015) and LISREL Version 8.7 (Jöreskog & Sörbom, 2001) for Windows. Initially, the internal reliability was analysed by calculating Cronbach's alpha indicating the degree of relatedness among the 64 items in the entire inventory. Secondly, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity were calculated using principal component analysis (PCA) with Varimax rotation, which indicated the adequacy for running the factor analysis (Field, 2005, pp. 619–666). Thirdly, a parallel analysis between the Monte Carlo simulation (MC simulation) and the PCA was performed. The aim of this is to reduce the 'noise' within the factor structure and determine those significant components within the overall group of components in the

model of Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 (Conedera et al., 2011; Inoue, Hukushima, & Okada, 2006; Nasser & Wisenbaker, 2003; Sarıyar, Perk, Akman, & Hortaçsu, 2006). In statistics, a Monte Carlo simulation is one approach used to determine the properties of some phenomenon with a large number of random sampling, yet it does not always request truly random numbers. Monte Carlo simulation provides an intuitive understanding of the estimated components in a composition (Inoue et al., 2006). Hence, 658 subjects, 64 variables, 100 sets of the desired number of parallel data, and desired percentile 95.5, the components in the PCA which have a lower eigenvalue than those in the Monte Carlo simulation can be excluded from the factor structures (Inoue et al., 2006; Nasser & Wisenbaker, 2003). Lastly, confirmatory factor analysis (CFA) was used to investigate the fitness of models of the data for the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and Form OS-40.

Reliability analysis

To evaluate homogeneity, the overall consistency of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version was analysed. The Barrett-Lennard Relationship Inventory Mandarin-Chinese version was found to have high internal consistency with Cronbach's alpha = .96 in the entire sample (n = 658), .95 in the male group (n = 162), and .96 in the female group (n = 495), where a high alpha indicates a strong internal correlation of each item (Table 2). A Cronbach's alpha between 0.70 and 0.95 would be considered excellent (Terwee et al., 2007).

Separate reliabilities were calculated for all four of sub-scale variables: level of regard, empathic understanding, unconditionality of regard, and congruence, all of which exceeded the minimum Cronbach's alpha and were .94, .84, .75, and .89 respectively; which represented a high internal consistency across each of the four sub-scales in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 (Table 2).

Table 2. Cronbach's alpha, KMO, Bartlett's test of sphericity and mean, median and standard deviations for each sub-scale of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: form OS-64.

	Reliability	Principle Component Analysis[a]		Data score (per item)		
(/Item) Variable	Cronbach's Alpha	KMO[b]	Bartlett's Test of Sphericity	Mean	Median	Standard Deviations
Sample						
Male (n = 162)	.95	.89	.00			
Female (n = 495)	.96	.97	.00			
Total (n = 658)	.96	.97	.00			
Sub-scales						
Level of Regard	.94	.96	.00	1.79	2.00	1.30
Empathic Understanding	.84	.94	.00	0.86	1.00	1.69
Unconditionality	.75	.86	.00	0.60	1.00	1.84
Congurence	.89	.95	.00	1.28	2.00	1.61

[a]Principal Component Analysis with Varimax Rotation (Eigenvaule > 1).
[b]Kaiser-Meyer-Olkin Measure of Sampling Adequacy.

Principal components analysis

Principal Components Analysis (PCA) with the Varimax rotation method was performed. PCA results showed a Kaiser-Meyer-Olkin (KMO) coefficient of .97 in the entire data set (n = 658), .89 in the male group (n = 162) and .97 in the female group (n = 495) and were well above the recommended .70. The P-value of Bartlett's Test of Sphericity of .000 (approx. chi-square 24039.755, df 2016) also suggested satisfactory sampling adequacy (Table 2).

The 64-item inter-correlation matrix was analysed and 11 components were extracted (eigenvalue >1) in the initial model of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version. Using this data, the first five components in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version were extracted that showed an eigenvalue = 22.359 (>1.721 in Monte Carlo simulation), 3.794 (>1.656 in Monte Carlo simulation), 2.150 (>1.610 in MC simulation), 1.894 (>1.574 in Monte Carlo simulation) and 1.746 (>1.533 in Monte Carlo simulation), which were able to account for 34.936%, 5.928%, 3.360%, 2.959% and 2.727% of the total explanatory variance of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version respectively (Table 3). Furthermore, by comparing the eigenvalues with the suggested eigenvalue generated in the parallel analysis using the Monte Carlo simulation, the eigenvalue of the sixth and seventh components in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version were 1.447 and 1.321. These were less than the suggested eigenvaules 1.503 and 1.474 in the Monte Carlo simulation. Thus, the sixth and seventh components were explained as the noises of the factor structure (Table 3).

This finding remains consistent with the Scree Plot that also indicated that the first five components could be extracted from the Barrett-Lennard Relationship Inventory Mandarin-Chinese version (Figure 1).

If the criterion for a fixed number of components was set at 5 and for high loading the level is set at equal to or greater than ±0.49, there were only 2 items (C12 and R53) correlated highly with more than one component. The loadings on five components are presented as follows (see Table 4): the first and largest component accounted for 34.936% of the variance. Since 11 of the 15 items were from the level of regard subscale, this component was best identified as reflecting level of regard. The remaining items were two from the empathic understanding, one from the unconditionality of regard, and another one from the congruence scale.

The second largest loading component accounted for 5.928% of the variance. Since6 of these 14 items were from the congruence sub-scale and two were from the level of regard (R49 and R53), three from empathic understanding (Em22, Em50, Em58), and three from the unconditionality of regard (U55, U27, U19), the second component could be classified as partially but predominantly representing the congruence subscale.

The third component accounted for 3.360% of the variances. Since all 8 of these items were from the congruence, this component was best interpreted as characterizing the congruence sub-scale. Furthermore, the fourth component accounted for 2.959% of the variances. As all six of these items came from the empathic understanding, this component was best labelled as representing the empathic understanding sub-scale.

Table 3. Total variance explained of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: form OS-64.

	Principle Component Analysis[a]									Parallel Analysis[b]
	Initial Eigenvalues Statistics			Extraction Sums of Squared Loadings Statistics			Rotation Sums of Squared Loadings Statistics			Eigenvaule Monte Carlo Simulation Statistics
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total in General Random Data
1	22.359	34.936	34.936	22.359	34.936	34.936	9.210	14.390	14.390	1.721593
2	3.794	5.928	40.864	3.794	5.928	40.864	6.344	9.912	24.303	1.656847
3	2.150	3.360	44.224	2.150	3.360	44.224	5.626	8.791	33.094	1.610990
4	1.894	2.959	47.183	1.894	2.959	47.183	4.823	7.536	40.630	1.574000
5	1.746	2.727	49.911	1.746	2.727	49.911	3.075	4.805	45.435	1.533476
6	1.447	2.261	52.172	1.447	2.261	52.172	2.339	3.654	49.090	1.503755
7	1.321	2.064	54.236	1.321	2.064	54.236	2.155	3.368	52.457	1.474237
8	1.135	1.774	56.009	1.135	1.774	56.009	1.447	2.261	54.718	1.446682
9	1.097	1.714	57.723	1.097	1.714	57.723	1.372	2.144	56.862	1.421458
10	1.073	1.677	59.401	1.073	1.677	59.401	1.325	2.070	58.932	1.396603
11	1.020	1.594	60.995	1.020	1.594	60.995	1.320	2.063	60.995	1.372320

Extraction Method:

[a]Principal Component Analysis with Varimax Rotation (Eigenvaule > 1).

[b]Parallel Analysis Using Eigenvaule Monte Carlo Simulation (Number of Subject = 658, Number of Variables = 64, Desired Number of Parallel Data Sets = 1000, Desired Percentile = 95.5).

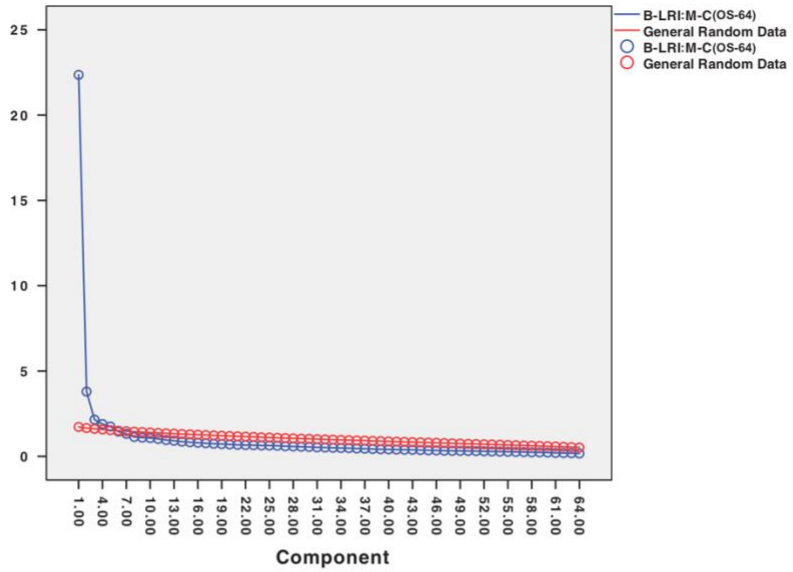

Figure 1. Scree plot.

