COMPARISON OF STIGMATIZING EXPERIENCES BETWEEN KOREAN AND CANADIAN PATIENTS WITH DEPRESSION AND BIPOLAR DISORDERS

by

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Abstract

Stigma is one of the key barriers to mental health services and there has been growing efforts to develop anti-stigma programs. However, little research has been done on quantifying experiences of stigma and their psychosocial impacts in the perspectives of those that suffer from mental illnesses. It is essential to develop an instrument that quantifies the extent and impact of stigma. Therefore, we conducted a study to field-test *The Inventory of Stigmatizing Experiences* and measure the difference in perceived stigma and its psychosocial impacts on Korean and Canadian patients with Depression and Bipolar disorders.

A cross-sectional comparison study was conducted. Data collection took place at tertiary care hospitals located in Kingston, Ontario, Canada and Seoul, South Korea. In total, 214 Canadian and 51 Korean individuals with depression and bipolar disorder participated. Canadian participants reported significantly higher experience with stigma (p << 0.05) and its impact (p << 0.05) compared to Korean participants. Moreover, patients with bipolar disorder had significantly higher scores on both stigma experience and impact compared to patients with depression (p << 0.05). However, the diagnosis status was not a significant factor in the linear regression analyses, whereas nationality remained as a strong predictor of stigma. Age of symptom onset was also a strong predictor for both stigma experience and stigma impact. Marital status was also a significant factor for stigma impact. Both subscales of the inventory (the stigma experiences scale and the stigma impact scale) were highly reliable, with reliability coefficients of 0.81 and 0.93, respectively.

In conclusion, there seems to be higher level of stigma and impact in the Canadian population compared to the Korean population. In addition, bipolar disorder patients may experience more stigma and higher impact compared to patients with depression. These differences in stigma experience and its impact in different populations (by nationality and diagnosis) suggest the need to develop more tailored anti-stigma programs. The *Inventory of Stigmatizing Experiences* is a highly reliable instrument.
Co-Authorship

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Dr. Paik has contributed in the recruitment of the Korean participants. He played a role in setting up the study in Korea, by providing guidance on the ethics approval process, providing a location where interviews were conducted, and getting referrals from two other psychiatrists. He also recruited majority of the Korean participants by giving out invitations to participate in the study.

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Dr. Milev played a role in setting up the study design. He has provided guidance in determining sample selection criteria and how the data should be collected. As one of the copyrighted owner for the Inventory of Stigmatizing Experiences, he provided information regarding the inventory and has provided guidance in conducting the study. He has been involved in the process of retrieving the Canadian data set. He also played a role in the editorial process of the thesis.
Candidate’s Roles

The candidate was responsible for translating the inventory into Korean and setting up the study in Korea. She contacted different tertiary hospitals in Korea and collaborated with Dr. Paik of Kyunghee University Hospital to conduct the study. She conducted all the interviews and was also responsible for conducting all the statistical analyses. With editorial guidance from Dr. Milev, she was also responsible for compiling the results and drafting the thesis.
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Chapter 1

Introduction

1.1 Introduction to stigma

1.1.1 Defining stigma

Stigma is a social construction that has been defined by Goffman as ‘an attribute that is deeply ‘discrediting’ [1]. Recognition of such attribute leads the ‘stigmatized’ person to be ‘reduced... from a whole and usual person to a tainted or discounted one’ [1]. Goffman categorizes the attributes of stigma into three groups 1) abominations of the body (e.g. physical disability), 2) blemishes of individual character (e.g. mental illness) or 3) tribal stigma (e.g. race, gender) [2].

In the recent years, there has been a substantial growth in interest and research on mental illness related stigma. From media analyses of film and print, 3 common misconceptions about mental illness patients have been identified: 1) they are homicidal maniacs who should be feared 2) they are rebellious, free spirits and 3) they have childlike perceptions of the world [3, 4, 5]. Similarly, factor analyses from Canada, England, and Germany have identified the following factors: 1) fear and exclusion (severe mental illness patients should be feared and therefore excluded from the community) 2) authoritarianism (mental illness patients are irresponsible so decisions about their life
should be made by others) and 3) benevolence (mental illness patients are childlike and need care) [6, 7, 8].

Research on mental illness stigma has been conceptually driven mainly by two leading concepts, one by Link and Phelan [9], and the other by Corrigan and colleagues [10]. Link and Phelan define stigma as ‘the co-occurrence of its components: labeling, stereotyping, separation, status loss, and discrimination’ [9]. Corrigan and colleagues propose that stigma can be broken down into three elements: stereotypes, prejudice and discrimination [10]. Link and Phelan’s concept of stereotypes, separation, and status loss/discrimination can be seen as parallels to Corrigan’s concept of stereotypes, prejudice and discrimination [11]. Therefore stigma can be viewed as an overarching term to include these three components.

Stereotypes, referring to collective opinions about groups of persons, as a component of mental illness stigma can generate negative impressions such as incompetence and dangerousness [11]. However, not everyone necessarily agree with stereotypes and some may not view them as valid. On the other hand, people who are prejudiced may agree with such stereotypes, thereby leading to negative emotions such as anger or fear towards people with mental illnesses [11]. Such prejudice then might lead to discrimination, resulting in behavioural responses such as increased social distance [11].
In the literature, mental illness stigma has been categorized and studied in different ways, mainly being divided into public stigma, perceived stigma, experienced stigma, and self-stigma. Public stigma refers to the reactions of the general public towards a group, based on stigma about that group [11]. Perceived stigma has been defined by Van Brakel and colleagues as ‘people with a (potentially) stigmatized health condition are interviewed about stigma and discrimination they fear or perceive to be present in the community or society’ [12]. Perceived stigma can include both what an individual thinks most people believe about the stigmatized group and how the individual thinks society view him or her personally as a member of the stigmatized group [13]. Experienced stigma has been defined by Van Brakel and colleagues as ‘experience of actual discrimination and/or participation restrictions’ [12]. Self-stigma refers to the reactions of individuals who belong to the stigmatized group and internalization of the public stigma [14]. It has been further defined as ‘product of internalization of shame, blame, hopelessness, guilt, and fear of discrimination’ [15]. The persons who turn the prejudice against themselves may agree with the stereotype and have emotional reactions such as low self-esteem [11]. Such self-prejudices then may lead to behavioural responses such as failing to pursue work or seeking treatment options [11].

1.1.2 The impact of stigma

Stigma is one of the key barriers to mental health and mental health reform. Mental illness stigma can have a detrimental impact on the patient’s quality of life by affecting the patient not only socially but also through important clinical implications. Public stigma
can negatively affect life opportunities such as employment, suitable accommodation, and interpersonal relationships [20]. Moreover, self- or internalized stigma can prevent some from seeking professional help and contribute to decreased adherence to treatment [20].

One of the major consequences of stigma on the persons with mental illness is that public stigma results in everyday life discrimination in interpersonal interactions. In a study conducted by Dinos et al., 29 out of 46 participants with mental illness reported they have experienced personal harassment, either verbal or physical [16]. They have also reported that they felt that people stopped contact with them due to their illness [16]. Similarly, studies on patients with bipolar disorders have shown that 50 to 75% of patients feel that their relationship with family members and friends are severely and adversely affected due to stigmatization and rejection within relationships [17, 18]. Furthermore, it has been shown that people with mental illness tend not to seek new social contacts and report a reduced participation in social life and leisure activities [19].

Furthermore, mental illness stigma contributes to employment-related stigma and discrimination which poses both a psychological and financial burden on the patients. Stigma is both a proximate and a distal cause of employment inequity for people with mental disability [20]. Direct discrimination includes prejudicial attitudes from employers and colleagues and indirect discrimination includes structural disincentives against competitive employment and generalized policy neglect [20].
Stigma also has an adverse clinical impact on patients with mental illness by interfering with help-seeking behaviour, adherence to treatment, and contributing to symptoms that hinder goals of recovery. Despite the significant improvement and advancement in psychiatric treatments, many people who are likely to benefit from treatment either choose to never start treatment or opt to end it prematurely [11]. It has been found self- and perceived-stigmatizing responses to help-seeking for depression are prevalent in the community and are associated with reluctance to seek professional help [22]. Instead, individuals who encounter problems of mental health often try to manage the first stage of the problems by themselves [23]. Moreover, it has been previously shown that even when an individual needs treatment, the fear that others may be critical and rejecting remains powerful, thereby affecting the individual’s adherence to treatment [24]. Furthermore, stigma may contribute to symptoms of anxiety, depression and paranoia, and other conditions that may hinder recovery [25]. The stigma of receiving a psychiatric ‘label’ may act as a stressor, worsening psychiatric symptoms or obstructing recovery [25].
1.2 Introduction to mood disorders

1.2.1 Depression

Depressive disorders, a category of mood disorders, pose a major problem in the societal level due to its high prevalence, significant burden on health care costs, and productivity losses [26]. Moreover, at a personal level, it is a serious illness that causes suffering, functional impairment, and increased risk of suicide, which can result in premature deaths of patients [26].

Major depression, a depressive disorder on which most intensive research has been conducted, is characterized by depressed mood and or loss of interest or pleasure, which may cause severe impairment in the patient’s functioning [27]. Other symptoms may include significant weight gain or loss, insomnia or hypersomnia, fatigue, feelings, worthlessness or inappropriate guilt, psychomotor agitation, and increased suicidal ideation [27]. Such symptoms cause significant burden on the patient, causing suffering, and family distress and conflict [33]. As a standard diagnostic approach for major depression, the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria are used [26]. Several other screening tools are also available to guide physicians identify patients most likely depressed. Such tools include the General Health Questionnaire, Beck Depression Inventory, and the Inventory of Depressive Symptoms [26].
Depressive disorders are common in the general population, with a point prevalence of 2-4% for major depression and about 20% lifetime risk for development of major depression or dysthymic disorder [28, 29, 30]. It has been stated that in Canada, approximately 8% of adults will experience major depression at some time in their lives [31]. This high prevalence, coupled with impairment in functioning, chronic or relapsing course, and frequent early onset had led World Health Organization (WHO) to conclude that major depression is the leading cause of years lived with disability [32]. It is also the fourth cause of disability-adjusted life years (DALYs) [32].

Depressive disorders also have a major economic impact through associated health care costs as well as lost work productivity [34]. In the United States, costs of depression have been estimated at $43 billion per year [35]. About 30% of the cost is from direct medical care and the remainder from premature death and impaired workplace productivity. It has been estimated that the economic cost to employers is $6,000 per depressed worker per year [36].

Many cases of depression seen in general medical settings are suitable for treatment within those settings [26]. Some commonly used treatment options include antidepressants and psychotherapies such as cognitive behavioural and interpersonal psychotherapies [37, 38]. However, despite the efficacy of the treatments, there are several barriers to treatment of depression. One such barrier is related to mental illness stigma. Due to stigma of mental health treatment, patients may be in denial, minimizing
the symptoms and rationalizing them [26]. This may hinder them from seeking professional help. Moreover, some patients may be unwilling to accept a diagnosis and thus be hesitant about beginning treatment [22].

1.2.2 Bipolar disorders

Bipolar disorder (BD), also known as manic-depressive disorder is a chronic disorder that is characterized by recurrent, dramatic mood changes [39]. Individuals with bipolar disorder cycle between a range of emotions that disrupt phases of near-normal behaviour, often alternating between intense feelings of ‘highs’ (manic episodes) and ‘lows’ (depressive episodes) [40]. Manic episodes are characterized by feelings of elation, grandiosity, impulsiveness, hyperactivity, distractibility, irritability, and excessive libido [40]. On the other hand, depressive episodes are associated with feelings of despair, hopelessness, guilt, anxiety, suicidal ideation and activity [40].

Bipolar disorder is further categorized into two types: bipolar I and II. Bipolar I disorder is characterized by the occurrence of one of more manic episodes or mixed episodes [41]. It is distinguished by a distinct period of abnormally and persistently elevated expansive or irritable mood lasting at least 1 week. Bipolar II disorder has the same symptoms except there is no mania requiring hospitalization [41].

Generally medication is effective in the treatment of acute episodes. However, there is increasing evidence that many patients do not achieve a full functional recovery-
only 40% maintain their pre-morbid level of functioning, 25-35% experience partial impairment and 25-35% have profound functional deficits [39]. Moreover, of those with BD, only 30% are correctly diagnosed on the first presentation, and misdiagnosis is common and occurs repeatedly [45].

Bipolar disorder is a significant problem in the society due to its high prevalence and recurrence, and significant, negative effect on work relationships and functioning resulting in lost productivity [40]. In the United States, the lifetime prevalence of bipolar disorder is estimated at 3.7% [42]. In Canada, it has been estimated that approximately 1% will experience bipolar disorder sometime in their lives [43]. According to the World Health Organization, bipolar disorder is also the sixth cause of disability [44]. It has also been found that bipolar disorder imposes a significant financial burden on employers, costing more than twice as much as depression per affected employee [40]. A large proportion of the cost is attributable to indirect costs from lost productivity, arising from absenteeism and presenteeism [40]. On the other hand, for patients, bipolar disorder can be a source of significant burden due to higher level of unemployment, and impediment in academic and occupational growth since onset of bipolar disorder generally occurs during adolescence and continues for the remainder or a patient’s working life [40].

Studies have shown that bipolar disorder has a high negative impact on the patient’s quality of life. On top of dealing with the disorder itself, the relationship with the family appears to be severely and adversely affected, as well as work-related,
interpersonal, and leisure activities [45]. This can in part be attributed to the public and self-stigma.

1.3 Objective

This study aims to field-test *The Inventory of Stigmatizing Experiences*, which is designed to capture experiences of stigma from the perspective of those who are stigmatized [46]. The general objective will be to field-test *The Inventory of Stigmatizing Experiences*, and measure the difference in perceived stigma and its psychosocial impacts on Korean and Canadian patients with Depression and Bipolar disorders, and to test the reliability of the inventory.