Finally, the fifth component accounted for 2.727% of the variances. All items came from the unconditionality of regard, and therefore were reflective of the sub-scale of unconditionality of regard.

Confirmatory factor analysis

The confirmatory factor analysis of Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 was completed using the same sample of individuals, who had reflected on one specific example of their relationship with a friend. The present data set satisfied the confirmatory factor analysis requirement of comparative fit (Schreiber, Nora, Stage, Barlow, & King, 2006). The correlation matrix of four latent factors: level of regard (R), empathic understanding (Em), unconditionality of regard (U), and congruence (C), is displayed in Table 5 where all the factors showed logical interrelationships. R correlated highly with Em ($r = 0.89$, $p < 0.001$), U ($r = -0.82$, $p < 0.001$) and C ($r = 0.89$, $p < 0.001$). Em correlated highly with U ($r = -0.85$, $p < 0.001$) and C ($r = 0.88$, $p < 0.001$), and lastly, C was also correlated significantly with U ($r = -0.84$, $p < 0.001$).

The model of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 (Figure 2) demonstrated a satisfactory Normed Fix Index (NFI) = 0.95 (≥0.95 for acceptance), Comparative Fit Index (CFI) = 0.97 (≥0.95 for acceptance), Incremental Fix Index (IFI) = 0.97 (≥0.95 for acceptance), Root Mean Square Residual (RMR) = 0.069 (smaller, the better), and Root Mean Square Error of Approximation (RMSEA) = 0.092 (<0.6–0.8 with confident interval) (Nasser & Wisenbaker, 2003, p. 733). Despite item Em46 ($r = 0.04$) and Em14 ($r = 0.23$) in empathic understanding sub-scale, U3 ($r = 0.16$), U7($r = -0.25$), U11 ($r = 0.12$), U15 ($r = -0.28$), U35 ($r = 0.12$) and U43 ($r = 0.27$) in unconditionality of regard sub-scale, and C24 ($r = 0.07$) and C32 ($r = 0.34$) in congruence sub-scale revealing lower loadings in the confirmatory factor analysis, most of the items in each sub-scale in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 had heavy loadings respectively.

Table 4. Loadings on Five Components[ab] of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64

Latent Factor/ Item	English	Mandarin-Chinese	Component 1	2	3	4	5
Level of Regard (R)							
R13*	I feel appreciated by __.	我感覺__欣賞我。	**0.683**	0.130	0.218	0.134	0.201
R37*	__ is friendly and warm with me.	__對我友善且溫暖。	**0.634**	0.291	0.410	0.116	0.178
R5*	__feels a true liking for me.	感覺我是真的討__的喜歡。	**0.631**	0.115	0.246	0.145	0.209
R25*	__cares for me.	__關心我。	**0.617**	0.170	0.444	0.195	0.084
R41	I feel that __ really values me.	我覺得__真的很重視我。	**0.613**	0.123	0.470	0.156	0.116
R53	__ feels contempt for me.	我覺得__輕視我。	**0.590**	**0.515**	0.239	-0.028	0.140
R57	__is truly interested in me.	__是真的對我感興趣。	**0.580**	0.053	0.436	0.051	0.126
R1*	__respects me as a person.	__尊重我這個人。	**0.565**	0.265	0.146	0.252	0.201
R17*	__is indifferent to me.	__對我漠不關心。	**0.559**	0.329	0.417	0.088	-0.003
Em2*	__wants to understand how I see things.	__會想要了解我對事物的看法。	**0.556**	0.126	0.176	0.341	0.079
R29*	I feel that __ disapproves of me.	我覺得__不認同我。	**0.537**	0.489	0.348	0.079	0.118
R61	__ feels affection for me.	__對我是友好的。	**0.532**	0.036	0.456	0.019	0.121
U3*	__'s interest in me depends on the things I say or do.	我所說的話或所做的事,會影響__對我的興趣或關注。	**-0.516**	0.178	-0.005	-0.163	0.144
Em42	__appreciates exactly how the things I experience feel to me.	我覺得__真的很重視我。	**0.511**	0.228	0.369	0.360	0.278
U11*	Depending on my behavior, __ has a better opinion of me sometimes than he/she has at other times.	__有時會因為我的行為,而提高對我的評價。	-0.487	0.171	0.076	-0.127	0.079
R21	__finds me rather dull and uninteresting.	__覺得我乏味又無趣。	0.483	0.452	0.193	-0.022	0.160
R33*	__ just tolerates me.	__只是在忍受我而已。	0.470	0.468	0.391	-0.009	0.055
C4*	__is comfortable and at ease in our relationship.	__對我們的關係感到舒服和輕鬆自在。	0.445	0.204	0.384	0.295	0.152
Em62	When I am hurt or upset __ can recognize my feelings exactly, without becoming upset him/herself.	當我覺得受傷或是不開心的時候，__仍可以在不影響到他自己的狀態下察覺我的感受。	0.372	0.132	0.323	0.326	0.193
Empathic Understanding (Em)							
Em10*	__nearly always knows exactly what I mean.	__幾乎總是能完全理解我的意思。	0.332	0.168	0.237	**0.645**	0.226
Em34*	__ usually understands the whole of what I mean.	__通常可以完全理解我的意思。	0.320	0.208	0.310	**0.594**	0.194
Em18*	__usually senses or realizes what I am feeling.	__通常能察覺到或明白我現在的感受。	0.455	0.119	0.222	**0.584**	0.070
Em6*	__may understand my words but he/she does not see the way I feel.	__雖然了解我說的話，但未必能體會我的感受。	0.108	0.400	0.013	**0.552**	-0.041
Em38*	__takes no notice of some things I think or feel.	__沒有察覺到我對某些事物的想法或感受。	0.058	0.450	0.198	**0.526**	-0.027
Em30**	__ realizes what I mean even when I have difficulty in saying it.	即使我沒辦法表達清楚我想說的事情, __仍可明白我的意思。	0.218	0.129	0.401	**0.524**	0.157
Em26	__ thinks that I feel a certain way, because that's the way he/she feels.	__認為我所感覺的,正是他所感受的。	-0.317	-0.006	-0.293	-0.338	-0.248
Unconditionality of Regard (U)							
U7*	__whether I am feeling or unhappy with myself makes no real difference to the way feels about me.	__對我的感覺,不會因為我對自己感到開心或不開心而有任何變化。	0.021	0.041	-0.045	-0.021	**0.626**
U51	Whether the ideas and feelings I express are "good" or "bad" seems to make no difference to __'s feeling toward me.	__對我的感受，似乎不會因為我所表達的想法或感受是好還是壞,而有所影響。	0.126	0.161	0.307	0.152	**0.610**
U39*	How much __ likes or dislikes me is not altered by anything that I tell him/her about myself.	__喜歡或不喜歡我的程度，不會因為我告訴他任何關於我自己的事情，而有所影響。	0.134	0.235	0.232	0.141	**0.556**

(*Continued*)

Table 4. (Continued).

Latent Factor/ Item	English	Mandarin-Chinese	Component				
			1	2	3	4	5
U47	Whether I happen to be in good spirits or feeling upset does not make __ feel any more or less appreciative of me.	不論我是積極正向或是感到低潮難過，都不會影響到__對我的欣賞程度。	0.385	0.246	0.298	0.216	**0.547**
U15*	__'s feeling toward me doesn't depend on how I judge or feel about myself. [Answer 'no' (−1, −2 or −3) if the way you feel about yourself alters his/her feeling.]	__對我的感受，不會因著我怎麼評論或看待自己而有所影響。[如果**你**對**你**自己的看法，會影響他對**你**的感覺；則請依程度回答 "**-3**(非常不符合)"、"**-2**(不符合)"或"**-1**(較不符合)"。]	0.097	0.022	0.068	-0.042	**0.544**
U59	I don't think that anything I say or do really changes the way __ feels toward me.	我不認為__對我的感受會因為我所說的或我所做的事情而改變。	-0.014	0.173	0.187	0.200	**0.526**
U31*	__'s attitude toward me stays the same: he/she is not pleased with me sometimes and critical or disappointed at other times.	__對於我的態度總是一致:他不會對我時而滿意,時而指責我或對我感到失望。	0.362	0.298	0.235	0.127	0.388
Congruence (C)							
C52	There are times when I feel that __'s outward response to me is quite different from the way he/she feels underneath.	有幾次我會覺得__給我的回應,與他內在真實的感受不一致。	0.095	**0.653**	0.332	0.161	0.119
C64	I believe that __ has feelings he/she does not tell me about that are causing difficulty in our relationship.	我相信是那些__沒告訴過我的感受讓我們的關係遇上瓶頸。	0.044	**0.626**	0.357	0.168	0.108
Em22*	__ 's own attitudes toward things I do or say prevent him/her from understanding me.	因為__對我所做的事情已經先抱有既定的態度,所以使他無法了解我。	0.340	**0.609**	0.201	0.215	0.196
C60	What __ says to me often gives a wrong impression of his/her whole thought or feeling at the time.	__常讓我對他的整個想法或感受產生誤解。	0.286	**0.602**	0.374	0.097	0.117
R49	I seem to irritate and bother __.	我似乎會惹__生氣或打擾到他。	0.219	**0.600**	0.059	0.033	0.200
C40*	At times I sense that __ not aware of what he/she is really feeling with me.	有時候我覺得__並沒有意識到他對我真正的感覺是什麼。	0.218	**0.568**	0.160	0.260	-0.017
U55	Sometimes I am more worthwhile in __'s eyes than I am at other times.	有時候我覺得__願意花心思在我身上,有的時候則不是這樣。	0.342	**0.564**	0.215	0.051	0.276
U27*	__likes or accepts certain things about me, and there are other things s/he does not like in me.	__喜歡或接受部**份**的我，但他不喜歡其他某方面的我。	0.120	**0.544**	-0.022	0.175	0.150
Em50	__does not realize how sensitive I am about some things we discuss.	__不明白我對我們所談論的某些事物是有多麼地敏感。	0.211	**0.535**	0.188	0.285	0.078
U19*	__wants me to be a particular kind of person.	__希望我成為某種類型的人。	0.020	**0.524**	0.050	-0.035	0.154
C16**	It makes __uneasy when I ask or talk about certain things.	當我問起或提起某些事情時，會讓__感到不舒服。	0.007	**0.518**	0.188	0.189	0.156
Em58	__'s response to me is usually so fixed and automatic that I don't get through to him/her.	__通常給我的回應都很制式且機械化，以至於我沒**辦**法了解他這個人。	0.392	**0.502**	0.447	-0.004	0.020
C32*	Sometimes __ is not at all comfortable but we go on, outwardly ignoring it.	有時候__和我在討論事情時,會感到不舒服,但我們會在表面上忽略它並繼續。	0.007	**0.492**	0.140	0.155	-0.061
R9*	__is impatient with me.	__對我沒什麼耐心。	0.460	0.485	0.126	0.106	0.095
R45	__ doesn't like me for myself.	__不喜歡我的行事為人。	0.469	0.476	0.225	-0.057	0.128
U63	What other people think of me does (or would, if he/she knew) affect the way __ feels toward me.	別人看待我的方式會影響到__對我的看法。	0.183	0.467	0.314	0.070	0.242

(*Continued*)

Table 4. (Continued).

Latent Factor/ Item	English	Mandarin-Chinese	Component				
			1	2	3	4	5
C24*	__ wants me to think that he/she likes or understands me more than he/she really does.	__想要我以為他比實際上來的喜歡我或了解我。	-0.172	0.427	-0.067	-0.030	0.040
Em14*	__looks at what I do from his/her own point of view.	__以他的角度來看我所做的事情。	0.010	0.388	0.014	0.198	-0.090
Em46	At times __ thinks that I feel a lot more strongly about a particular thing than I really do.	有時候,__覺得我對某些事物的感受，比我實際上的主觀感受還要強烈。	0.018	0.325	-0.219	-0.041	0.051
U35*	If I show that I am angry with __, he/she becomes hurt or angry with me, too.	如果我對__發脾氣,他會感到受傷,或是對我生氣。	-0.061	0.314	-0.224	0.193	0.159
C44	__ is willing to express whatever is actually in his/ her mind with me, including personal feelings about him/herself or me.	__願意向我表達他內在真實的想法,包含他對他自己、或他對我的感受。	0.271	0.144	**0.736**	0.180	0.139
C36*	__ expresses his/her true impressions and feelings with me.	__向我表達他真正的想法和感覺。	0.340	0.187	**0.701**	0.136	0.126
C28*	__ doesn't avoid or go round anything that is important for our relationship.	__不會迴避談論任何對我們之間重要的事。	0.232	0.179	**0.656**	0.195	0.117
C56	__ doesn't hide from himself (herself) anything that he/she feels with me.	__不會向我隱藏他對我的感受。	0.101	0.213	**0.649**	0.152	0.221
C48	__ is openly himself/herself in our relationship.	__在我們的關係中很坦率地做自己。	0.333	0.185	**0.649**	0.111	0.163
C12*	I feel that __is real and genuine with me.	我感覺__很真實且真誠地待我。	**0.509**	0.261	**0.550**	0.143	0.155
C20*	I feel that what __says expresses exactly what he/she is feeling and thinking at that moment.	我覺得__口中所表達的,正是他當下心中所感受的及他腦中所想的。	0.105	0.194	**0.547**	0.128	0.171
C8*	I feel that __ puts on a role or front with me.	我覺得__戴著面具跟我相處。	0.290	0.410	**0.547**	0.055	-0.002
Em54	__ understands me.	__了解我。	0.467	0.232	0.476	0.398	0.123
U43	__ approves of me in some ways or sometimes, and plainly disapproves of me in other ways/other times.	__有的時候會用某些方式肯定我，但有的時候也會用別種方式明確地表達不認同。	-0.140	0.145	-0.474	-0.111	-0.051
U23*	I can/could be openly critical or appreciative of __ without making him/her feel differently about me.	我可以放心地批評或讚美__,(因為)這並不會影響他對我的感受。	0.227	0.129	0.440	0.327	0.304

See resource *The Relationship Inventory A Complete Resource and Guide* for the orginal Barrett-Lennard Relationship Inventory (Barrett-Lennard, 2015)
*Items appear both in the B-L RI (OS-40) nad B-L RI:M-C (OS-40).
**Items, which are positive items in the B-L RI (OS-64) and B-L RI:M-C (OS-64), are presented in a negatively worded form in the B-L RI (OS-40) and B-L RI:M-C (OS-40).
Extraction Method: Principal Component Analysis.
a. Fixed Number of Component: 5, Display Format: Absolute value ±0.49
b. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 13 iterations.

Table 5. Correlation matrix of independent variables of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: form OS-64.

	Level of Regrad (R)	Empathic Understanding (Em)	Unconditionality of Regard (U)	Congruence (C)
Level of Regrad (R)	1.00			
Empathic Understanding (Em)	0.89	1.00		
Unconditionality of Regard (U)	−0.82	−0.85	1.00	
Congruence (C)	0.89	0.88	−0.84	1.00

Software: LISREL Version 8.7.