Following are the specific research objectives: 1) to test if stigma is a universal experience and has similar psychosocial impact across cultures 2) to test if the experience and impact of stigma is similar in patients with depression and bipolar disorder 3) to test if the *Inventory of Stigmatizing Experiences* is a reliable instrument to measure perceived stigma and its psychosocial impacts.

1.4 Thesis organization

Chapter 2 gives an overview of the current literature related to mental illness stigma. Section 2.1 will discuss previous studies on the cultural influence on stigma experience and its impact. This section will be further broken down into Sub-sections
2.1.1, which will discuss cross-cultural studies that have compared mental illness stigma in different nations, 2.1.2, which will focus on stigma in the Western society, and 2.1.3, which will discuss stigma in the non-Western, primarily in the Eastern society. Section 2.2 will discuss studies on stigma experience and its impact on patients with mood disorders. This will also be divided into 3 Sub-sections: 2.1.1, discussing studies that compared stigma associated with different mental illnesses, 2.1.2, which will discuss stigma regarding depression, and lastly 2.1.3, which will focus on studies that looked at stigma in patients with bipolar disorders.

Chapter 3 will summarize the main methods used for this study. Section 3.1 will give a brief overview on the type of the study and the general design. 3.2 will discuss the procedure through which the samples were selected and the criteria that were used. Section 3.3 will discuss the collection procedures, and also discuss the Inventory of Stigmatizing Experiences. Lastly, Section 3.4 will briefly describe the statistical methods used for the data analysis.

In Chapter 4, cross-cultural comparison of stigma experiences and its impact, as measured by the Inventory of Stigmatizing Experiences, was conducted. Section 4.1 will discuss, in detail, the methods that were used for this analysis. Section 4.2 will discuss the findings of the cross-cultural comparison. Section 4.3 will discuss the findings, relating it back to the current literature, and comment on the study limitations and future directions.
In Chapter 5, stigmatizing experiences and its psychosocial impact will be compared between patients with depression and patients with bipolar disorders. Section 5.1 will discuss the methods that were used for this analysis. Section 5.2 will highlight the results of the study. Section 5.3 will be a discussion of the findings, looking at how it aligns with previous studies in the field, and explore some of the limitations and future avenue of research.

Chapter 6 will discuss regression modeling using social and clinical characteristics as independent variables and stigma experiences and impact as dependent variables. Section 5.1 will discuss the methods used. Section 5.2 will be a summary of results. Lastly 5.3 will discuss the findings, relating it back to literature, and discuss some limitations of our study.

Lastly, Chapter 7 will summarize the reliability testing of the Inventory of Stigmatizing Experiences. Section 7.1 will discuss the analytical methods used. Section 7.2 will discuss the results of the reliability testing. Finally, Section 7.3 will discuss the findings, compare it with results of previous studies, and explore the implications of the finding.
Chapter 2

Literature Review

2.1 Cultural influence on stigma experience and its impact

2.1.1 Cross-cultural studies

Diagnoses of mental illness are given based on deviations from socio-cultural, or behavioral, norms [47]. Therefore, mental illness is a concept deeply tied to culture, and accordingly, stigma is likely to vary across cultures [47]. However, in spite of the recognized importance of stigma, there have been few studies on its manifestations across different nations or regions and such studies have presented divergent findings [48].

One approach to better understanding stigma is to conduct comparative studies across countries that differ in the cultural contexts in which attitudes to mental illness form [48]. Majority of cross-cultural studies on stigma studied general public’s opinion of people with mental illness through surveys, studying public stigma [49]. One example is a study conducted by Carpenter-Song et al. of 25 residents in the United States of different ethnic background (African American, Latino, and Euro-American) [50]. They found that there are variations in knowledge and interpretation of mental illnesses and level of stigma depending on the ethnic-cultural background [50]. They report that African-Americans and Latino emphasized non-biomedical interpretations and were more critical
of mental health services, whereas Euro-Americans were most aligned with disease-oriented perspective on mental illness and sought professional help [50]. Moreover, stigma was not a prominent theme for Euro-Americans but was for African Americans [50]. However, in another study by Stone and Finlay, who conducted a survey on 128 students from London colleges, it was found that African-Caribbean participants indicated less stigmatizing beliefs compared to white European participants [51]. However, they agree with the findings from Carpenter-Song et al. that white Europeans were more likely to follow a Western model of mental illness while African-Caribbean participants were more likely to have alternative beliefs [51].

Another cross-cultural study of public stigma on mental illness was conducted by Rao and colleagues in 2007 [47]. They compared the level of stigma in 357 students of different ethnic backgrounds attending community college, using the Attribution Questionnaire (AQ), a 27-item questionnaire that presents a vignette of a person living with mental illness and asks a series of questions measuring factors related to stigma [47]. 245 students also participated in an intervention aimed at reducing mental illness stigma [47]. For those students, the stigma level before and after the intervention was also compared [47]. At baseline, African Americans and Asians perceived people with mental illness as more dangerous and wanted more segregation than Caucasians, and Latinos perceived people with mental illness as less dangerous and wanted less segregation than Caucasians [47]. Post-intervention, similar patterns emerged; however, Asian students'
perceptions changed significantly such that they tended to perceived people with mental illness as least dangerous of all the racial/ethnic groups [47].

A novel approach was taken by Griffiths and colleagues, who developed a two-part scale measuring personal stigma and perceived stigma [52]. Using a household survey, participants (general public) in Australia (N=3998) and Japan (N=2000) were presented with a vignette of a person with depression, depression with suicidal ideation, early schizophrenia, or chronic schizophrenia and were asked whether they agreed with the nine items of stigmatizing beliefs [48]. They reported their personal attitudes (personal stigma, social distance) and also their perceptions of the attitudes of others (perceived stigma, perceived discrimination) [48]. The investigators report that personal stigma and social distance were typically greater among the Japanese than the Australian public, with significantly higher percentage of respondents who ‘agree’ or ‘strongly agree’ with items of stigmatizing beliefs [48]. This can be interpreted as Japanese public having higher level of personal stigma. However, Australians were more likely than Japanese participants to agree that others in the community would have a stigmatizing attitude to the person with a mental disorder [48]. In both countries, perceived stigma was higher than personal stigma across the stigma items, which may suggest a tendency among the public to overestimate stigma in the community [48]. This may reflect a social desirability bias in which respondents are reluctant to report their true attitudes towards the person with a mental disorder [48].
Griffiths and colleagues suggest two possible explanations for the higher level of perceived stigma in Australia compared to Japan. It could be interpreted as ‘true’ level of stigma being greater in Australia than in Japan [48]. This lies on the assumption that perceived stigma questions are less subject to social desirability bias than personal stigma items and therefore better reflect the real levels of stigma in each community [48]. However, given the strong influence of the ‘honne’ (what the person is really thinking) and ‘tatema’ (what the person says to maintain harmony) culture in Japan, it would be surprising if social desirability bias were higher in Australia [48]. Another explanation might be that relatively higher level of media exposure and awareness campaigns in Australia has sensitized the public to the problem of the stigma of mental illness and created an exaggerated public perception of the level of stigma in the Australian community [48].

Most work on mental illness stigma has been done on the public attitudes towards those with a mental illness diagnosis and not on the experiences of the targets of discrimination themselves [53]. Studies that have looked at the views of people with mental illness typically focus on perceived stigma (the view that the public hold stigmatizing attitudes) with much less on the experiences of stigma and discrimination itself [53]. There have been few cross-cultural studies that looked at cultural influence on perceived and experienced mental illness stigma. One such example is a qualitative study conducted by Rose and colleagues [53]. They interviewed 75 people with a diagnosis of schizophrenia from 15 different countries and assessed reported discrimination.
However, they found few transnational differences [53]. The researchers suggest that this may be due to the small sample size of the study, since they only had 5 participants per site.

Alonso and colleagues conducted a large sale study to compare the level of perceived stigma among individuals with common mental disorders in six European nations (Belgium, France, Germany, Italy, the Netherlands, and Spain) [54]. Among 815 participants with a 12-month mental disorder and significant disability, 14.8% had perceived stigma [54]. There was a non-significant difference between nations in the level of perceived stigma (p = 0.051), with Germany and Spain having the lowest odds ratio for stigma (0.61) and Italy with the highest odds ratio (1.6) [54].

Brohan and colleagues also conducted a cross-national study on mental illness stigma in European nations, also known as GAMIAN-Europe study [55]. They interviewed 1182 patients with bipolar disorder or depression in 20 European countries (Belgium, Bulgaria, Croatia, the Czech Republic, Estonia, Finland, France, Greece, Italy, Lithuania, Macedonia, Malta, Poland, Romania, Russia, Slovenia, Spain, Sweden, Turkey, and the Ukraine) using a mail survey. They compared the levels of self-stigma, stigma resistance, empowerment, and perceived discrimination reported by the participants [55]. In all four measures, there was significant between-country variation [55]. For self-stigma, scores ranged from 1.61 in Sweden to 2.35 in Lithuania. For stigma resistance, scores ranged from 2.26 in Poland to 2.84 in Finland. Empowerment scores ranged from 2.32 in Croatia
to 2.92 in Sweden. Perceived discrimination scores ranged from 2.60 in Sweden to 3.13 in Greece [55]. However, the researchers provide little explanation and no constructive discussion on the difference observed between nations.

Findings from these studies support the notion that culture has an influence on the level of mental illness stigma. However, there seems to be divergent findings. Moreover, there are few studies that investigate the experiences of the targets of stigma themselves. The studies that have looked at stigma experienced by patients are either qualitative or focused in European nations. There is no current literature that quantitatively compared stigma in a Western and a non-Western culture in the perspectives of patients with mental illness.

2.1.2 Stigma in the Western society

As discussed in the previous section, large body of current literature support the notion that difference in culture, especially between the Western and non-Western societies, has an influence on mental illness stigma. At this point, however, it would be imprudent to conclude whether or not Western society holds more or less stigmatizing beliefs than the Eastern society due to the lack of linearity in the findings. Nonetheless, due to the substantial difference in the Western and non-Western culture, and its associations with stigma, it is important to explore previous literature on stigma in the two cultures, which will the aim of the following two sections.
Previously, several studies have been conducted to study the difference in the level of stigma and its impact within Western nations. These include the large-scale GAMIAN-Europe study [55] and study conducted by Alonso and colleagues [54] mentioned in the previous section. However, most cross-cultural studies on stigma in Western nations have found modest difference in the level of stigma between nations. Instead, the studies have a greater focus on the socio-demographic factors associated with level of stigma rather than focusing on cultural/ethnic difference [54-56]. In the study by Alonso et al. it was reported that higher level of stigma was significantly associated with the patient having lower education, being married/living with someone, and being unemployed [54]. Similarly in the GAMIAN-Europe study, it was found that higher stigma was associated with the level of education and employment status [55].

These findings are further supported by a large-scale study on the epidemiology of stigma conducted in Canada, which studied the association between different socio-economic factors and stigma against depression [57-60]. In this study, through a telephone survey, 3047 participants living in Alberta, Canada completed a 9-Item Personal Stigma questionnaire using a case vignette of person with depression [58]. 45.9% endorsed depressed individuals were unpredictable and 21.9% that they were dangerous [58]. Similar to the studies conducted in Europe, they reported that higher level of education was associated with less stigmatizing attitudes. They further report that greater proportion of men than women held stigmatizing views and that participants not born in Canada were more likely to hold stigmatizing attitudes [58]. By analyzing the
stigma level based on urban-rural status, it was also found that urban participants had lower stigma scores, especially in rural men, even after adjusting for income and education [57].

One particular Western ethnic background where large amount of mental illness stigma research has been conducted on is Greek. Previous research has pointed that there is particularly strong stigmatizing attitudes held by Greek and Greek Cypriots [61]. In the first national survey conducted by Economou and colleagues in 2009, it was reported that residents of Greece had high level of stigma and low knowledge of schizophrenia. 74.6% of 1,199 participants felt that schizophrenia was dangerous, 81.3% as split personalities, 83.2% believed they cannot work, 92.1% would not marry someone with schizophrenia, and 50.5% would be disturbed by working with them [62]. Similar to other European studies, they also reported living in an urban region and higher education was associated with better knowledge and more positive attitude towards mental illness [62].

Stronger stigmatizing attitude of Greek population was also reported by another study conducted by Papadopoulous and colleagues [63]. In the study, 79 White-English and 9 Greek Cypriots residing in London were interviewed using the ‘Community Attitudes to Mental Illness Scale’ [63]. The participant’s knowledge of mental illness and contact with people with mental health problems were also measured [63]. It was found that Greek Cypriots had less contact, were less knowledgeable, and held more stigmatizing views [63]. It has been suggested by Triandis [61] that an individualism-collectivism dimension
can be used to explain this difference between ethnic groups (Greek vs. English). He suggests that in individualistic cultures, such as the UK and the USA, behaviour is often determined by personal goals [61]. In contrast, in collectivist cultures, such as Greece and China, in-group goals are given greater importance [61]. Therefore, there can be stronger spread of negative attitudes towards mental illness, also making it more likely that families will keep the existence of a member with a mental illness a secret [61]. Although Greece is one of the Western nations, some aspects, such as the collectivist culture, seem to be in parallel to the non-Western cultures such as China and Japan, influencing the level of stigma.

2.1.3 Stigma in the non-Western society

Despite cultural differences having been shown to have significant influence on the manifestation, range, and magnitude of the impact of perceived stigma, such reports on non-Western societies appear to be something of a rarity [64]. In the researches that do study the influence of culture on mental illness stigma in non-Western society, there are some recurring themes of discussion. Some of the main themes include the collectivist culture in the Eastern society, influence of mental health care delivery systems and its development, and folk-healing methods stemming from religious and traditional concepts. Contrary to the stigma studies conducted using populations of Western origin, there seems to be larger body of literature focusing on the individual nation’s cultural influence on mental illness stigma.
As mentioned in the previous section, collectivist culture may be tightly associated with mental illness stigma [61]. The basic relationship between the self and others in the East is based on a “centripetal-interdependent-holistic” orientation, while in the West there is a “centrifugal-independent-individualistic” emphasis [65]. This means that Asian patients would tend to focus on relationships with others, cooperativeness, and harmony, whereas Caucasian patients may emphasize values of individualism, such as being autonomous, independent, and assertive [65]. In the benchmarking study conducted by Griffiths et al., it was found that Japanese respondents held higher level of personal stigma against schizophrenia than Australian respondents [48]. They attribute this finding to several causes, one of which is Japan’s cultural background as regards to the value placed on conformity. Since people who are mentally ill deviate from the norm, it might be expected that this would impact more negatively in Japan where conformity is said to be more highly valued [48].