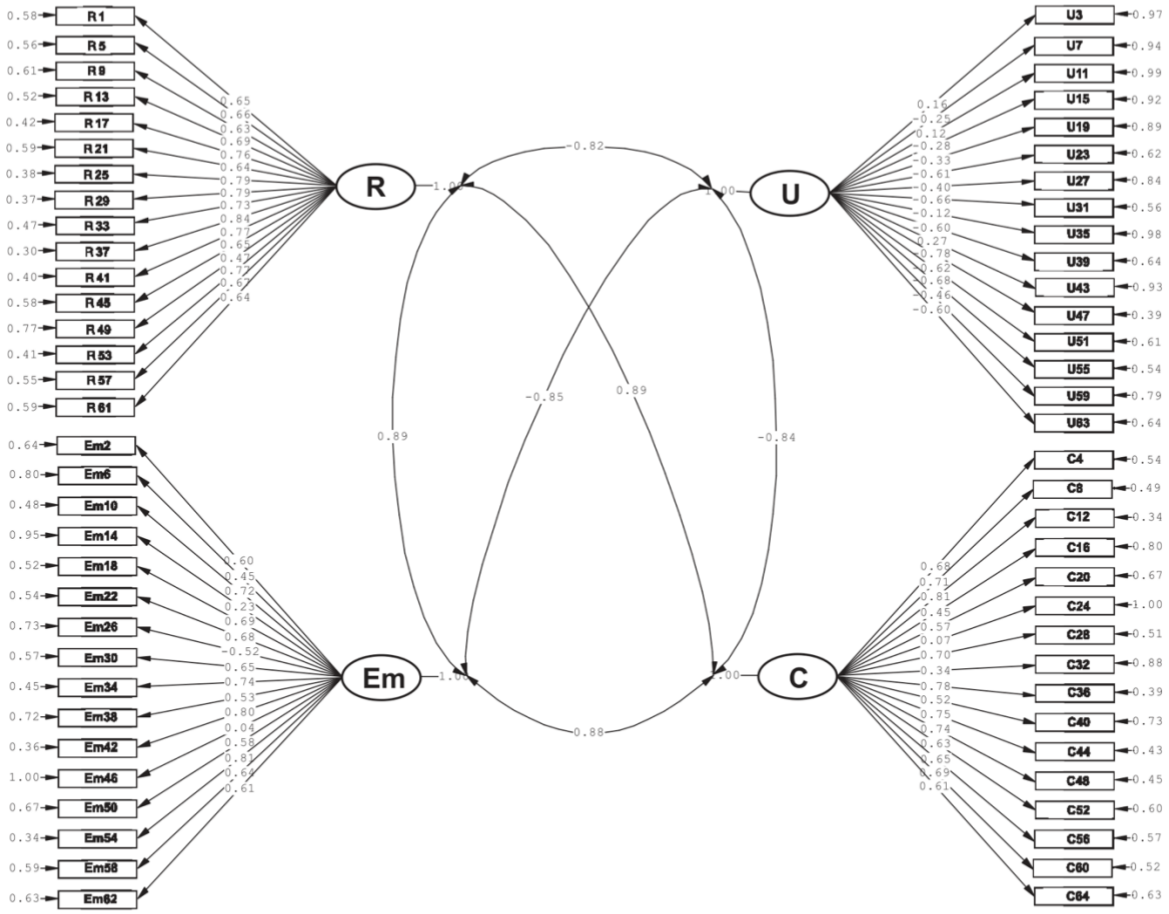

Figure 2. CFA model of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: form OS-64. Latent Factors: Level of Regard (R), Empathic Understanding (Em), Unconditionality of Regard (U), and Congruence(C).

The Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-40 which 40 items in the original Barrett-Lennard Relationship Inventory were included in the 64 items of the original Barrett-Lennard Relationship Inventory: Form OS-64. The level of regard scale includes 10 of 16 items from the OS-64, which are R1, R5, R9, R13, R17, R21, R25, R29, R33, R37. The 10 items of empathic understanding scale are Em2, Em6, Em10, Em14, Em18, Em22, Em30, Em34, and Em38. The 10 items for unconditionality of regard scale are U3, U7, U11, U15, U19, U23, U27, U31, U35 and U39. The 10 items for congruence scale are C4, C8, C12, C16, C20, C24, C28, C32, C36 and C40. However, only C16, Em30 which were positive items in the Barrett-Lennard

Relationship Inventory: Form OS-64, are presented in a negatively worded form in the form OS-40. For example, '_____ doesn't expresses his/her true impressions and feelings with me' and '_____doesn't understand me' in the OS-40, whereas '_____ expresses his/her true impressions and feelings with me' and '_____understand me' in the OS-64. Because the data was collected following by the OS-64, the data of item C16 and Em30 were recoded into reversed variables to meet the OS-40 in the software SPSS version 23.

Four latent factors of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-40: level of regard (R), empathic understanding (Em), unconditionality of regard (U), and congruence (C), were displayed in the correlation matrix (Table 6) where all the factors showed logical interrelationships. R correlated highly with Em ($r = 0.88$, $p < 0.001$), U ($r = -0.79$, $p < 0.001$) and C ($r = 0.88$, $p < 0.001$). Em correlated highly with U ($r = -0.81$, $p < 0.001$) and C ($r = 0.84$, $p < 0.001$), and lastly, C was also correlated significantly with U ($r = -0.80$, $p < 0.001$).

The OS-40 four-factor solution model (Figure 3) demonstrated a satisfactory Normed Fix Index (NFI) = 0.95 (≥0.95 for acceptance), Comparative Fit Index (CFI) = 0.96 (≥0.95 for acceptance), Incremental Fix Index (IFI) = 0.96 (≥0.95 for

Table 6. Correlation matrix of independent variables of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: form OS-40.

	Level of Regrad (R)	Empathic Understanding (Em)	Unconditionality of Regard (U)	Congruence (C)
Level of Regrad (R)	1.00			
Empathic Understanding (Em)	0.88	1.00		
Unconditionality of Regard (U)	−0.79	−0.81	1.00	
Congruence (C)	0.88	0.84	−0.80	1.00

Software: LISREL Version 8.7.

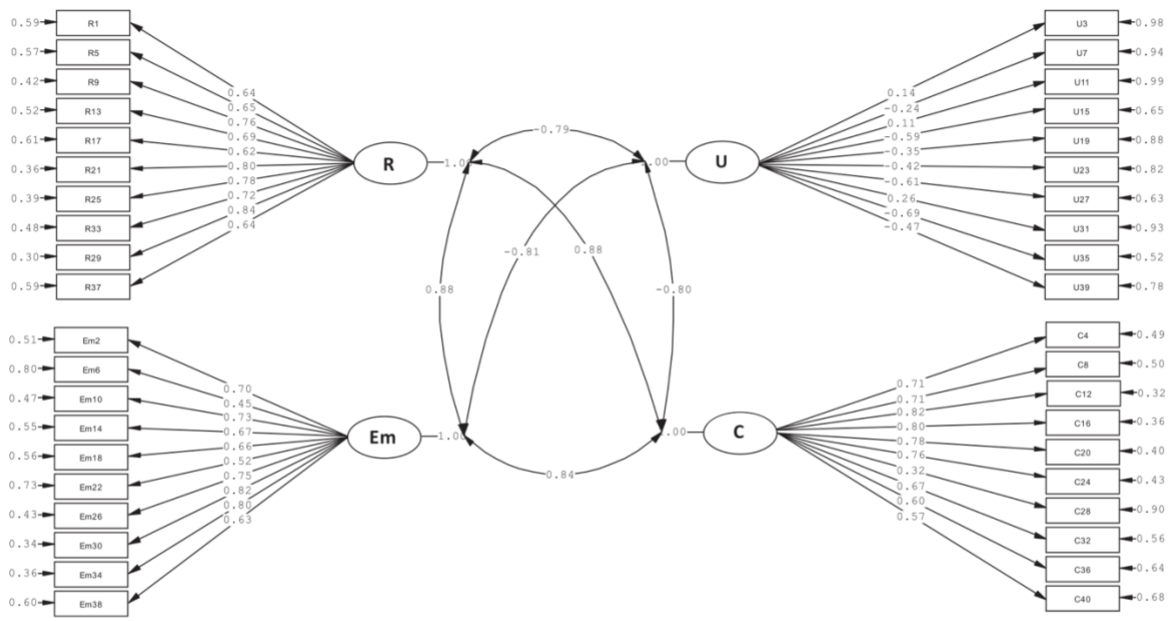

Figure 3. CFA model of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: form OS-40. Latent Factors: Level of Regard (R), Empathic Understanding (Em), Unconditionality of Regard (U), and Congruence(C).

acceptance), Root Mean Square Residual (RMR) = 0.069 (smaller, the better), and Root Mean Square Error of Approximation (RMSEA) = 0.091 (<0.6–0.8 with confident interval) (Nasser & Wisenbaker, 2003, p. 733). Despite item Em6 (r = 0.45) in empathic understanding sub-scale, U3 (r = 0.14), U7(r = −0.24), U11 (r = 0.11), U19 (r = −0.35), U23 (r = −0.42), U31 (r = 0.26) and U39 (r = −0.47) in unconditionality of regard sub-scale, and C28 (r = 0.32) in congruence sub-scale revealed lower loadings in CFA, most of the items in each sub-scale in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-40 had heavy loadings respectively.

Discussion

The Barrett-Lennard Relationship Inventory Mandarin-Chinese version aims to provide a Mandarin-Chinese version of relationship measurement to the Mandarin-Chinese community. Historically, the previous studies on the development and validation of the Barrett-Lennard Relationship Inventory had reinforced the need for evaluating relationships using psychometric assessment instruments, such as for the therapeutic relationship, friendship, and teacher-student relationship, etc. Despite previous studies with the Barrett-Lennard Relationship Inventory using exploratory factor analysis supporting its validity, to our knowledge no other investigation has been conducted using confirmatory factor analysis. This means that for the first time in over half century there are data available to confirm the theoretical model underpinning the therapeutic relationship questionnaire proposed by Barrett-Lennard (1962). This study has also reported the CFA validation of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and Form OS-40 in a sample of people (n = 658), whose first language is Mandarin-Chinese and are 18 years old and above evaluating their perceptions of a relationship with a friend.

The findings of this study suggest that the translated 64-items in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version can reliably assess the effect of level of regard, empathic understanding, unconditionality of regard and congruence in relationships. The Cronbach's alpha of the sample set of 658 variables (162 males, 495 females, and one other) exceeds .96 which was higher than the original English version (.80) and indicates a high internal consistency across individual items (Barrett-Lennard, 2015, pp. 17–18, 43). The Cronbach's alpha of both male and female sample groups also shows strong internal correlation between each item. Thus, the reliability of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version is as significant as the original version and it can be applied towards all genders. Furthermore, the separate Cronbach's alpha of each sub-scale is .94 for level of regard, .84 for empathic understanding, .75 for unconditionality of regard and .89 for congruence scale, which is considered an excellent level of reliability across 16 items in each sub-scale in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version. The results of Gurman's validation study reported that the mean coefficient for the sub-scales were .91 for level of regard, .84 for empathic understanding, .74 for unconditionality of regard and .88 for congruence scale (Barrett-Lennard, 2015, p. 43; Gurman, 1977). It implies that the Barrett-Lennard Relationship Inventory Mandarin-Chinese version also provided strong internal consistency in the entire scale and individual sub-scales as did the Barrett-Lennard Relationship Inventory.

The Barrett-Lennard Relationship Inventory Mandarin-Chinese version has been confirmed theoretically. It has found that the first five components in the Barrett-Lennard Relationship Inventory Mandarin-Chinese version could be extracted and identified as representative of the four latent factors in the original Barrett-Lennard Relationship Inventory through PCA. In the CFA conducted within this study, the results of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version: Form OS-64 and Form OS-40 further support the original hypothesized four-factor structure which were designed to measure therapeutic relationships. Both the OS-64 and OS-40 models exhibit a good fit for the data and present a consistent correlation between each of the four factors. The result of our analysis of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version has revealed the scale translation can be used to measure relationships using the four factors of the Rogerian therapeutic relationship in a Mandarin-Chinese context. Due to the data was collected from people in general with different occupations evaluating their friendships, it further implies that Taiwanese people are capable of differentiating between the different relationship factors important to therapeutic relationships and based on Rogers's person-centred theory. Regarding the friendship length, 63.7% respondents associated the term 'friendship' intuitively with a person, excluding family relations or romance, with whom they have shared a long-term relationship. For example, a more-than-5-year friendship in this study. This phenomenon might evoke a thought whether a therapeutic relationship in clinical settings can be developed in three to five sessions between the Mandarin-Chinese speaking therapists and clients? Barrett-Lennard (1962) has suggested that at least five sessions of psychotherapy are required before an accurate rating could be gained, yet Murphy and Cramer's study in 2014 revealed that after three sessions people can predict the outcome using the scores of the Barrett-Lennard Relationship Inventory and similarly other studies have shown early ratings predict later improvement (Barrett-Lennard, 2015; Murphy & Cramer, 2014; Murphy et al., 2012). However, the existence of a high percentage of the respondents evaluating the long-term friendships in this study did not countervail the reliability of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version but might have exceeded it instead, and it might also have reinforced the validity of the translated inventory.

In terms of those few low loading single items which exist in each sub-scale. For instance, there is one in level of regard, three in empathic understanding, nine in unconditionality of regard and three in congruence sub-scale in the OS-64. The Unconditionality of Regard items involve quite subtle distinctions, difficult to render clearly even in English and for respondents with differing attitudes. Even with the care taken in the translation process in the present study, it is possible the items were not quite as well translated and understood by respondents in Mandarin as they might in English wherein they were originally constructed. Nevertheless, the analytical result provided strong internal consistency, reliability and construct validity, thus the Barrett-Lennard Relationship Inventory Mandarin-Chinese version could be considered as a well-translated version that manages to evaluate relationships in Chinese culture.

Implication

The study has reported very promising results regarding the reliability and construct validity of the Barrett-Lennard Relationship Inventory Mandarin-Chinese version for the measurement of relationships. A survey on the Chinese counselling approach conducted in 1988 revealed that behaviourism, psychoanalysis and cognitive therapy have been the mainstream theoretical orientations of Chinese counsellors (Chang, Tong, Shi, & Zeng, 2005). Although there are few studies on the practical approaches of person-centred counselling in the development of counselling and psychotherapy in China, the result of validating the Barrett-Lennard Relationship Inventory Mandarin-Chinese version has provided evidence that the translation imparts and establishes the sensitivity of the original Barrett-Lennard Relationship Inventory. It also indicates that the therapeutic conditions of Rogers's person-centred therapy can be identified by the people in Taiwan and also applied in the Mandarin-Chinese community. Thus, transcending Carl Rogers's person-centred theory into a variety of fields in Chinese Society, such as the therapeutic relationship within social services and clinical settings, teacher-student relationship in education, family relationship, relationship between organizations, relationship in business, etc., to grow a mutual understanding of humanistic interaction.

Regarding the mental health professionals' training, Barrett-Lennard has revealed one of his studies on the experiences of helping mental health professionals' experiential learning in three 2-week workshops where Barrett-Lennard and his colleagues had indicated that the Barrett-Lennard Relationship Inventory was used as a rating instrument to evaluate the outcome effects of the learning (Barrett-Lennard, 2017, pp. 331–338). Therefore, the Barrett-Lennard Relationship Inventory Mandarin-Chinese version could be used in educational settings in the Mandarin-Chinese speaking world. Taking China as an example, the counselling and psychotherapy services in medical settings like special counselling and mental health centres have been developed rapidly since the 1980s because of the increasing psychological problems, such as depression and suicide (Chang et al., 2005; Higgins et al., 2008; Qian et al., 2012). Using adapted forms of Barrett-Lennard Relationship Inventory Mandarin-Chinese version, such as the Other toward Self (OS) and Me toward Other (MO) forms, to evaluate the effectiveness of training programs from therapists' and clients' perspective (Barrett-Lennard, 2017, pp. 331–338).

Last but not the least, the Barrett-Lennard Relationship Inventory Mandarin-Chinese version would be one of the vehicles which give the current Chinese counselling and psychotherapy services the momentum to go beyond the medical settings for their communities. The theoretical structure in the Barrett-Lennard Relationship Inventory, which Carl Rogers's person-centred approach emphasizes an interpersonal relationship with unconditional positive regard would carrying out psychological changes for clients, would meet Chinese culture where Mandarin speaking clients' adjustment often relates to their relationship with others, such as family and friends, and the interaction with their social circles, such as neighbours, teachers at school, colleagues at work, etc. The full 64-item and 40-item Form of Barrett-Lennard Relationship Inventory has been gradually adapted into many versions, for instance 'other toward self' (OS), 'myself toward other' (MO-40), 'observer' (Obs-40), 'teachers toward students' (MO-40:TS), 'students toward teachers' (OS-40: T-S), 'other toward young children' (OS-40CH), 'other in close relationship toward self' (OS-LR-40) and relationships between 'groups

or organizations' (GS-40) version, which the researchers use to measure relationships from different points of view (Barrett-Lennard, 1978, 2015, 2017, p. 338; Gurman, 1977). Through the previous contributions of the Barrett-Lennard Relationship Inventory, the validated 64-item and 40-item Mandarin-Chinese versions can easily be transformed into the specific versions when it is needed. Hence, this Barrett-Lennard Relationship Inventory Mandarin-Chinese version would contribute to the international research community and extend the borders of the community of counselling and psychotherapy to those in the Mandarin-Chinese speaking world.

Limitations

There are several limitations to the present study. Firstly, the instrument of data collection could be further refined. Among the 658 respondents, only 2 people appeared in the age group of 66 and over. This might be related to varying levels of familiarity of computer usage and willingness to access and complete online surveys. Thus, distributing not only an online survey but also a paper and pen version of a questionnaire could multiply and better represent the sample size of older age groups.

Secondly, understanding of the scale item wording was varied as suggested by the feedback in an open dialogue box included at the end of the survey. For example, there might be scope for more intuitive translation that could be provided. It took approximately 30 minutes to complete the scale, therefore tiredness might have affected some online respondents. However, it should be noted that the item wording in the English version of the scale is reported to be quite complex and the full 64-item scale is time consuming to complete. In this sense, there is modest difference between the two versions of the scale. Items that require some careful consideration before responding can make participants really work to understand what they are being asked. Doing this, to the end of the task, may have been too much for some. Face to face administration could yield higher or more even validity.