Another factor that may contribute to cultural differences in mental illness stigma may be mental health care delivery structure and its development. In a cross-cultural study of Japanese and Taiwanese elementary school teacher’s attitude towards schizophrenia, it was found that Japanese respondents had significantly stronger stigma perception than the Taiwanese [66]. The authors suggest that this may be attributable to the high institutionalization rate in Japan [66]. Since there is a high institutionalization rate, the Japanese public may have less contact with people with mental illness, hence having higher stigma. However, it was found that participants from both countries had
knowledge, beliefs, and attitudes regarding schizophrenia similar to those of the general public in the Western societies [66]. In another study comparing public attitudes regarding stigma in Bali and Japan, it was also reported that there was a more positive attitude in Bali compared to Japan [67]. This may be due to the fact that relative unavailability of psychiatric beds in Bali resulted in an increase in contact between the public and people with schizophrenia [67]. This in turn may have produced an improvement in attitudes in Bali compared to Japan, where service delivery for people with mental disorder is focused primarily on long term hospitalization [67].

In a study by Jang and colleagues on Korean American adults’ attitudes toward mental health services, it was found that older adults were more subject to cultural misconceptions and stigma, and their attitudes toward service use were negatively influenced by it [68]. In China, it has also been reported that negative attitudes toward people with mental illness is strong [69]. One of the factors that have been suggested to attribute to strong stigma tendency in Eastern culture such as Korea and China is the influence of traditional medicine on psychiatric treatments. Korean and Chinese people have been influenced by mainly three different traditional concepts of disease and mental illness: Shamanism, traditional Chinese medicine, and Buddhism or Taoism [65]. The practice of traditional healing methods still prevails in these societies, especially among the rural population [65]. From the common traditional perspective, mental illness is regarded as a supernatural intervention, or as a result of hereditary weakness, character weakness, physical and emotional strain, or imbalance within the body of ying and yang.
[65]. In Korea, it has been reported that many families prefer to place their mentally ill members in mountaintop prayer centres, temples, locked religious facilities, or “Christian asylums” for patients with mental illness, rather than in psychiatric hospitals [65]. Such strong influence of traditional concepts of mental illnesses along with lack of psychological knowledge can prevent patients from pursuing effective psychotherapy and pharmacotherapy, and contribute to increased stigma level and impact in the society [65].
2.2 Stigma experience and its impact on patients with mood disorders

2.2.1 Studies comparing different mental illnesses

A substantial part of stigma research in psychiatry has dealt with mental disorder in general [70]. However, there are indications that there are considerable differences in regard to lay beliefs about different mental disorders, as well as public attitudes towards people suffering from them [71]. This section will review the current literature related to the similarities and differences of stigma regarding different mental illnesses, with more specific focus on mood disorders (i.e. depression and bipolar disorders).

Two disorders on which the most exhaustive stigma research has been conducted on is schizophrenia and depression. Hence, there are several studies that have compared the characteristics of stigma associated with schizophrenia and depression. It has been reported that the public appears somewhat more likely to identify symptoms of schizophrenia as an indication of mental disorder than symptoms of depression [72-75]. It has also been shown that people with schizophrenia are more likely to be perceived as being dangerous than those with depression [71, 74]. People with schizophrenia are also more frequently seen to be dependent on others than people with depression [76]. In 2001, Angermeyer and Matschinger carried out a representative survey in Germany. It was found that in the cases of schizophrenia, labeling as mental illness primarily affects respondents’ emotional reactions negatively, while in the case of major depression, a positive effect prevails [70]. In the study, it is reported that people with schizophrenia are,
by far, more frequently considered as dangerous and unpredictable. They evoke more fear while people with major depression evoke more pro-social reactions [70]. In another study by Norman and colleagues, it was found that beliefs about social appropriateness, danger and prognosis likely mediate differences in social distance towards the disorders, leading to greater stigmatization of schizophrenia [77].

There are also substantial amount of literature that have compared stigmatization of depression to other mental illnesses, such as alcohol dependence and eating disorders. From 1996 to 2006, Pescosolido et al. conducted a study with a 10-year comparison of public reactions to schizophrenia, depression, and alcohol dependence [78]. Major depression was associated with least stigmatizing attitude, whereas schizophrenia and alcohol dependence was associated with significantly higher level of stigma, higher social distance and perceived dangerousness [78]. The nature of stigma differed from schizophrenia and alcohol dependence in that the participants felt people with alcohol dependence are violent toward others [78]. Majority also felt unwilling to work closely with, socialize with, make friends with or have someone with alcohol dependence marry into family [78]. For schizophrenia, on the other hand, the participants felt persons with them are more violent toward self [78]. In all items related to stigma, there was lowest scores for people with depression compared to both schizophrenia and alcohol dependence [78]. In another study by Roehrig and McLean, the degree of stigma associated with anorexia nervosa (AN), bulimia nervosa (BM) and depression was explored [79]. It was observed that attitudes toward individuals with eating disorders
were significantly more stigmatizing than attitudes toward individuals with depression [79].

Although there are a number of studies focusing on the public attitude towards depression, there is not much current literature that assesses specifically the attitude towards individuals displaying manic symptoms in the course of a bipolar disorder [80]. However, there are few studies that have been conducted on the difference of stigma level and its nature regarding depression and bipolar disorders, which have gained contrary results. Some studies indicate that there is a higher level of stigma associated with bipolar disorders. Wolkenstein and Meyer, in 2008, conducted a comparative study that investigated the attitudes of young people (age 16-34) towards depression and mania [80]. It was observed that attitudes towards an individual with a current manic episode turned out to be significantly more negative than towards a person with current depression [80]. It was reported that while individuals with depression was perceived as less aggressive with about 10% of respondents feeling so, almost 45% judged the person with mania to be aggressive, and some (about 15%) even viewed them as dangerous [80]. This finding was replicated in another study that the same investigators carried out in 2009 [81]. It was found that individuals suffering from a manic episode are mainly expected to be dangerous, whereas individuals with a depressive episode are more likely to be helpless [81]. The responses illustrate that people suffering from a major depressive episode are more accepted in social relationships than are individuals suffering from a manic episode [81].
Contrary to these findings, it has been reported in some studies that depression is associated with higher level of stigma than bipolar disorders. In the GAMIAN-Europe study which studied 1182 people with bipolar disorder or depression, it was found that a diagnosis of depression had significantly higher self-stigma scores than those with a diagnosis of bipolar disorder [55]. The authors of the paper mention that this is in keeping with a previous study which found that the public desire less social distance from people with bipolar disorder than from people with depression [82]. However, it should be noted that diagnosis (of depression or bipolar disorder) was not a significant independent predictor of self-stigma in their regression analyses of various factors, whereas education, employment status, and social contacts were [55].

The described studies illustrate that there are significant differences in the stigma and its nature between different mental illnesses. These differences in beliefs and attitudes with regard to the illnesses have important implications for the planning of anti-stigma programs and may help to develop more tailor-made interventions that may prove more successful than rather broad and unspecific approaches.

2.2.2 Stigma in patients with depression

There exists little research on stigmatizing attitudes towards people with mood disorders [52]. Most of the literature on the stigma towards people with mental illness related to people with more severe disorders such as schizophrenia [52]. As mentioned in the previous section, individuals with severe mental illnesses, such as schizophrenia, bear
the greatest burden of stigmatization, primarily due to the perception that those with psychotic disorders are dangerous [83]. By comparison, depression is considered the sort of disorder that can happen to anyone [83]. Therefore negative perceptions regarding depression may be less severe [83]. Instead, compared to schizophrenia, depression is more often associated with feelings of pity and a desire to help [70]. The nature of stigma also seems to differ in depression compared to other serious illnesses such as schizophrenia, because of different lay beliefs about casual attributions [70]. In the case of schizophrenia, biological factors are more frequently endorsed as cause, while chronic psychosocial stress and an unconscious conflict are more frequently considered of casual relevance for major depression [70]. Endorsement of psychosocial stress as a cause is associated with public stigma, since it may increase pity and decrease anger associated with the illness [70].

Despite the fact that depression may be associated with less severe stigma and less negative perceptions, stigma can still have a potentially staggering effect. Expression of fear of the public towards people with depression still seems to be present, and there is still a strong desire for social distance from people with depression [84]. These stigmatizing attitudes can have a negative impact on people with depression and can act as a barrier to psychiatric care delivery. Many people have reported that they would feel embarrassed about seeking help from professionals, and believed that other people would have a negative reaction to them if they sought such help [22]. Moreover, perceived stigma has also been associated with adherence to antidepressant drugs [24]. Even when
the severity of illness was accounted for, there was an association found between treatment adherence and higher perceived stigma, which shows that even when an individual acknowledges the need for care, the fear that others may be critical and rejecting remains powerful [24].

Stigma associated with depression can also have a negative impact on the patient’s Quality of Life (QOL). In a study conducted in Taiwan, it was observed that depressive subjects who had more severe self-stigma had poorer QOL on all four QOL domains (physical health, psychological health, social relationships, and environment) [85]. The authors suggest that self-stigma can damage one’s self-concept and lead to self-deprecation, which in turn compromises feelings of mastery over one’s life’s circumstances [85]. People who worry about stigmatization are also more likely to withdraw from social contacts, choosing a more isolated existence above the risk of rejection or discrimination, which may result in further demoralization, lower income, unemployment, and restricted social networks, thereby lowering the Quality of Life [85].

Among depression patients, age seems to be associated with severity of stigma. In a study conducted by Perry and colleagues, it has been reported that Americans are more concerned about children’s depression than adults’ depression and reveal more prejudice regarding perceptions of dangerousness [86]. There seems to be heightened stigma surrounding childhood depression [86]. Similarly, in another study by Sirey and colleagues, it was found that younger patients reported higher levels of overall perceived stigma than the older adults [24].
2.2.3 Stigma in patients with bipolar disorder

Currently, there exists little literature on stigma associated with bipolar disorders (BD). As mentioned previously, there have been divergent findings on whether or not bipolar disorder is associated with higher level of stigma compared to depression. However, one thing is certain. The public knowledge about bipolar disorder is very low, and even in clinical settings, only 30% of those with BD are correctly diagnosed on first presentation [45, 80]. Unfortunately, the absence of appropriate knowledge cannot be equated with the absence of stigmatizing attitudes [80]. Instead, it has been previously suggested that a higher level of awareness is associated with a lower tendency to stigmatize mentally ill people [87]. Therefore, it can be hypothesized that stigma associated with bipolar disorder may be more negative than disorders with higher public awareness, such as depression [80].

The negative impact of BD, and stigma associated with it, on a patient’s life is high [45]. Stigma can play a significant role in contributing to the distress, disability, and poor Quality of Life [88]. In most cases, relationship with family is severely and adversely affected [45]. In the GAMIAN International Survey, problems relating to relationships with other family members were mentioned by between 50% and 75% of the respondents with consequential interference of familial functionality [17, 18]. It has been reported that this may be due to stigmatization and rejection within family arising from misinformation, ignorance, prejudice, and lack of understanding [45]. Outside of the family, stigma associated with BD also has an effect on social adaptation [89]. It has been reported that
increased concern for stigma is correlated with increased avoidance of social interactions with persons outside the family and psychological isolation, therefore decreasing social adjustment [89]. Stigma has also been related to problems with work and/or unemployment. In the second National Depressive and Manic Depressive Association (NDMDA) Survey, approximately 63% of the respondents stated that they felt they had been treated differently from other peers and employees [90].

Two studies have been published that studied the impact of stigma and functioning in patients with the Inventory of Stigmatizing Experiences (ISE) and the Functioning Assessment Short Test (FAST) [91, 92]. The FAST is an interview-administered scale that is composed of 24 items, which assess six specific functioning areas, including autonomy, occupational functioning, cognitive functioning, financial issues, interpersonal relationships, and leisure time [91]. It has been found that stigma is negatively associated with functioning, meaning that higher scores of self-perceived stigma correlated with lower scores of functioning [92]. This association was shown in all six domains of functioning used in FAST, suggesting that stigma has a negative effect on all six functioning areas [91]. Moreover, the current depressive symptoms, age at onset of treatment, and age at diagnosis were associated with self-perceived stigma [91].

Research has also shown that stigma affects not only the patients of BD themselves, but their family member and caregivers as well. It has been reported that stigma is prevalent among caregivers of persons with bipolar disorder who have active symptoms,
as well as for caregivers of those who have remitted symptoms [93]. It has been also shown in another study that perceived stigma was positively associated with caregiver depressive symptoms [94]. Therefore, not only does stigma affect the patient and their mental health recovery, but it may negatively affect the caregivers’ mental health as well [94].
Chapter 3

Methods

3.1 Type of Study and General Design

A cross-sectional comparison study was conducted with two groups of patients; those that reside in Korea and those that reside in Canada. For the group residing in Korea, selection was made of patients currently diagnosed with depression or type I/II bipolar disorder that were currently attending out-patient services located in Seoul, Korea. The findings from the Korean patient group were then compared to the previous findings on Canadian patients with the same selection criteria [95].