Lastly, this study has gone some way to being the first study to translate the original version of the Barrett-Lennard Relationship Inventory into the Mandarin-Chinese version and examine the construct validity using confirmatory factor analysis. Whilst this was reported with satisfactory results in this study, both the OS-64 and the OS-40 scales are long and time-consuming. The test-retest reliability could be conducted if a shorter version of the scale for future use could be developed. Therefore, it would be useful to pilot in a clinical sample as the next step which is using the shorter time frame for relationships and also test-retest statistics to be calculated.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix G. Published Version of the Publication: Evaluation of therapeutic relationship skills training for mental health professionals: the Therapeutic Relationship Enabling Programme (TREP)

Liao F, Murphy D
MedEdPublish
https://doi.org/10.15694/mep.2019.000112.1

Research article Open Access

Evaluation of therapeutic relationship skills training for mental health professionals: the Therapeutic Relationship Enabling Programme (TREP)

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Received: 10/04/2019
Published: 28/05/2019

Abstract

Background: A 3-day workshop in Taiwan, developed in accordance with Carl Rogers' person-centred theory, used an experiential-learning pedagogy and a helping learning technology mPath. This study aimed to evaluate the effectiveness of a short-term course for mental health professional students assessing to the acquisition of therapeutic relationship competencies.

Objective: To evaluate the training effects and investigate any changes in the level of therapeutic relationship competence of the participants before, at the end and two weeks after the intervention.

Methods: A sample of 59 mental health professional students from 7 medical schools studying in nursing, occupational therapy, medicine, clinical psychology and other specialities with the completion of psychiatry-relevant courses. 26 of 59 mental health professional students volunteered to form the experimental group, and the controls were recruited using the snowball sampling technique. All of them completed the Barrett-Lennard Relationship Inventory OS-40 three times. Mean values and statistical significance tests were computed to compare the results.

Results: Within 3 days, the mental health professional students in the experimental group (N=26) completed the Therapeutic Relationship Enabling Programme (TREP) and showed a statistically significant level of change (Mean Difference= +9.5, p=0.002), which was in contrast to the outcome of the control group (N=33, Mean Difference= +0.18, p= 0.683), in the therapeutic relationship competences. The effecting growth curve of therapeutic relationship competence in the experimental group continually inclined two weeks after the intervention (Mean Difference= +19.423, p= 0.000) while the control group reflected a decline in therapeutic relationship competence (Mean Difference= -0.515, p= 0.812).

Conclusions: A person-centred-theory-based training workshop with the use of a specially designed technology

Appendix H. Barrett-Lennard Relationship Inventory, Mandarin-Chinese Version

a. Form OS-64

巴雷特—倫納德關係量表繁體中文版（OS-64 版本）

Barrett-Lennard Relationship Inventory Mandarin-Chinese (Form OS-64) Traditional Chinese Version

Liao, F. R. & Murphy, D. (2018). University of Nottingham.

以下的量表裡包含了個人在與他人相處時，可能產生的各種行為或感受。

填寫量表時，請針對目前與您日常互動的某一個人(性別不拘)，將他擺入每一道題的空格中（不需實際填入）。例如：特定對象的名字是小明，當您在閱讀第一道題目時，可將題目看成「小明尊重我這個人」。

請您依據自己對題目內容的感受程度及符合程度，以**正分**（+3, +2 或 +1）或**負分**（-3, -2 或 -1）的方式來表達，並將分數填寫在左方的答案欄位上。請務必確認每一題皆填寫，謝謝。

*+3: **是的**，我覺得這句話非常符合現況。*
+2: 是的，我覺得這句話符合現況。
+1: (是的)我覺得這句話可能符合現況，或較符合現況。
*-3: **不是**，我覺得這句話非常不符合現況。*
-2: 不是，我覺得這句話不符合現況。
-1: (不是)我覺得這句話可能不符合現況，或較不符合現況。

評分	題號	題目
_____	1	_____尊重我這個人。
_____	2	_____會想要了解我對事物的看法。
_____	3	我所說的話或所做的事，會影響_____對我的興趣或關注。
_____	4	_____對我們的關係感到舒服和輕鬆自在。
_____	5	感覺我是真的討_____的喜歡。
_____	6	_____雖然了解我說的話，但未必能體會我的感受。
_____	7	_____對我的感覺，不會因為我對自己感到開心或不開心而有任何變化。
_____	8	我覺得_____戴著面具跟我相處。
_____	9	_____對我沒什麼耐心。
_____	10	_____幾乎總是能完全理解我的意思。
_____	11	_____ 有時會因為我的行為，而提高對我的評價。
_____	12	我感覺_____很真實且真誠地待我。
_____	13	我感覺_____欣賞我。
_____	14	_____以他的角度來看我所做的事情。
_____	15	_____對我的感受，不會因著我怎麼評論或看待自己而有所影響。[如果你對你自己的看法，會影響他對你的感覺；則請依程度回答 "-3(非常不符合)"、"-2(不符合)"或"-1(較不符合)"。]
_____	16	當我問起或提起某些事情時，會讓_____感到不舒服。
_____	17	_____對我漠不關心。
_____	18	_____通常能察覺到或明白我現在的感受。
_____	19	_____希望我成為某種類型的人。
_____	20	我覺得_____口中所表達的，正是他當下心中所感受的及他腦中所想的。
_____	21	_____覺得我乏味又無趣。
_____	22	因為_____對我所做的事情已經先抱有既定的態度，所以使他無法了解我。
_____	23	我可以放心地批評或讚美_____，(因為)這並不會影響他對我的感受。
_____	24	_____想要我以為他比實際上來的喜歡我或了解我。
_____	25	_____關心我。
_____	26	_____認為我所感覺的，正是他所感受的。
_____	27	_____喜歡或接受部份的我，但他不喜歡其他某方面的我。
_____	28	_____不會迴避談論任何對我們之間重要的事。
_____	29	我覺得_____不認同我。
_____	30	即使我沒辦法表達清楚我想說的事情，_____仍可明白我的意思。
_____	31	_____對於我的態度總是一致：他不會對我時而滿意，時而指責我或對我感到失望。
_____	32	有時候_____和我在討論事情時，會感到不舒服，但我們會在表面上忽略它並繼續。
_____	33	_____只是在忍受我而已。
_____	34	_____通常可以完全理解我的意思。
_____	35	如果我對_____發脾氣，他會感到受傷，或是對我生氣。
_____	36	_____向我表達他真正的想法和感覺。
_____	37	_____對我友善且溫暖。
_____	38	_____沒有察覺到我對某些事物的想法或感受。

_____	39	_____喜歡或不喜歡我的程度，不會因為我告訴他任何關於我自己的事情，而有所影響。
_____	40	有時候我覺得_____並沒有意識到他對我真正的感覺是什麼。
_____	41	我覺得_____真的很重視我。
_____	42	_____很能理解並接納我對事物上的主觀感受。
_____	43	_____有的時候會用某些方式肯定我，但有的時候也會用別種方式明確地表達不認同。
_____	44	_____願意向我表達他內在真實的想法，包含他對他自己、或他對我的感受。
_____	45	_____不喜歡我的行事為人。
_____	46	有時候，_____覺得我對某些事物的感受，比我實際上的主觀感受還要強烈。
_____	47	不論我是積極正向或是感到低潮難過，都不會影響到_____對我的欣賞程度。
_____	48	_____在我們的關係中很坦率地做自己。
_____	49	我似乎會惹_____生氣或打擾到他。
_____	50	_____不明白我對我們所談論的某些事物是有多麼地敏感。
_____	51	_____對我的感受，似乎不會因為我所表達的想法或感受是好還是壞，而有所影響。
_____	52	有幾次我會覺得_____給我的回應，與他內在真實的感受不一致。
_____	53	我覺得_____輕視我。
_____	54	_____了解我。
_____	55	有時候我覺得_____願意花心思在我身上，有的時候則不是這樣。
_____	56	_____不會向我隱藏他對我的感受。
_____	57	_____是真的對我感興趣。
_____	58	_____通常給我的回應都很制式且機械化，以至於我沒辦法了解他這個人。
_____	59	我不認為_____對我的感受會因為我所說的或我所做的事情而改變。
_____	60	_____常讓我對他的整個想法或感受產生誤解。
_____	61	_____對我是友好的。
_____	62	當我覺得受傷或是不開心的時候，_____仍可以在不影響到他自己的狀態下察覺我的感受。
_____	63	別人看待我的方式會影響到_____對我的看法。
_____	64	我相信是那些_____沒告訴過我的感受讓我們的關係遇上瓶頸。

b. Form MO-64

巴雷特—倫納德關係量表繁體中文版（MO-64 版本）

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Liao, F. R. & Murphy, D. (2018). University of Nottingham