3.2 Sample Selection and Size, Selection Criteria

Between September 2011 and October 2011, non-probability samples were selected from Kyunghee University Hospital (a tertiary care hospital) psychiatric in/out-patient clinic, located in Seoul, South Korea. As there have been no epidemiological studies examining patient reported experiences of stigma among patients with a mood disorder, there were no prevalence data to gauge sample size estimates [46]. For all patients that attend the service that are currently diagnosed with depression or type I/II bipolar disorder and meet the following criteria, an invitation was given to participate in the study.
**Inclusion criteria:** Both males and females, over 18 years of age, current diagnosis with depression, bipolar type I or II, signed informed consent

**Exclusion criteria:** Severe depression and/or psychosis, strong suicidal ideation or behaviour

Data for the Canadian patient group were retrieved from a previous study conducted by Lazowski and colleagues [95]. The samples were collected from August 2003 to September 2007 from the Mood Disorders Research and Treatment Service in Kingston, Ontario, Canada, using the same selection criteria and procedure used for the Korean sample.

### 3.3 Data Collection: The Inventory of Stigmatizing Experiences

Patients were asked to complete the *Inventory of Stigmatizing Experiences* as an anonymous questionnaire to assess stigma experiences. The questionnaire consists of two subscales: Stigma Experiences Scale (measuring frequency and prevalence) and Stigma Impact Scale (measuring the intensity of psychosocial impact) [46]. The Stigma Experiences Scale contains ten questions. Eight of the ten questions are answered as ‘yes’, ‘unsure’ or ‘no”, and the other two questions are answered as ‘never’, ‘rarely’, ‘sometimes”, ‘often’ or ‘always’. The Stigma Impact scale consists of seven questions, four of which rate the degree to which stigma negatively impacted their individual quality of life, social contacts, family relations and self-esteem. The other three questions rate the degree to which stigma has impacted their family’s quality of life, social contacts, and
family relations. Each question is rated on a scale from 0 (lowest possible amount) to 10 (highest possible amount).

The *Inventory of Stigmatizing Experiences* has been previously tested for reliability in a heterogeneous sample of psychiatric outpatients [46]. Reliability coefficients were high for both scales: 0.83 for the Stigma Experiences Scale and 0.91 for the Stigma Impact Scale [46]. To create a Korean version of the inventory, the original questionnaire was first translated by a member of the research team. To ensure that the translation was accurate, a non-member of the research team that did not have access to the English version of the questionnaire back-translated the Korean version into English. The back-translated version was then compared to the original English inventory and necessary revisions were made.

All responses, including clinical characteristics and health care usage, were self-reported by the patients. To ensure the accuracy of patient's reported medical history and diagnosis status, the patients’ medical charts were collected under patient’s consent and relevant information were retrieved. The questionnaire was administered either as a semi-structured interview at the clinic with a trained member of the research team, or as a self-administered survey in a quiet room (with the supervision of a member of the research team).
3.4 Statistical Methods

For the analysis, only the samples that completed all the items of both the Stigma Experience Scale and the Stigma Impact Scale without ‘unsure’ was used. First, all items from the questionnaire were re-coded to reflect the presence or absence of stigma. For the Stigma Experiences Scale, either ‘yes’, ‘often’ or ‘always’ were coded as presence of stigma and ‘no’, ‘never’, ‘rarely’ or ‘sometimes’ as absence of stigma. Then the total score for the subscale was calculated by summing the number of items that indicated presence of stigma. For the Stigma Impact Scale, each item rated from 0 to 10 were added together to give a total score.

Socio-clinical characteristics of the study groups were described using one and two-way frequency distributions with proportions. Scope of stigma experience of each group (Korean/Canadian, Depression/Bipolar) was determined by calculating the mean of the total score of the Stigma Experiences Scale. The inter-group difference was then compared using independent samples t-test (stigma experience as dependent and diagnostic group or nationality group as independent variable). Psychosocial impact of stigma on each group was determined by calculating the mean of the total score of the Stigma Impact Scale. Again, the inter-group difference was then compared using independent samples t-test.

Linear regression analysis was also conducted to test how different socio-clinical characteristics influence the Stigma Experiences Scale score and the Stigma Impact Scale
score. These characteristics included nationality and the diagnosis status as independent variables.

To test the reliability of the inventory, reliability coefficients were calculated by measuring percentage of endorsed correlation and item-rest correlations. Internal consistency of the scales were assessed using the Kuder-Richardson (KR 20) reliability coefficient for the experiences scale, which is composed of binary items, and Chronbach’s alpha for the impact scale, which is composed of interval data. More details on statistical methods will be discussed in the following sections under the corresponding chapters. All analyses were conducted using SPSS Statistics 20.
Chapter 4

Cross-cultural comparison of stigma

4.1 Methods

For the Korean sample, total of 51 subjects participated. Though there was no formal track of refusals, it was reported that virtually everyone that was asked did agree to participate. For both the Canadian and the Korean sample, we estimate that the response rate was at least 80% but probably close to 90% [95]. Out of the 51 that participated, one participant did not complete the questionnaire due to the exclusion criteria of severe psychosis. Therefore, a total of 50 participants completed the study. For the Canadian sample, data from a total of 214 participants were retrieved. Out of the 214, only the participants that had completed all the items of both the Stigma Experiences Scale and the Stigma Impact Scale were used for the analyses. Therefore, the findings from total of 54 Canadian participants and 34 Korean participants are reported.

The data collected from the questionnaires were first grouped by nationality, one group being Canadian and the other being Korean. Then, the social characteristics of the study group were analyzed using frequency distributions with proportions. The p value, which represents if there was significant inter-group difference in each characteristic, was determined using non-parametric tests. Chi-squared test was used if all categories had at least five samples. For the variables that had one or more characteristic that had less than
five samples, the Kruskal Wallis test was used. Same procedure was used for the self-reported clinical characteristics and health care use.

Then, the inter-group difference in the Stigma Experiences Scale and the Stigma Impact Scale was determined using independent samples T-test. First, Levene’s Test for Equality of Variances was conducted. If the significance was greater than 0.05, then equal variances were assumed for the t-test. The mean score of both scales in each group, and the results from the t-test were recorded.

To determine if there were inter-group differences in each items of the inventory, analyses were carried out for each question. For the Stigma Experiences Scale, percentage of positive endorsement was determined by calculating the percentage of samples within each nationality group that indicated presence of stigma. Then the endorsements for each question were compared between the two nationality groups using chi-squared tests. For the Stigma Impact Scale, the mean of each nationality group for each items were reported and then compared using independent samples t-test.

### 4.2 Results

**Table 1** summarizes the social characteristics of patients, categorized by nationality. For both groups, there were higher proportions of females. There was no significant difference in gender proportion between the Canadian and the Korean samples (p = 0.28). Ages ranged from 20 to 69, with slightly older population in the Korean
patients. Majority of participants from the Korean group were between 50 and 69 and majority of Canadian group were between 40 and 59. However, both groups had the highest percentage in the 50s and there was no significant inter-group difference (p = 0.22). Majority of Canadian patients graduated high school and around 70% attended post-secondary institutions. In comparison, there was lower education in the Korean patients, with 70% not having attended post-secondary education. The difference in the education level between the two groups was significant (p << 0.05). However, this may be reflective of the education level in the general population and may not represent sampling bias. In both groups, majority (around 70%) were unemployed. For marital status, more of Canadian patients were single and more of Korean patients were married. However, there was no significant difference (p = 0.17). There was much higher percentage of Canadian patients who lived alone compared to the Korean group. However, the percentage of patients that were married was similar (around 50%) and most of the difference in the living situation came from the fact that there was larger proportion of Korean patients who lived with their parents. This may reflect the differences in the cultural values and customs.

There was significantly higher number of patients with bipolar disorder in the Canadian sample compared to the Korean sample (p << 0.05). For the Canadian group, about half (26 out of 54) were diagnosed with depression and 28 with bipolar disorder. In comparison, from the Korean sample, there were only 6 patients with bipolar disorder. Since this may be a confounding variable and may affect the inter-group difference of
stigma experience and impact, two-way ANOVA analysis was conducted, the results of which will be discussed in the next section.

Table 1: Social characteristics of field test patients categorized by nationality (Total N= 88, Canada N=54, Korea N=34)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Canada % (N)</th>
<th>Korea % (N)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>40.7 (22)</td>
<td>29.4 (10)</td>
<td>0.28¹</td>
</tr>
<tr>
<td>Female</td>
<td>59.3 (32)</td>
<td>70.6 (24)</td>
<td></td>
</tr>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
<td></td>
<td>0.22²</td>
</tr>
<tr>
<td>20-29</td>
<td>7.4 (4)</td>
<td>14.7 (5)</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>9.3 (5)</td>
<td>11.8 (4)</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>35.2 (19)</td>
<td>11.8 (4)</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>42.6 (23)</td>
<td>35.3 (12)</td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>5.6 (3)</td>
<td>26.5 (9)</td>
<td></td>
</tr>
<tr>
<td><strong>Highest Education</strong></td>
<td></td>
<td></td>
<td>0.00²*</td>
</tr>
<tr>
<td>Public school or less</td>
<td>3.7 (2)</td>
<td>42.4 (14)</td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>25.9 (14)</td>
<td>30.3 (10)</td>
<td></td>
</tr>
<tr>
<td>College or technical training</td>
<td>35.2 (19)</td>
<td>3.0 (1)</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>35.2 (19)</td>
<td>24.2 (8)</td>
<td></td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
<td></td>
<td></td>
<td>0.58¹</td>
</tr>
<tr>
<td>Employed</td>
<td>24.1 (13)</td>
<td>29.4 (10)</td>
<td></td>
</tr>
<tr>
<td>Not employed</td>
<td>75.9 (41)</td>
<td>70.6 (24)</td>
<td></td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td>0.17¹</td>
</tr>
<tr>
<td>Single</td>
<td>59.3 (32)</td>
<td>44.1 (15)</td>
<td></td>
</tr>
<tr>
<td>Married/common law</td>
<td>40.7 (22)</td>
<td>55.9 (19)</td>
<td></td>
</tr>
<tr>
<td><strong>Living Situation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alone</td>
<td>33.3 (18)</td>
<td>5.9 (2)</td>
<td></td>
</tr>
<tr>
<td>Spouse/Partner</td>
<td>46.3 (25)</td>
<td>58.8 (20)</td>
<td></td>
</tr>
<tr>
<td>Parents</td>
<td>3.7 (2)</td>
<td>17.6 (6)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>16.7 (9)</td>
<td>17.6 (6)</td>
<td></td>
</tr>
<tr>
<td><strong>Current Diagnosis</strong></td>
<td></td>
<td></td>
<td>0.00¹*</td>
</tr>
<tr>
<td>Depression</td>
<td>48.1 (26)</td>
<td>82.4 (28)</td>
<td></td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>51.9 (28)</td>
<td>17.6 (6)</td>
<td></td>
</tr>
</tbody>
</table>

*P-value <0.05; significant difference exists between groups (nationality)
% refers to the % by nationality
¹ Chi-squared test
² Kruskal Wallis test
Table 2 summarizes the clinical characteristics and health care use reported by the respondents, categorized by nationality. Majority of Korean patients reported that their mental health now compared to a year ago was better. In contrast, less than 40% of Canadian patients felt this way. This difference in the reported mental health status between two groups was significant (p < 0.05). Significantly higher proportion (more than 50%) of the Korean patients first noticed their symptoms after their 40s, whereas majority of Canadian patients (more than 80%) noticed it before 40s. This difference was significant (p << 0.05). Due to this difference in age of symptom onset, most of the Korean patients have been ill for less than 10 years, in contrast to 20% of Canadian patients. This difference in the number of years ill was also significant (p << 0.05). Correspondingly, the age at first treatment was also highly significantly different between the two groups (p << 0.05). More than 60% of the Korean samples received their first treatment after 40, in contrast to 22% in the Canadian samples. For both groups, majority of patients took less than one year between initial symptom and the first treatment (around 50% for Canadian and 65% for Korean). However, there was much higher percentage of Canadian patients who had more than ten years between symptom onset and first treatment (12 subjects) compared to just one subject in the Korean group. Majority of the patients in both nationality groups have come to accept diagnosis (85% in Canadian and 97% in Korean).

In the Canadian group, there was significantly higher number of patients who have been hospitalized compared to the Korean group (p << 0.05). In the Canadian group, majority have been hospitalized (65%) whereas majority of the Korean group have never
been hospitalized (around 70%). In both groups, most have attended outpatient clinic last year (more than 70%). However, there was significantly higher number of people who visited outpatient clinic weekly or more often in the Canadian group. The frequency of outpatient clinic use was significantly different between the two populations (p << 0.05).

Table 2: Self-reported clinical characteristics and health care use categorized by nationality (Total N= 88, Canada N=54, Korea N=34)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Canada % (N)</th>
<th>Korea % (N)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health now compared to a year ago</td>
<td></td>
<td></td>
<td>0.01*</td>
</tr>
<tr>
<td>Better</td>
<td>35.2 (19)</td>
<td>64.7 (22)</td>
<td></td>
</tr>
<tr>
<td>About same</td>
<td>29.6 (16)</td>
<td>23.5 (8)</td>
<td></td>
</tr>
<tr>
<td>Worse</td>
<td>35.2 (19)</td>
<td>11.8 (4)</td>
<td></td>
</tr>
<tr>
<td>Age that symptom was first noticed</td>
<td></td>
<td></td>
<td>0.002*</td>
</tr>
<tr>
<td>10 or under</td>
<td>5.7 (3)</td>
<td>0.0 (0)</td>
<td></td>
</tr>
<tr>
<td>11-19</td>
<td>35.8 (19)</td>
<td>5.9 (2)</td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>24.5 (13)</td>
<td>23.5 (8)</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>22.6 (12)</td>
<td>8.8 (3)</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>11.3 (6)</td>
<td>17.6 (6)</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>0.0 (0)</td>
<td>29.4 (10)</td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>0.0 (0)</td>
<td>14.7 (5)</td>
<td></td>
</tr>
<tr>
<td>Number of years ill</td>
<td></td>
<td></td>
<td>0.002*</td>
</tr>
<tr>
<td>10 or under</td>
<td>20.8 (11)</td>
<td>91.2 (31)</td>
<td></td>
</tr>
<tr>
<td>11-19</td>
<td>24.5 (13)</td>
<td>2.9 (1)</td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>15.1 (8)</td>
<td>2.9 (1)</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>24.5 (13)</td>
<td>2.9 (1)</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>13.2 (7)</td>
<td>0.0 (0)</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>1.9 (1)</td>
<td>0.0 (0)</td>
<td></td>
</tr>
<tr>
<td>Age at first treatment</td>
<td></td>
<td></td>
<td>0.002*</td>
</tr>
<tr>
<td>13-19</td>
<td>24.1 (13)</td>
<td>2.9 (1)</td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>20.4 (11)</td>
<td>23.5 (8)</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>33.3 (18)</td>
<td>11.8 (4)</td>
<td></td>
</tr>
<tr>
<td>40+</td>
<td>22.2 (12)</td>
<td>61.8 (21)</td>
<td></td>
</tr>
<tr>
<td># years between symptoms and first treatment</td>
<td></td>
<td></td>
<td>0.052*</td>
</tr>
<tr>
<td>Less than 1</td>
<td>49.1 (26)</td>
<td>64.7 (22)</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>11.3 (6)</td>
<td>14.7 (5)</td>
<td></td>
</tr>
<tr>
<td>3-5</td>
<td>11.3 (6)</td>
<td>14.7 (5)</td>
<td></td>
</tr>
<tr>
<td>6-10</td>
<td>5.7 (3)</td>
<td>2.9 (1)</td>
<td></td>
</tr>
<tr>
<td>10+</td>
<td>22.6 (12)</td>
<td>2.9 (1)</td>
<td></td>
</tr>
<tr>
<td>Have come to accept diagnosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>14.8 (8)</td>
<td>2.9 (1)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>85.2 (46)</td>
<td>97.1 (33)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have ever been hospitalized</th>
<th></th>
<th></th>
<th>0.00 *1</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>35.2 (19)</td>
<td>70.6 (24)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>64.8 (35)</td>
<td>29.4 (10)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have attended outpatient clinic last year</th>
<th></th>
<th></th>
<th>0.57 *1</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>25.9 (14)</td>
<td>20.6 (7)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>74.1 (40)</td>
<td>79.4 (27)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency of outpatient use (N Canada = 40, N Korea = 27)</th>
<th></th>
<th></th>
<th>0.00 *2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly or more often</td>
<td>50.0 (20)</td>
<td>0.0 (0)</td>
<td></td>
</tr>
<tr>
<td>2 or 3 times per month</td>
<td>17.5 (7)</td>
<td>25.9 (7)</td>
<td></td>
</tr>
<tr>
<td>Once a month</td>
<td>20.0 (8)</td>
<td>55.6 (15)</td>
<td></td>
</tr>
<tr>
<td>Once in 2-3 months</td>
<td>5.0 (2)</td>
<td>18.5 (5)</td>
<td></td>
</tr>
<tr>
<td>Once every 6 months</td>
<td>2.5 (1)</td>
<td>0.0 (0)</td>
<td></td>
</tr>
<tr>
<td>Once or twice a year</td>
<td>5.0 (2)</td>
<td>0.0 (0)</td>
<td></td>
</tr>
</tbody>
</table>

*P-value <0.05; significant difference exists between groups (nationality)

% refers to the % by nationality

1 Chi-squared test

2 Kruskal Wallis test

Table 3 summarizes the results of independent samples t-test by nationality. The mean score for the Stigma Experiences scale was 7.7 for Canada and 4.1 for Korea. This difference was highly significant with p value of 0.00. This suggests that Canadian patients experienced significantly higher level of stigma compared to Korean patients. Similar results were found for the Stigma Impact Scale. The mean score for Canadian samples was 38.2 and the mean score for Korean samples was 19.1. This difference was again highly significant with p value of 0.00. This can be interpreted as Canadian patients experiencing higher impact as a result of stigma compared to Korean patients.
Table 3: Independent Samples T-test (by nationality)

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>Korea</th>
<th>Mean Difference</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of Stigma Experiences</td>
<td>7.7 (2.1)</td>
<td>4.1 (2.1)</td>
<td>3.5</td>
<td>0.00*</td>
</tr>
<tr>
<td>Sum of Stigma Impact</td>
<td>38.2 (17.9)</td>
<td>19.1 (19.1)</td>
<td>19.1</td>
<td>0.00*</td>
</tr>
</tbody>
</table>

*P-value <0.05; significant difference exists between groups (nationality)

Table 4 summarizes the positive endorsement reported for each item of the Stigma Experiences Scale, categorized by nationality group. For all of the items, Canadians reported higher endorsements compared to Koreans. This difference was highly significant (p << 0.05) except for two scale items: an item relating to fear that other people may have towards people with serious mental illness (p = 0.14) and another asking if they try to avoid situations that may be stigmatizing to them (p = 0.22). In the Canadian population, the positive endorsement for each items were generally high, varying from 51.9% to 96.3%. For the Korean population, the endorsements were generally in the mid-range. However, for two items, there was very little positive endorsement. One question asked if the patient has ever been teased, bullied, or harassed due to the mental illness. The other question asked if they have felt that they have been treated unfairly because of the mental illness. From this result, it can be summarized that Korean patients reported as having little direct experience of discrimination resulting from mental illness stigma. The same two items also had the least endorsements from the Canadian patients as well. In the Korean samples, the highest positive endorsement was 88.2%, in an item that asked if an average person is afraid of someone with a serious mental illness.
Table 4: 10-Item Stigma Experiences Scale by nationality (Total N= 88, Canada N= 54, Korea N= 34)

<table>
<thead>
<tr>
<th>Scale Item</th>
<th>Canada%</th>
<th>Korea %</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think people will think less of you if they know you have a mental illness?</td>
<td>96.3%</td>
<td>61.8%</td>
<td>0.00*</td>
</tr>
<tr>
<td>Do you think that the average person is afraid of someone with a serious mental illness?</td>
<td>96.3%</td>
<td>88.2%</td>
<td>0.14</td>
</tr>
<tr>
<td>Have you ever been teased, bullied, or harassed because you have a mental illness?</td>
<td>51.9%</td>
<td>5.9%</td>
<td>0.00*</td>
</tr>
<tr>
<td>Have you felt that you have been treated unfairly or that your rights have been denied because you have a mental illness?</td>
<td>64.8%</td>
<td>2.9%</td>
<td>0.00*</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your recovery?</td>
<td>79.6%</td>
<td>38.2%</td>
<td>0.00*</td>
</tr>
<tr>
<td>Have your experiences with stigma caused you to think less about yourself or your abilities?</td>
<td>81.5%</td>
<td>44.1%</td>
<td>0.00*</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your ability to make or keep friends?</td>
<td>72.2%</td>
<td>38.2%</td>
<td>0.00*</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your ability to interact with your family?</td>
<td>68.5%</td>
<td>26.5%</td>
<td>0.00*</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your satisfaction with or quality of life?</td>
<td>83.3%</td>
<td>47.1%</td>
<td>0.00*</td>
</tr>
<tr>
<td>Do you try to avoid situations that may be stigmatizing to you?</td>
<td>74.1%</td>
<td>61.8%</td>
<td>0.22</td>
</tr>
<tr>
<td><strong>Total Scale Score Mean</strong></td>
<td><strong>7.7</strong></td>
<td><strong>4.2</strong></td>
<td><strong>0.00</strong>*</td>
</tr>
</tbody>
</table>

*P-value <0.05; significant difference exists between groups (nationality)

Table 5 summarizes the mean score for each item of the Stigma Impact Scale, categorized by nationality group. For all of the items, there was higher average score for the Canadian subjects compared to the Korean subjects (p << 0.05). For both groups, there was generally higher score for items relating to personal impact from stigma compared to impact on the family members. For the Canadian subjects, the mean score for items relating to personal impact ranged from 5.1 to 6.8. The area with least impact was self-esteem, followed by quality of life, social contacts, and highest impact on family relations. Same
trend was found for the Korean subjects, except it ranged from 2.4 to 4.3. For items relating to impact of stigma on family, the average score for Canadian group ranged from 4.4 to 4.7, with least impact on social contacts followed by quality of life and highest impact on family relations. For the Korean group, it ranged from 1.7 to 2.6. Similar to the Canadian group, the patients reported least impact of stigma on their family members’ social contacts. However, they reported higher impact on quality of life compared to family relations.

Table 5: 7-Item Stigma Impact Scale by nationality (Total N= 88, Canada N= 54, Korea N= 34)

<table>
<thead>
<tr>
<th>Scale Item</th>
<th>Canada Mean (SD)</th>
<th>Korea Mean (SD)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>On a scale where 0 is the lowest possible amount, and 10 is the highest possible amount, how much has stigma affected you personally?</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life</td>
<td>5.9 (2.6)</td>
<td>2.9 (3.3)</td>
<td>0.00*</td>
</tr>
<tr>
<td>Social contacts</td>
<td>6.3 (3.0)</td>
<td>3.1 (3.7)</td>
<td>0.00*</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>5.1 (3.4)</td>
<td>2.4 (3.6)</td>
<td>0.00*</td>
</tr>
<tr>
<td>Family relations</td>
<td>6.8 (2.9)</td>
<td>4.3 (4.1)</td>
<td>0.00*</td>
</tr>
<tr>
<td><em>On a scale where 0 is the lowest possible amount, and 10 is the highest possible amount, how much has stigma affected your family as a whole?</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life</td>
<td>4.7 (3.5)</td>
<td>2.6 (3.1)</td>
<td>0.01*</td>
</tr>
<tr>
<td>Social contacts</td>
<td>4.4 (3.6)</td>
<td>1.7 (2.9)</td>
<td>0.00*</td>
</tr>
<tr>
<td>Family relations</td>
<td>4.9 (3.2)</td>
<td>2.1 (3.0)</td>
<td>0.00*</td>
</tr>
<tr>
<td><strong>Total Scale Score Mean</strong></td>
<td><strong>38.2 (17.9)</strong></td>
<td><strong>19.1 (19.1)</strong></td>
<td><strong>0.00</strong>*</td>
</tr>
</tbody>
</table>

*P-value <0.05; significant difference exists between groups (nationality)"
4.3 Discussion

This chapter reports four main findings. First, there was significant difference in the Stigma Experiences Scale and Stigma Impact Scale score between the nationality groups, with Canadian patient group reporting higher scores for both. This trend was observed in all of the items in both subscales. Second, in the Stigma Experiences Scale, items related to expectation of stigma (perceived stigma) had the highest rate of endorsement for both nations. Third, in the Korean group, extremely low endorsement was observed for items related to direct experience of discrimination. Lastly, patients from both groups reported similar trend in impact of stigma personally over the four domains; however, Korean patients felt it impacted their family’s quality of life more than family relations, whereas Canadian patients reported oppositely.

The finding that Canadian group had significantly higher score for both Stigma Experiences Scale and Stigma Impact Scale suggests that there may be higher level of stigma in Canada compared to Korea. In the current literature, as mentioned previously, there have been divergent findings on whether or not there is stronger mental illness stigma among the Asian society compared to Caucasians. In a study conducted by Rao and colleagues [47], it was found that Asian Americans held more negative views regarding mental illness patients compared to Caucasians. Similar finding has been reported by Hsu et al. who found that stigma was higher among Chinese Americans compared to Caucasians [96]. However, it is noteworthy that these studies have used the immigrant population living in the United States. It has been reported that the immigrant population display
different prevalence of mental illness and different level of stigma associated with it compared to the population who are living in their home country [65]. Therefore, these findings may differ from our study which studied Korean population who currently reside in Korea.

In a study conducted by Griffiths and colleagues [48], it was found that personal stigma was higher among the Japanese compared to the Australians. However, Griffiths and colleagues also reported that Australians were more likely than Japanese participants to agree that others in the community would have a stigmatizing attitude to the person with a mental disorder, meaning higher perceived stigma was reported by Australians [48]. They have reported that this may represent that the ‘true’ level of stigma may be actually greater in Australia than in Japan [48]. Alternatively, they suggest that such finding may be due to higher level of media exposure and awareness campaigns in Australia which has created an exaggerated public perception of the level of stigma [48]. Our finding that Canadians scored higher in both subscales of the inventory, coupled with the finding that there was very low endorsement of the Korean group in the two items associated with direct experience of discrimination associated with stigma, supports their first explanation.

In both nationality groups, there was highest endorsement on items related to perceived stigma (how the patient feels the general public would view mental illness). This goes in line with the findings reported by Griffiths and colleagues, who found that for both Australian and the Japanese group, perceived stigma was higher than personal stigma.
across the stigma items [48]. This may reflect social desirability bias, which refers to the notion that responses to questions about mental illness could be influenced by the motivation to present a socially desirable impression [77].

It was also found that Korean patients felt mental illness stigma has impacted their family’s quality of life more than family relations, whereas Canadian patients responded that it has impacted the family relations the most. This goes in line with the findings of a previous study, which has shown that the family members’ emotional attitudes against mental illness are generally lower in China (which has similar cultural values as Korea) compared to other Western countries [97]. It has been reported that while findings from other countries suggest that close-knit kinship bonds ameliorate the course of illness, there is little evidence of this in China [97].

We suggest several explanations to our findings. One explanation is that mental illness stigma is greater in Canada compared to Korea. Although several studies have reported that Asians tend to hold stronger stigmatizing beliefs compared to Caucasians, there have been no literature so far, to our knowledge, on mental illness stigma of Koreans residing in Korea. Despite some similarities, the Koreans have a unique history, culture, and language distinct from both the Chinese and the Japanese [65]. Moreover, the educational level and economic status in South Korea are comparable with those of western countries [99]. In addition, it has been reported that Koreans, especially those who are urban and educated, are becoming more Westernized and sophisticated in psychological knowledge
In a study that compared the public stigma in Bali and Japan, it was found that there was more positive attitude in Bali, perhaps due to the relative unavailability of beds which increased the contact between public and people with mental illness [67]. This may relate to our finding as well, since Korea has a much lower number of beds compared to Japan and other Western nations, with about 2.8 beds per 10,000 of population, compared to 28.7 in Japan [98].