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請您依據自己對題目內容的感受程度及符合程度，以**正分**（+3, +2 或 +1）或**負分**（-3, -2 或 -1）的方式來表達，並將分數填寫在左方的答案欄位上。請務必確認每一題皆填寫，謝謝。

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+1: *(是的)我覺得這句話可能符合現況，或較符合現況。*

-3: 不是, *我覺得這句話非常不符合現況。*

-2: *不是，我覺得這句話不符合現況。*

-1: *(不是)我覺得這句話可能不符合現況，或較不符合現況。*

評分	題號	題目
_____	1	我尊重_____這個人。
_____	2	我會想要了解_____對事物的看法。
_____	3	_____所說的話或所做的事，會影響我對他的興趣或關注。
_____	4	我對我們的關係感到舒服和輕鬆自在。
_____	5	感覺_____是真的討我的喜歡。
_____	6	我雖然了解_____說的話，但未必能體會他的感受。
_____	7	我對_____的感覺，不會因為他對自己感到開心或不開心而有任何變化。
_____	8	_____覺得我戴著面具跟他相處。
_____	9	我對_____沒什麼耐心。
_____	10	我幾乎總是能完全理解_____的意思。
_____	11	我 有時會因為_____的行為，而提高對他的評價。
_____	12	_____感覺我很真實且真誠地待他。
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_____	14	我以我的角度來看_____所做的事情。
_____	15	我對_____的感受，不會因著他怎麼評論或看待自己而有所影響。[如果他對他自己的看法，會影響你對他的感覺；則請依程度回答 "-3(非常不符合)"、"-2(不符合)"或"-1(較不符合)"。]
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_____	18	我通常能察覺到或明白_____現在的感受。
_____	19	我希望_____成為某種類型的人。
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_____	25	我關心_____。
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_____	27	我喜歡或接受部份的_____，但我不喜歡其我某方面的他。
_____	28	我不會迴避談論任何對我們之間重要的事。
_____	29	_____覺得我不認同他。
_____	30	即使_____沒辦法表達清楚他想說的事情，我仍可明白他的意思。
_____	31	我對於_____的態度總是一致：我不會對他時而滿意，時而指責他或對他感到失望。
_____	32	有時候我和_____在討論事情時，會感到不舒服，但我們會在表面上忽略它並繼續。
_____	33	我只是在忍受_____而已。
_____	34	我通常可以完全理解_____的意思。
_____	35	如果_____對我發脾氣，我會感到受傷，或是對他生氣。
_____	36	我向_____表達我真正的想法和感覺。
_____	37	我對_____友善且溫暖。
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_____	39	我喜歡或不喜歡_____的程度，不會因為他告訴我任何關於他自己的事情，而有所影響。
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_____	53	_____覺得我輕視他。
_____	54	我了解_____。
_____	55	_____在我眼中的價值時高時低。
_____	56	我不會向_____隱藏我對他的感受。
_____	57	我是真的對_____感興趣。
_____	58	我通常給_____的回應都很制式且機械化，以至於他沒辦法了解我這個人。
_____	59	_____不認為我對他的感受會因為他所說的或他所做的事情而改變。
_____	60	我常讓_____對我的整個想法或感受產生誤解。
_____	61	我對_____是友好的。
_____	62	當_____覺得受傷或是不開心的時候，我仍可以在不影響到我自己的狀態下察覺他的感受。
_____	63	別人看待_____的方式會影響到我對他的看法。
_____	64	_____相信是那些我沒告訴過他的感受讓我們的關係遇上瓶頸。

c. Form OS-40

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*+3: **是的**，我覺得這句話非常符合現況。*
+2: 是的，我覺得這句話符合現況。
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*-3: **不是**，我覺得這句話非常不符合現況。*
-2: 不是，我覺得這句話不符合現況。
-1: (不是)我覺得這句話可能不符合現況，或較不符合現況。

評分	題號	題目
_____	1	_____尊重我這個人。
_____	2	_____通常能察覺到或明白我現在的感受。
_____	3	我所說的話或所做的事，會影響_____對我的興趣或關注。
_____	4	我覺得_____戴著面具跟我相處。
_____	5	感覺我是真的討_____的喜歡。
_____	6	_____雖然了解我說的話，但未必能體會我的感受。
_____	7	_____對我的感覺，不會因為我對自己感到開心或不開心而有任何變化。
_____	8	_____不會迴避談論任何對我們之間重要的事。
_____	9	_____對我漠不關心。
_____	10	_____幾乎總是能完全理解我的意思。
_____	11	_____ 有時會因為我的行為，而提高對我的評價。
_____	12	我感覺_____很真實且真誠地待我。
_____	13	我感覺_____欣賞我。
_____	14	因為_____對我所做的事情已經先抱有既定的態度，所以使他無法了解我。
_____	15	_____喜歡或不喜歡我的程度，不會因為我告訴他任何關於我自己的事情，而有所影響。
_____	16	_____不會向我表達他真正的想法和感覺。
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_____	18	即使我沒辦法表達清楚我想說的事情，_____仍可明白我的意思。
_____	19	_____希望我成為某種類型的人。
_____	20	_____願意向我表達他內在真實的想法，包含他對他自己、或他對我的感受。
_____	21	_____關心我。
_____	22	_____沒有察覺到我對某些事物的想法或感受。
_____	23	_____喜歡或接受部份的我，但他不喜歡其他某方面的我。
_____	24	_____在我們的關係中很坦率地做自己。
_____	25	我覺得_____不認同我。
_____	26	_____通常可以完全理解我的意思。
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_____	28	有時候_____和我在討論事情時，會感到不舒服，但我們會在表面上忽略它並繼續。
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d. Form OS-40

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Liao, F. R. & Murphy, D. (2018). University of Nottingham.

以下的量表裡包含了個人在與他人相處時，可能產生的各種行為或感受。

填寫量表時，請針對目前與您日常互動的某一個人(性別不拘)，將他擺入每一道題的空格中（不需實際填入）。例如：特定對象的名字是小明，當您在閱讀第一道題目時，可將題目看成「我尊重小明這個人」。

請您依據自己對題目內容的感受程度及符合程度，以**正分**（+3, +2 或 +1）或**負分**（-3, -2 或 -1）的方式來表達，並將分數填寫在左方的答案欄位上。請務必確認每一題皆填寫，謝謝。

*+3: **是的**，我覺得這句話非常符合現況。*

+2: 是的，我覺得這句話符合現況。

+1: (是的)我覺得這句話可能符合現況，或較符合現況。

*-3: **不是**，我覺得這句話非常不符合現況。*

-2: 不是，我覺得這句話不符合現況。

-1: (不是)我覺得這句話可能不符合現況，或較不符合現況。

評分	題號	題目
_____	1	我尊重_____這個人。
_____	2	我通常能察覺到或明白_____現在的感受。
_____	3	_____所說的話或所做的事，會影響我對他的興趣或關注。
_____	4	_____覺得我戴著面具跟他相處。
_____	5	感覺_____是真的討我的喜歡。
_____	6	我雖然了解_____說的話，但未必能體會他的感受。
_____	7	我對_____的感覺，不會因為他對自己感到開心或不開心而有任何變化。
_____	8	我不會迴避談論任何對我們之間重要的事。
_____	9	我對_____漠不關心。
_____	10	我幾乎總是能完全理解_____的意思。
_____	11	我 有時會因為_____的行為，而提高對他的評價。
_____	12	_____感覺我很真實且真誠地待他。
_____	13	_____感覺我欣賞他。
_____	14	因為我對_____所做的事情已經先抱有既定的態度，所以使我無法了解他。
_____	15	我喜歡或不喜歡_____的程度，不會因為他告訴我任何關於他自己的事情，而有所影響。
_____	16	我不會向_____表達我真正的想法和感覺。
_____	17	我覺得_____乏味又無趣。
_____	18	即使_____沒辦法表達清楚他想說的事情，我仍可明白他的意思。
_____	19	我希望_____成為某種類型的人。
_____	20	我願意向_____表達我內在真實的想法，包含我對我自己、或我對他的感受。
_____	21	我關心_____。
_____	22	我沒有察覺到_____對某些事物的想法或感受。
_____	23	我喜歡或接受部份的_____，但我不喜歡其他某方面的他。
_____	24	我在我們的關係中很坦率地做自己。
_____	25	_____覺得我不認同他。
_____	26	我通常可以完全理解_____的意思。
_____	27	我對_____的感受，似乎不會因為他所表達的想法或感受是好還是壞，而有所影響。
_____	28	有時候我和_____在討論事情時，會感到不舒服，但我們會在表面上忽略它並繼續。
_____	29	我對_____友善且溫暖。
_____	30	我不了解_____。
_____	31	我有的時候會用某些方式肯定_____，但有的時候也會用別種方式明確地表達不認同。
_____	32	我不會向_____隱藏我對他的感受。
_____	33	我只是在忍受_____而已。
_____	34	我很能理解並接納_____對事物上的主觀感受。
_____	35	有時候_____讓我有花心思在他身上的意願，有時候則不是這樣。
_____	36	有幾次_____會覺得我給_____的回應，與我內在真實的感受不一致。
_____	37	我對_____是友好的。
_____	38	我通常給_____的回應都很制式且機械化，以至於他沒辦法了解我這個人。
_____	39	_____不認為我對他的感受會因為他所說的或他所做的事情而改變。

_____ 40 _____相信是那些我沒告訴過他的感受讓我們的關係遇上瓶頸。

e. Form Obs-40

巴雷特—倫納德關係量表繁體中文版（Obs-40 版本）
Barrett-Lennard Relationship Inventory Mandarin-Chinese (Form Obs-40)
Traditional Chinese Version

Liao, F. R. & Murphy, D. (2018). University of Nottingham.