An alternative explanation for our finding may be that stigma is not greater in Canada compared to Korea, but the difference may be due to sampling bias as a result of differing health structure in the two nations. In Korea, the concept of primary health care hardly exists, and there is no “gatekeeper” who can direct the patient to a proper provider or level of care [100]. Therefore, since there is no patient referral system, patients go directly to the outpatient departments of general hospitals [100]. On the contrary, in Canada, most patients first receive treatment from their primary care physicians and are referred only if necessary. It has been reported that in the United States, about 75% of people with depression go to a primary physician rather than a psychiatric specialist [26]. Therefore, the Canadian population used in this study may be patients with more severe illness that requires specialized care. On the other side, there may be less proportion of patients with severe illness in the Korean group. In a study conducted in Taiwan, it has been found that symptom severity has strong correlations with perceived stigma [64]. Thus, one explanation to the higher level of stigma observed in the Canadian group may be due to differing illness severity.
There were several other limitations in other study that may have contributed to our findings. One of the limitations was that the socio-clinical characteristics between the two groups were not matched. There were some clinical characteristics that may impact the level and impact of stigma, which could have affected our results. For example, there was a significant inter-group difference in the age of symptom onset and age at treatment, with Canadians having an earlier average age for both. It has been shown in previous studies that there is heightened stigma surrounding childhood depression and that younger patients report higher levels of overall perceived stigma than the older adults [24, 86]. Since the average age of symptom onset and the age at first treatment was earlier for Canadian patients, they may have had experienced more stigma compared to the Korean patients.

An additional clinical between-group difference that may have affected our finding is that there was higher percentage of Canadian participants who have been hospitalized compared to the Korean participants. This may suggest that the severity of illness was higher for Canadian patients than Koreans. Therefore, the higher level of stigma observed in the Canadian patient group may have been affected by the higher illness severity. However, the difference in the percentage of patients with history of hospitalization may also be due to the structural differences that exist between the nations. As mentioned previously, it has been reported that the number of psychiatric beds is relatively small in Korea [98]. Therefore, having the history of hospitalization may not necessarily correlate...
with symptom severity and may not have played a significant effect in the findings of our study.

Our findings may also have been affected by the sample size. Although 214 Canadian patients and 50 Korean patients participated, only some completed all the items of the inventory. Thus, for the analysis, only 54 Canadian and 34 Korean participants’ data were used. The restricted sample size may have resulted in decreased power of the analysis.

Another possible explanation of the differences is that because it relied on the patients’ self-reports, there is a possibility of recall and reporting biases. Because most of the data were collected using face-to-face interview, there is a possibility of social desirability bias. This means that the patients’ expressed attitudes may differ from behaviours observed under real conditions because they are influenced by the desire to act in a “socially desirable” way. In the Korean society, self-reliance and self-discipline are emphasized [65]. Moreover, there is a strong collectivist culture and an emphasis on relationships with others [65]. Therefore, it may not be socially desirable to share all their personal experiences with stigma and how it impacted their lives. Thus, there is a possibility that not all the patients of the Korean group reported their experiences with stigma, affecting the results of the study.

Our findings suggest that culture might significantly impact stigma associated with mood disorders, and that there is a need to develop anti-stigma interventions tailored to
each country. Future studies with larger sample size and matching socio-clinical characteristics are needed to conclude whether or not there is actually higher level of stigma in Canada compared to Korea. This would allow us to better understand the difference in the nature and level of stigma across different cultures and eventually aid in the development of anti-stigma that is appropriated targeted.
Chapter 5

Comparison of stigma in depression and bi-polar disorder

5.1 Methods

The same subjects from the previous section were used. The data collected from total of 88 subjects (54 Canadian and 34 Korean) were grouped by diagnosis. One group consisted of patients with depression and the other group with diagnosis of bipolar disorders (types I & II). Out of 88 subjects, 54 were diagnosed with depression and 34 with bipolar disorder.

Then, the between-group difference in the Stigma Experiences Scale and the Stigma Impact Scale was determined using independent samples T-test. First, Levene’s Test for Equality of Variances was conducted. If the significance was greater than 0.05, then equal variances were assumed for the t-test. The mean score of both scales in each group and the results from the t-test were recorded. If the p-value was 0.05, it was interpreted that the difference between the two groups is significant.

To determine if there were inter-group differences in each items of the inventory, analyses were carried out for each question. For the Stigma Experiences Scale, percentage of positive endorsement was determined by calculating the percentage of samples within each diagnosis group that indicated presence of stigma. Then the endorsements for each
question were compared between the two groups using chi-squared tests. For the Stigma Impact Scale, the mean of each diagnosis group for each items were reported and then compared using independent samples t-test.

In the previous section, it was found that there was significant difference in the proportions of patients diagnosed with depression and patients diagnosed with bipolar disorder between the two nationality groups. Therefore, two-way ANOVA was conducted to test the effect of each variable (nationality and diagnosis) on stigma experiences and impact. This analysis would test the effects of each variable separately and ensure that the difference between groups is not due to covariance.

5.2 Results

Table 6 summarizes the results of the independent samples t-test by diagnosis group. For the Stigma Experiences Scale, the mean score was 5.7 for depression group and 7.3 for bipolar group. This difference was significant, with p value of 0.01. This can be interpreted as patients with bipolar disorders experiencing higher level of stigma compared to patients with depression. For the Stigma Impact Scale, the mean score for patients with depression was 24.9, compared to 40.2 in bipolar disorder patients. This difference was also highly significant with p-value much smaller than 0.05. This again can be interpreted as bipolar patients reporting higher impact of stigma compared to patients with depression.
Table 6: Independent Samples T-test (by diagnosis)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Mean (SD)</th>
<th>Mean Difference</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sum of Stigma Experiences</strong></td>
<td>Depression</td>
<td>5.7 (2.8)</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Bipolar</td>
<td>7.3 (2.3)</td>
<td></td>
</tr>
<tr>
<td><strong>Sum of Stigma Impact</strong></td>
<td>Depression</td>
<td>24.9 (19.7)</td>
<td>15.3</td>
</tr>
<tr>
<td></td>
<td>Bipolar</td>
<td>40.2 (18.4)</td>
<td></td>
</tr>
</tbody>
</table>

*P-value <0.05; significant difference exists between groups (diagnosis)

Table 7 summarizes the positive endorsement for each item of the Stigma Experiences Scale in the diagnosis groups. For the depression patient group, positive endorsement was generally in the mid-range (40.7% - 77.8%), except for two items that had particularly low endorsement rate and one item that was particularly high. For the bipolar patient group, most of the items were in the mid-high range (52.9% - 76.5%), except for two items that had extremely high rate of positive endorsement (over 90%). In both groups, the item with the highest positive endorsement was “do you think that the average person is afraid of someone with a serious mental illness”.

In all of the items, more bipolar patients than depression patients expressed experiences with stigma. This difference was significant for four items. Two of the items were related to discrimination arising from stigma— one asking whether or not the patient has been teased, bullied, or harassed, and the other asking about whether they have been treated unfairly or have had lost their rights. This significant difference was due to the very low endorsement for the items in the depression patient group. Other items in which there were significantly higher positive endorsements of bipolar patients were whether stigma has affected their recovery and whether it has affected relationship with family.
Table 7: 10-Item Stigma Experiences Scale by diagnosis (Total N= 88, Depression N= 54, Bipolar N= 34)

<table>
<thead>
<tr>
<th>Scale Item</th>
<th>Depression %</th>
<th>Bipolar %</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think people will think less of you if they know you have a mental illness?</td>
<td>77.8%</td>
<td>91.2%</td>
<td>0.10</td>
</tr>
<tr>
<td>Do you think that the average person is afraid of someone with a serious mental illness?</td>
<td>92.6%</td>
<td>94.1%</td>
<td>0.78</td>
</tr>
<tr>
<td>Have you ever been teased, bullied, or harassed because you have a mental illness?</td>
<td>22.2%</td>
<td>52.9%</td>
<td>0.00*</td>
</tr>
<tr>
<td>Have you felt that you have been treated unfairly or that your rights have been denied because you have a mental illness?</td>
<td>31.5%</td>
<td>55.9%</td>
<td>0.02*</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your recovery?</td>
<td>55.6%</td>
<td>76.5%</td>
<td>0.05*</td>
</tr>
<tr>
<td>Have your experiences with stigma caused you to think less about yourself or your abilities?</td>
<td>61.1%</td>
<td>76.5%</td>
<td>0.14</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your ability to make or keep friends?</td>
<td>51.9%</td>
<td>70.6%</td>
<td>0.08</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your ability to interact with your family?</td>
<td>40.7%</td>
<td>70.6%</td>
<td>0.01*</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your satisfaction with or quality of life?</td>
<td>64.8%</td>
<td>76.5%</td>
<td>0.25</td>
</tr>
<tr>
<td>Do you try to avoid situations that may be stigmatizing to you?</td>
<td>70.4%</td>
<td>67.6%</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>Total Scale Score Mean</strong></td>
<td>5.7</td>
<td>7.3</td>
<td>0.01*</td>
</tr>
</tbody>
</table>

*P-value <0.05; significant difference exists between groups (diagnosis)

Table 8 summarizes the mean score of diagnostic groups on each items of the Stigma Impact Scale. The mean score was higher among the bipolar group in all the items compared to the depression group. This difference was significant for all the items except for one, which asked about how much stigma has affected the patient’s relationship with family. For this item, both groups had the highest score out of all the items. In both groups, the mean score for the questions relating to personal impact of stigma was higher than its impact on the patients’ family. Moreover, for both groups, stigma has affected the patient’s
family relations the most, followed by social contacts and quality of life, and had the least impact on self-esteem. For both groups, they responded that for their family as a whole, stigma had the most impact on the family relations. The bipolar group responded that it has affected their family’s quality of life more than their social contacts, whereas depression patients responded otherwise.

Table 8: 7-Item Stigma Impact Scale by diagnosis (Total N = 88, Depression N = 54, Bipolar N = 34)

<table>
<thead>
<tr>
<th>Scale Item</th>
<th>Depression</th>
<th>Bipolar</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>On a scale where 0 is the lowest possible amount, and 10 is the highest possible amount, how much has stigma affected you personally?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life</td>
<td>3.9 (3.3)</td>
<td>6.2 (2.6)</td>
<td>0.00*</td>
</tr>
<tr>
<td>Social contacts</td>
<td>4.3 (3.6)</td>
<td>6.4 (3.3)</td>
<td>0.01*</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>3.0 (3.5)</td>
<td>5.6 (3.5)</td>
<td>0.00*</td>
</tr>
<tr>
<td>Family relations</td>
<td>5.4 (4.0)</td>
<td>6.5 (2.8)</td>
<td>0.17</td>
</tr>
<tr>
<td>On a scale where 0 is the lowest possible amount, and 10 is the highest possible amount, how much has stigma affected your family as a whole?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life</td>
<td>3.1 (3.5)</td>
<td>5.0 (3.6)</td>
<td>0.01*</td>
</tr>
<tr>
<td>Social contacts</td>
<td>2.5 (3.0)</td>
<td>4.8 (3.9)</td>
<td>0.00*</td>
</tr>
<tr>
<td>Family relations</td>
<td>2.6 (3.1)</td>
<td>5.7 (3.0)</td>
<td>0.00*</td>
</tr>
<tr>
<td><strong>Total Scale Score Mean</strong></td>
<td><strong>24.9 (19.7)</strong></td>
<td><strong>40.2 (18.4)</strong></td>
<td><strong>0.00</strong>*</td>
</tr>
</tbody>
</table>

*P-value <0.05; significant difference exists between groups (diagnosis)

Table 9 shows the results of the two-way ANOVA analysis of the Stigma Experiences Scale, using nationality and diagnosis as fixed factors. Out of 54 subjects from Canada, 26 were depression patients and 28 were bipolar patients. On the contrary, significant proportion of Korean patients had depression (28 out of 34). Therefore majority of bipolar patients came from the Canadian group and more depression patients came from the Korean group.
The mean scale score was higher in the Canadian group (7.7) compared to the Korean group (4.2). This was true for both depression and bipolar patients (7.4 vs. 4.1 and 8.0 vs. 4.3). The contribution of nationality as a factor in predicting the scale score was significant (p << 0.05). The mean scale score for depression patients were lower compared to bipolar patients (5.7 vs. 7.3), and this trend was also shown in both nationality groups (7.4 vs. 8.0 and 4.1 vs. 4.3). However, two-way ANOVA using both nationality and diagnosis as factors shows that diagnosis by itself does not explain the difference in score (p > 0.05). Moreover, the p value for the interaction of the two variables (nationality and diagnosis) was greater than 0.05. Therefore, there was no significant interaction of the two variables. Thus it can be suggested that higher score shown in the bipolar patients compared to the depression patients is due to the disproportionate amount of patients with each diagnosis in each nationality groups.

Table 9: Two-Way ANOVA of 10-Item Stigma Experiences Scale (by nationality and diagnosis)

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Diagnosis</th>
<th>Mean (SD)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Depression</td>
<td>7.4 (2.5)</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Bipolar</td>
<td>8.0 (1.8)</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>7.7 (2.1)</td>
<td>54</td>
</tr>
<tr>
<td>Korea</td>
<td>Depression</td>
<td>4.1 (2.1)</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Bipolar</td>
<td>4.3 (2.3)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4.2 (2.1)</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td>Depression</td>
<td>5.7 (2.8)</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Bipolar</td>
<td>7.3 (2.3)</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>6.3 (2.7)</td>
<td>88</td>
</tr>
</tbody>
</table>

P value       0.00*  0.48
P value (interaction)   0.75

*P-value <0.05; significant difference exists between groups
Table 10 shows the results of two-way ANOVA of the Stigma Impact Scale, using nationality and diagnosis as factors. In both Canadian and Korean group, the mean scale score was higher in bipolar patients than depression patients (43.0 vs. 32.9 and 26.8 vs. 17.4). This difference was in score due to diagnosis was significant (p < 0.05). Moreover, the scale score for the Canadian group was higher than Korean group for both depression and bipolar patients (32.9 vs. 17.4 and 43.0 vs. 26.8). This difference in score due to nationality was also highly significant (p << 0.05). There was no interaction between nationality and diagnosis, which suggests that the factors contributed to stigma impact independently of each other.

Table 10: Two-Way ANOVA of 7-Item Stigma Impact Scale (by nationality and diagnosis)

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Diagnosis</th>
<th>Mean (SD)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Depression</td>
<td>32.9 (17.1)</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Bipolar</td>
<td>43.0 (17.5)</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>38.2 (17.9)</td>
<td>54</td>
</tr>
<tr>
<td>Korea</td>
<td>Depression</td>
<td>17.4 (19.2)</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Bipolar</td>
<td>26.8 (18.1)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>19.1 (19.1)</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td>Depression</td>
<td>24.9 (19.7)</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Bipolar</td>
<td>40.2 (18.4)</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>30.8 (20.5)</td>
<td>88</td>
</tr>
</tbody>
</table>

| P value (interaction) | 0.94 |

*P-value <0.05; significant difference exists between groups
5.3 Discussion

This chapter reports three main findings. First, bipolar patients reported higher scores in both the Stigma Experiences Scale and the Stigma Impact Scale compared to patients with depression. This trend was observed in all of the items in both subscales, although not all were significant. Bipolar patients reported significantly higher on items related directly to the experience of discrimination (bullying, harassment, teasing, or unfair treatment) and items related to whether or not such experiences affected their recovery and interaction with family. Second, by conducting a two-way ANOVA analysis using nationality and diagnosis as factors, it was found that while nationality had a significant correlation with Stigma Experiences Scale, diagnosis by itself did not play a significant role. There was no interaction, meaning that diagnosis was independent of nationality and did not have a differing effect depending on the nationality of the patient. Third, for the Stigma Impact Scale, both nationality and diagnosis had a significant impact on the score with no interaction.

Several studies in the past have found that indicated higher level of stigma associated with bipolar disorders [80, 81]. Our results align with these findings, since we found that bipolar patients reported higher scores in both the Stigma Experiences and the Stigma Impact Scales. This was an expected finding as bipolar disorder is considered more severe compared to depression, generally more noticeable to the lay public, and is associated with more disruptive behaviour [95]. However, a limitation in our study was that we had disproportionate number of patients with depression or bipolar disorder in
each nationality groups. Thus, we conducted two-way ANOVA analyses to distinguish the effects of nationality from the effects of diagnosis, which gave a different result.

It was found that diagnostic group did not differentiate the levels of stigma experienced by patients, whereas nationality group did. This suggests that our initial finding from the independent t-test may be a result of culture, rather than the diagnosis. Although several studies of the current literature have found higher level of stigma for bipolar disorder compared to depression, there have also been studies that have found otherwise. For example, the GAMIAN-Europe study has found that diagnosis of depression had significantly higher self-stigma scores than those with a diagnosis of bipolar disorder [55]. This is surprising because as we mentioned, bipolar disorder is generally more noticeable and more disruptive. However, it is possible that people with depression are more sensitive and thus report more stigmatizing experiences [95]. Moreover, our finding may have been influenced by the fact that our study did not distinguish between the current stage (depressed versus manic) of the bipolar disorder patients. It could have also been affected by the limitation in sample size. Although we had 34 subjects diagnosed with bipolar disorder, we only had 8 that were Korean. Therefore, future studies with larger sample size with similar proportion in each nationality and taking account of the current diagnosis or episode will be required.

On the other hand, it was found that both nationality and diagnosis influenced the Stigma Impact Scale, such that Canadian and bipolar patients had higher scores. This was
an expected finding, as higher severity and more disruptive behaviour associated with bipolar disorder may result in higher impact of stigma [95]. For all of the items of the Stigma Impact Scale, bipolar patients reported higher average score compared to patients with depression. Impact of stigma both personally and on the family, was highest on family relations, whereas depression patients reported higher impact on family members’ quality of life. In a review by Elgie and Morselli on the impact of bipolar disorder, it was reported that bipolar disorder appears to impact mostly within the family setting, preventing the development of a normal loving/caring family environment [45]. Therefore, the high impact of stigma on family relations observed in our finding provides further evidence that supports the current literature.
Chapter 6

Regression modeling using social and clinical characteristics

6.1 Methods

The same subjects from the previous sections were used. In Chapter 4, it was found that the some of the social and clinical characteristics were significantly different between the nationality groups. Therefore, regression modeling was conducted to see which socio-clinical variables are associated with stigma experience and impact.

First, differences in the stigma experiences of the subjects were assessed using least squares regression with casewise deletion for missing data. The dependent variable was stigma experience and independent variables were demographic, social, and clinical variables, including nationality and diagnostic group. Other independent variables included gender, age group, highest education, employment status, marital status, living situation, mental health now compared to a year ago, age of symptom onset, number of years ill, age at first treatment, number of years between symptoms and first treatment, whether or not the patient accepts diagnosis, whether the patient has ever been hospitalized, and use and frequency of outpatient clinic. The regression was done using socio-clinical variables added iteratively using a forward entry procedure. The final model included only those variables with statistically significant direct effects.
Then, the regression analysis was also conducted for the Stigma Impact Scale. Same procedure and variables were used.

6.2 Results

Table 11 shows the result of regression modeling using stigma experience as the dependent variable. Nationality was the strongest predictor of stigma experience, with the highest $R^2$ value of 0.38. This can be interpreted as nationality accounting for 38% of the variance explained. This was highly significant, with a p-value of 0.00. The coefficient was a negative value, which suggests that being Canadian was associated with higher stigma experience score. Age of symptom onset accounted for 11% of the variance, with significance of 0.00. The coefficient was also negative, which suggests that having symptom onset at an earlier age is associated with higher stigma experience. No other demographic, social or clinical variables, including diagnosis group significantly predicted stigma impact.

**Table 11: Regression modeling using stigma experience as dependent variable**

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients</th>
<th>$R^2$ Change</th>
<th>F Statistic (change)</th>
<th>Significance of F change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (Constant)</td>
<td>12.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Nationality</td>
<td>-2.43</td>
<td>0.38</td>
<td>39.03</td>
<td>0.00*</td>
</tr>
<tr>
<td>+ Age of symptom onset</td>
<td>-0.67</td>
<td>0.11</td>
<td>13.18</td>
<td>0.00*</td>
</tr>
</tbody>
</table>

Stigma Experience score = 12.16 - 2.43 x (1 = Canadian; 2 = Korean) - 0.67 x (age of symptom onset)

*P-value <0.05; significant contribution of the variable on stigma experiences
Table 12 summarizes the regression modeling using stigma impact as a dependent variable. Age of symptom onset was the strongest predictor of stigma impact scale score, with the highest $R^2$ of 0.39 and significance of 0.00. Therefore, age of symptoms onset accounted for 39% of the variance in stigma impact. The coefficient was negative, similar to the regression model of the stigma experience scale - earlier age of symptom onset correlated with higher stigma impact. Marital status also explained 10% of the variance, with the significance of 0.00. The coefficient was negative, which means that not being married was associated with higher stigma impact. Similar to the previous model of stigma experiences, nationality was also significantly associated with stigma impact ($p < 0.05$), accounting for 4.1% of the variance. The coefficient was again negative, which suggests that being Canadian is associated with higher score in the Stigma Impact scale.

### Table 12: Regression modeling using stigma impact as dependent variable

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients</th>
<th>$R^2$ Change</th>
<th>F Statistic (change)</th>
<th>Significance of F change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (Constant)</td>
<td>86.26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Age of symptom onset</td>
<td>-5.28</td>
<td>0.39</td>
<td>39.73</td>
<td>0.00*</td>
</tr>
<tr>
<td>+ Marital Status</td>
<td>-14.83</td>
<td>0.10</td>
<td>12.09</td>
<td>0.00*</td>
</tr>
<tr>
<td>+ Nationality</td>
<td>-9.84</td>
<td>0.041</td>
<td>5.24</td>
<td>0.03*</td>
</tr>
</tbody>
</table>

Stigma Impact score = 86.26 - 5.28 x (age of symptom onset) - 14.83 x (1 = not married; 2 = married) - 9.84 (1 = Canadian; 2 = Korean)

*P-value <0.05; significant contribution of the variable on stigma impact*


6.3 Discussion

In this chapter, we report two main findings. First, for the Stigma Experiences Scale, nationality was the strongest predictor (being Canadian associated with higher score), followed by age of symptom onset (earlier age associated with higher score). Second, age of symptom onset (earlier age associated with higher impact) was the strongest predictor of stigma impact, followed by marital status (not being married associated with higher impact) and nationality (being Canadian associated with higher impact).

In both of the subscales, age of symptom onset was a predictor, earlier age of onset being associated with more stigmatizing experiences and higher impact. As mentioned in chapter 4, current literature suggests there is a strong association between age and stigma. Perry and colleagues, who studied Americans’ attitude towards depression, reported that there is more prejudice regarding children’s depression compared to adults’ [86]. It has also been reported by Sirey and colleagues that younger patients report higher levels of perceived stigma compared to older adults [24]. Therefore, it can be interpreted from our finding that the patients who had an earlier age of symptom onset had experienced more stigma and correspondingly have been more impacted by it.

Nationality was also a strong predictor of both subscales, although diagnosis was not. This goes in line with our findings from previous chapters that Canadian patients report more stigma experiences and higher stigma impact. However, it should be noted that one of the limitations of our study was that the socio-clinical factors between the two
nationality groups were not matched. For example, the age when the symptom was first noticed was lower for Canadian subjects compared to the Korean subjects. Therefore, age of symptom onset may have acted as a covariate, influencing our findings. One of the explanations for this difference in age of symptom onset between the two countries may be the difference in psychiatric knowledge and advancement. Although Korea has been steadily advancing in psychiatric knowledge and mental health delivery, it has been deeply influenced by traditional concepts of mental illness and Eastern-oriented psychotherapy [65, 98]. Therefore the awareness and knowledge of mental illness may have been low in the past, which means that patients may have had symptoms earlier on in their lives but did not know that it was a symptom of a mental illness and were not properly diagnosed or treated.

Marital status was also a predictor of stigma impact. We suggest a two-way relationship in this finding. First, it can be suggested that because the patient is not married, there may have been stronger stigma impact as a result. In a study by Perlick et al. it was reported that not being married predicted increased psychological isolation [89]. Because of this psychological isolation, the patients may feel stronger impact of stigma. Another, more probable explanation is that the patients may not be married as a result of stronger stigma. It has been reported that there is a heavy stigma attached to mental illness with regard to marriage and marital success [101]. Studies of stigmatizing attitudes have found that many are unwilling to marry someone with mental illness or have someone with
mental illness marry into family [62, 78]. Therefore, it may be that the patients’ marital status may be influenced by stigma, therefore with high reported impact of stigma.

Future studies with larger sample size and matched socio-clinical characteristics between the nationality groups are needed. This would allow us to distinguish whether or not it is the effect of the socio-clinical variables or culture that influences the experiences of stigma and its impact.
Chapter 7

Reliability testing of the Inventory of Stigmatizing Experiences

7.1 Methods

Same subjects used for the previous sections were used for the reliability analysis. First, the percentage of endorsement for each item of the Stigma Experiences Scale was found. This was done by calculating the percentage of subjects that indicated presence of stigma. Then, the internal consistency of the scale was assessed using Kuder-Richardson (KR 20) reliability coefficient, since the scale was composed of binary items (yes or no). Item-rest correlations of 0.40 or less were considered to indicate potentially problematic scale items. These were further assessed by removing them from the scale reliability calculation. If the coefficient of reliability was not substantially improved, then the items were retained.

Then, the reliability of the Stigma Impact Scale was analyzed. First, the median for each of the scale item was found. Then, the internal consistency of the scale was assessed using Chronbach’s alpha. This reliability testing was used since the scale was composed of interval data. Same as the Stigma Experiences Scale, item-rest correlations of 0.40 or less were considered to indicate potentially problematic scale items. These were further assessed by removing them from the scale reliability calculation. If the coefficient of reliability was not substantially improved, then the items were retained.
7.2 Results

Table 13 summarizes the percent of items endorsed for each of the items of the Stigma Experiences Scale with reliability coefficients and mean scale score. The first two items refer to expectations of stigma and were scored on a 5-point Likert-type scale using the response categories of never, rarely, sometimes, often, and always. These responses were recoded into a binary variable, with one reflecting high expectations of stigma (often and always), and zero reflecting no or low expectation (never, rarely, and sometimes). The remaining eight items were answered as no (coded as absence of stigma) or yes (coded as presence of stigma).

Positively endorsements were generally in the mid range, from 34.1% to 69.3%, with the exception of the first two items related to expectations of stigma. These two items were associated with very high endorsement levels, which may indicate these items are non-informative. Out of the two items, a question asking about perceived stigma of “the average person” had an extremely high endorsement of 93.2%. Two items related to direct experience of discrimination had comparatively lower endorsements of 34.1% and 40.9%.

Item-rest correlations show the correlation between each item and the remaining scale score with that item removed. Most items met the conventional threshold of 0.40. However, it was shown that one item, asking the extent to which the average person is thought to be afraid of someone with a mental illness, was potentially “problematic” with item-rest correlation of 0.089. However, removing this item with low item-rest correlation
increased the reliability coefficient to 0.82, which did not make a significant improvement. Therefore, the item was retained. Kuder-Richardson coefficients indicated that this scale produced internally consistent data, with reliability coefficient well above the conventional cut-off of 0.70 (KR 20 = 0.81). This indicates that the scale is highly reliable.