以下的量表裡包含了人與人相處時，可能產生的各種行為或感受。

填寫量表時，*請**先試著排除自己主觀上反應及認同與否***，依照您對一位被觀察者「 甲 」進行他與 乙 之間的互動進行客觀的評估。例如：以小明為被觀察者，而要評估小明和小白之間的互動時，當您在閱讀第一道題目 「甲 尊重 乙 這個人」時，可將題目看成「小明尊重小白這個人」。

請您依據自己對題目內容的感受程度及符合程度，以**正分**（+3, +2 或 +1）或**負分**（-3, -2 或 -1）的方式來表達，並將分數填寫在左方的答案欄位上。請務必確認每一題皆填寫，謝謝。

*+3: **是的**，我覺得這句話非常符合現況。*
+2: 是的，我覺得這句話符合現況。
+1: (是的)我覺得這句話可能符合現況，或較符合現況。
*-3: **不是**，我覺得這句話非常不符合現況。*
-2: 不是，我覺得這句話不符合現況。
-1: (不是) 我覺得這句話可能不符合現況，或較不符合現況。

評分	題號	題目
_____	1	甲尊重_____(乙)_____這個人。[可將 **乙** 的名字或代稱填入]
_____	2	他通常能察覺到或明白 乙 現在的感受。
_____	3	乙 所說的話或所做的事，會影響他對 乙 的興趣或關注。
_____	4	乙 覺得他戴著面具跟 乙 相處。
_____	5	感覺 乙 是真的討他的喜歡。
_____	6	他雖然了解 乙 說的話，但未必能體會 乙 的感受。
_____	7	他對 乙 的感覺，不會因為 乙 對自己感到開心或不開心而有任何變化。
_____	8	他不會迴避談論任何對他和 乙 之間重要的事。
_____	9	他對 乙 漠不關心。
_____	10	他幾乎總是能完全理解 乙 的意思。
_____	11	他有時會因為 乙 的行為，而提高對 乙 的評價。
_____	12	乙 感覺他很真實且真誠地待 乙 。
_____	13	乙 感覺他欣賞 乙 。
_____	14	因為他對 乙 所做的事情已經先抱有既定的態度，所以使他無法了解 乙 。
_____	15	他喜歡或不喜歡 乙 的程度，不會因為 乙 告訴他任何關於 乙 自己的事情，而有所影響。
_____	16	他不會向 乙 表達他真正的想法和感覺。
_____	17	他覺得 乙 乏味又無趣。
_____	18	即使 乙 沒辦法表達清楚 乙 想說的事情，他仍可明白 乙 的意思。
_____	19	他希望 乙 成為某種類型的人。
_____	20	他願意向 乙 表達他內在真實的想法，包含他對他自己、或他對 乙 的感受。
_____	21	他關心 乙 。
_____	22	他沒有察覺到 乙 對某些事物的想法或感受。
_____	23	他喜歡或接受部份的 乙 ，但他不喜歡其他某方面的 乙 。
_____	24	他在他們的關係中很坦率地做自己。
_____	25	乙 覺得他不認同 乙 。
_____	26	他通常可以完全理解 乙 的意思。
_____	27	他對 乙 的感受，似乎不會因為 乙 所表達的想法或感受是好還是壞，而有所影響。
_____	28	有時候他和 乙 在討論事情時，會感到不舒服，但他們會在表面上忽略它並繼續。
_____	29	他對 乙 友善且溫暖。
_____	30	他不了解 乙 。
_____	31	他有的時候會用某些方式肯定 乙 ，但有的時候也會用別種方式明確地表達不認同。
_____	32	他不會向 乙 隱藏他對 乙 的感受。
_____	33	他只是在忍受 乙 而已。
_____	34	他很能理解並接納 乙 對事物上的主觀感受。
_____	35	乙 在他眼中的價值時高時低。
_____	36	有幾次 乙 會覺得他給 乙 的回應，與他內在真實的感受不一致。
_____	37	他對 乙 是友好的。

_____	38	他通常給乙的回應都很制式且機械化，以至於乙沒辦法了解他這個人。
_____	39	乙不認為他對乙的感受會因為乙所說的或乙所做的事情而改變。
_____	40	乙相信是那些他沒告訴過乙的感受讓他們的關係遇上瓶頸。

Appendix I. Production of Demonstration videos for the Therapeutic Relationship Enabling Programme

The photos were edited for the anonymous participants and information.

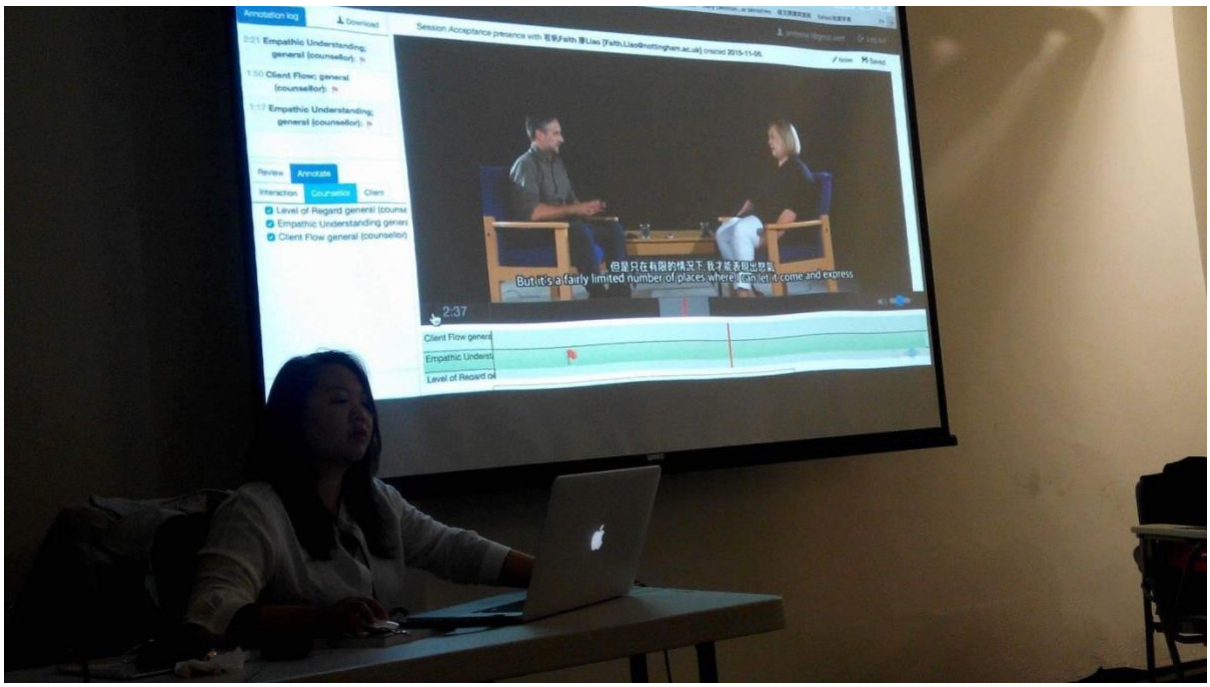
a. Setting up the scene

b. One of the images of the demonstration videos

c. One of the images of the subtitled demonstration videos: Mandarin-Chinese and English

Appendix J. Photos in the Therapeutic Relationship Enabling Programme

a. Group learning through the use of mPath



b. Group learning through the use of mPath

c. Peer practice on the person-centred therapeutic relationship skills