**Table 13: Reliability coefficients for 10-Item Stigma Experiences Scale**

<table>
<thead>
<tr>
<th>Scale Item</th>
<th>% endorsed correlation</th>
<th>Item-rest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think people will think less of you if they know you have a mental illness?</td>
<td>83.0%</td>
<td>0.40</td>
</tr>
<tr>
<td>Do you think that the average person is afraid of someone with a serious mental illness?</td>
<td>93.2%</td>
<td>0.089</td>
</tr>
<tr>
<td>Have you ever been teased, bullied, or harassed because you have a mental illness?</td>
<td>34.1%</td>
<td>0.54</td>
</tr>
<tr>
<td>Have you felt that you have been treated unfairly or that your rights have been denied because you have a mental illness?</td>
<td>40.9%</td>
<td>0.59</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your recovery?</td>
<td>63.6%</td>
<td>0.53</td>
</tr>
<tr>
<td>Have your experiences with stigma caused you to think less about yourself or your abilities?</td>
<td>67.0%</td>
<td>0.58</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your ability to make or keep friends?</td>
<td>59.1%</td>
<td>0.51</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your ability to interact with your family?</td>
<td>52.3%</td>
<td>0.43</td>
</tr>
<tr>
<td>Have your experiences with stigma affected your satisfaction with or quality of life?</td>
<td>69.3%</td>
<td>0.57</td>
</tr>
<tr>
<td>Do you try to avoid situations that may be stigmatizing to you?</td>
<td>69.3%</td>
<td>0.48</td>
</tr>
<tr>
<td><strong>Kuder-Richardson coefficient of reliability (KR-20)</strong></td>
<td></td>
<td><strong>0.81</strong></td>
</tr>
<tr>
<td><strong>Mean Scale Score (SD)</strong></td>
<td></td>
<td><strong>6.3 (2.7)</strong></td>
</tr>
</tbody>
</table>

**Table 14** summarizes the median item scores and reliability coefficients for each of the items of the Stigma Impact Scale. The median ranged from 3 to 7 for the personal
impact and 3 to 3.5 for impact on family. For personal impact, the highest impact was on family relations, and lowest for self-esteem. For impact on family, family relations and social contacts had the lowest score and higher for quality of life. All items performed well with high alphas (item-rest correlations ranging from 0.66 to 0.83), giving a high scale reliability coefficient of 0.93. Therefore, all items were informative and the scale is highly reliable.

Table 14: Reliability coefficients for 7-Item Stigma Impact Scale

<table>
<thead>
<tr>
<th>Scale Item</th>
<th>Median</th>
<th>Item-rest Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>On a scale where 0 is the lowest possible amount, and 10 is the highest possible amount, how much has stigma affected you personally?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life</td>
<td>5.5</td>
<td>0.71</td>
</tr>
<tr>
<td>Social contacts</td>
<td>6</td>
<td>0.81</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>3</td>
<td>0.75</td>
</tr>
<tr>
<td>Family relations</td>
<td>7</td>
<td>0.66</td>
</tr>
<tr>
<td>On a scale where 0 is the lowest possible amount, and 10 is the highest possible amount, how much has stigma affected your family as a whole?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life</td>
<td>3.5</td>
<td>0.78</td>
</tr>
<tr>
<td>Social contacts</td>
<td>3</td>
<td>0.83</td>
</tr>
<tr>
<td>Family relations</td>
<td>3</td>
<td>0.83</td>
</tr>
<tr>
<td>Cronbach’s alpha reliability coefficient</td>
<td></td>
<td>0.93</td>
</tr>
</tbody>
</table>
7.3 Discussion

In this chapter, we report that both subscales of the Inventory of Stigmatizing Inventory, the Stigma Experiences Scale and the Stigma Impact Scale, are reliable tools. They produce internally consistent results when applied to groups with depression and bipolar disorder. All items, with the exception of one item in the Stigma Experiences Scale, provided good reliability coefficients and in all, both scales yielded high reliability coefficient of greater than 0.80.

In the initial field-test of the inventory, reliability coefficient of 0.83 for the 10-Item Stigma Experiences Scale and 0.91 for the 7-Item Stigma Impact Scale has been reported [46]. Our findings have yielded similar coefficients of 0.81 and 0.93 respectively. The initial field-test was conducted using Canadian subjects with various diagnosis (schizophrenia, bipolar disorder, depression, anxiety, substance abuse, and others). Our study further adds that the inventory is a reliable tool that can be used to compare the stigma experiences and its impact on mood disorder patients from different cultural backgrounds.

Assessment of reliability is the first step in testing the usefulness of a new measure [46]. The next step is to establish its validity through the process of hypothesis-testing that uses the test scores as predictors of other constructs, group differences, or outcomes [46]. Therefore future research should entail determining whether these scales are associated with other stigma-related constructs (such as self-esteem or empowerment) in predictable ways [95]. They should also aim to determine whether the scores of this inventory can be
used to predict clinical outcomes such as recovery or medication adherence [95]. Another avenue of research may be testing if this instrument is sensitive to change and can be used to evaluate anti-stigma interventions.
Chapter 8

Conclusion

Stigma is one of the key barriers to mental health and mental health reform. It has been reported that mental illness stigma can have a detrimental impact on the patient’s quality of life and also have adverse clinical impacts by interfering with help-seeking behaviour, adherence to treatment, and hindering goals of recovery. Despite the growing efforts to develop anti-stigma programs, little research has been conducted on quantifying experiences of stigma and their psychosocial impacts due to lack of psychometrically tested scales.

In this paper, we studied the influence of culture and looked at the differences between depression and bipolar patients in stigma experience and its psychosocial impacts. In spite of the close-knit relationship between culture and mental illness, there have been relatively few studies done in the past on stigma across different nations, and such studies have presented divergent findings. Moreover, there have been no studies done, to our knowledge, that quantitatively compared stigma in a Western and a non-Western culture in the perspectives of the targets of stigmatization themselves. Similarly, there are few studies in the current literature that has compared stigma regarding depression and bipolar disorders, which have gained contrary results.
In this paper, we report that there are significant differences in the stigma experience and its impact in different populations (by nationality and diagnosis). It was found that Canadian participants reported significantly higher score in both Stigma Experiences Scale and Stigma Impact Scale compared to Korean participants. Moreover, bipolar patients reported significantly higher Stigma Experiences and Stigma Impact Scale scores compared to patients with depression. These findings suggest that there is a need to develop more tailor-made interventions that may prove more successful than broad and unspecific approaches.

Our study also demonstrates that *The Inventory of Stigmatizing Experiences* is a reliable tool that can be used in heterogeneous sample of patients to compare stigma experiences and its impact on patients with different diagnoses and cultural backgrounds. Further studies using this inventory with larger sample size with proportionate socio-clinical characteristics between nationality and diagnostic groups would allow us to better understand difference in stigma and its manifestation across different populations. Future studies should also aim to assess the scale’s validity through the process of hypothesis-testing that uses the test scores as predictors of other constructs.
Bibliography


Appendix A

Research Ethics Approval (Canada)

QUEEN'S UNIVERSITY HEALTH SCIENCES AND AFFILIATED TEACHING HOSPITALS
ANNUAL RENEWAL

Queen's University, in accordance with the “Tri-Council Policy Statement, 1998” prepared by the Medical Research Council, Natural Sciences and Engineering Research Council of Canada and Social Sciences and Humanities Research Council of Canada requires that research projects involving human subjects be reviewed annually to determine their acceptability on ethical grounds.

A Research Ethics Board composed of:

Dr. A.F. Clark Emeritus Professor, Department of Biochemistry, Faculty of Health Sciences, Queen's University (Chair)

Dr. H. Abdollah Professor, Department of Medicine, Queen's University

Rev. T. Deine Community Member

Dr. M. Evans Community Member

Dr. S. Irving Psychologist, Providence Care, St. Mary’s of the Lake Hospital Site

Prof. L. Keating-Burke Assistant Professor, School of Nursing, Queen’s University

Mrs. J. Kotecha Research & Programs Manager, Centre for Studies in Primary Care, Department of Family Medicine, Queen’s University

Dr. J. Low Emeritus Professor, Department of Obstetrics and Gynaecology, Queen's University and Kingston General Hospital

Dr. W. Racz Emeritus Professor, Department of Pharmacology & Toxicology, Queen’s University

Dr. B. Simchion Assistant Professor, Department of Anaesthesiology, Queen’s University

Dr. A.N. Singh WHO Professor in Psychosomatic Medicine and Psychopharmacology, Professor of Psychiatry and Pharmacology, Chair and Head, Division of Psychopharmacology, Queen’s University, Director & Chief of Psychiatry, Academic Unit, Quinte Health Care, Belleville General Hospital

Dr. E. Tsai Associate Professor, Department of Paediatrics and Office of Bioethics, Queen's University

Rev. J. Warren Community Member

Ms. K. Weisbaum LL.B. and Adjunct Instructor, Department of Family Medicine (Bioethics)

Dr. S. Wood Director, Office of Research Services (Ex Officio)

has reviewed the request for renewal of Research Ethics Board approval for the project “Consumer Perspectives on Stigma and Discrimination Because of Stigma” as proposed by Dr. R. Miles of the Department of Psychiatry, at Queen’s University. The approval is renewed for one year, effective April 23, 2010. If there are any further amendments or changes to the protocol affecting the subjects in this study, it is the responsibility of the principal investigator to notify the Research Ethics Board. Any unexpected serious adverse event occurring locally must be reported within 2 working days or earlier if required by the study sponsor. All other adverse events must be reported within 15 days after becoming aware of the information.

Chair, Research Ethics Board

Date

ORIGINAL TO INVESTIGATOR COPY TO DEPARTMENT HEAD COPY TO HOSPITAL(S) FILE COPY
Renewal [] renewal 2 [] Extension [x]

REBE EPID-130-02
QUEEN'S UNIVERSITY HEALTH SCIENCES AND AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD (REB)

Annual Renewal & Amendment Form for Approved Studies: (add extra sheets, as necessary)

Use this form for renewals. Projects may require full ethics review every 3 years. This will be requested by the REB. The latter should be submitted to the REB using the "Ethics Submission Form for Research Involving Human Subjects or Informants." (October 2000)

Principal Investigator: Dr. Roumen Milev

Department/Faculty: Psychiatry, Providence Care - Mental Health Services

Research Project Title: Consumer Perspectives on Stigma and Discrimination Because of Stigma

Due Date of REB Approval: 2010-04-23

Names and Titles of All Co-Investigators; Name of Faculty Advisor if a student

Dr. H. Stewart, Dept Community Health & Epidemiology

Status of protocol study: (Circle one) Complete Continuing Abandoned

If abandoned, why?

Total number of subjects/informants required for study: 200 (Locally): 200

Number of subjects accrued to date: 200 (Locally) 200

Anticipated date of completion of accrual: 2010

Are accrued subjects/informants still being followed: Yes [X] No [ ]

Have there been problems recruiting subjects? Yes [X] No [ ]

Have there been any previously unidentified risks or benefits noted? Yes [X] No [ ]

If yes, please explain:

Have there been any other changes to your protocol (e.g. study design, changes in method of subject/informant recruitment, funding status, etc.) since study was first approved? Yes [ ] No [X]

If yes, please explain:

How are adverse events monitored? [X] Other [ ]

Do you consider the approved information sheet/consent form to be still appropriate? Yes [X] No [ ]

If not, please submit a new one.

If appropriate, please attach copies of (1) interim data analysis, (2) incident reports and (3) any other related information on study.

Signature (Principal Investigator) ____________________________

Date: 2010-04-23

EPID-130-02, Level: For Office Use Only: REB File, Research File, Department Head

Reviewed by Chair: ____________________________ Date: ____________________________

FILE
Appendix B
Research Ethics Approval (Korea)
임상시험 심사 결과 통지서

임상시험의뢰자/책임자 귀하
아래의 임상연구 (승인, 변경, 기타) 신청을 경희대학교병원 임상시험심사위원회에서 심사하여 다음과 같이 판정하였기에 알려드립니다.

임상시험 제목: 캐나다와 한국의 우울증/조울증 환자들의 정신질환에 의한 편견이나 낙인의 경험의 비교
임상시험 승인번호 (변경승인신청의 경우): KMC IRB

임상시험 의뢰자:
기관 및 책임자명: 연구자주도임상
연락처 (주소) 서울 동대문구 회기동 1번지 경희의료원
(전화) 02-958-8419

제품명: N/A
일반명: N/A

임상시험 책임자: 신경정신과 적재 조교수
성명: 백종우
신청일: 2011 년 09 월 14 일
IRB No.: KMC IRB 1125-07
Protocol No.: 2.0
version: 2.0

위의 임상시험 (승인, 변경, 기타) 신청을 심사하여 다음과 같이 판정하였습니다. (정규, 신속)

심사결과: 승인 (✔) 승인:권고와 함께 ( ) 시정 승인 ( ) 보완 ( ) 반려 ( ) 승인된 임상시험의 종지 또는 보류( )

심사일: 2011 년 09 월 15 일

심사내용: 위원회 심사의견에 대한 답변서

① IRB의 심사의견을 반영하여 피험자 설명서 및 동의서 수정사항 (ver 2.0->3.0), 20세 미만의 피험자의 경우 법정대리인의 추가 동의를 받아 수리하도록 수정함.
② 연구비 산정 내역서를 표준 사식으로 수정함. (총 연구비 20만원)

승인번호: KMC IRB 1125-07-A1

중간보고 주기 (중간보고 일자): 필요없음
승인 후 효력 일자: 2012 년 9 월 14 일 (연구의 승인이행기간은 1년을 초과할 수 없으며 진행 중인 연구를 재승인 받기 위해 책임연구자는 승인이행기간 만료 이전에 연장서지속심의를 받으셔야 합니다)
심사결과 조건부승인 또는 보류 판정을 받은 경우에는 (통지일로부터 3개월 내에) 보완자료 또는 이에 관한 자료 등을 임상시험심사위원회에 제출하여 주십시오. 기간 내에 보완자료를 제출하지 않으면 부결 처리됩니다. 문의사항은 행정간사: 구민정, 전화: 958-9568, 팩스: 956-9559,
이메일: lovero86@khmc.or.kr 로 연락하시면 됩니다.
* 추후조치사항: 별첨

통지일: 2011 년 09 월 15 일
심사위허당: 차 성호 (인)

※ 경희대학교병원 임상시험심사위원회는 국제임상시험 통일안(CGPI) 및 임상시험관리기준(GCP)을 준수합니다.