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The social and community opportunities profile social inclusion measure: Structural equivalence and differential item functioning in community mental health residents in Hong Kong and the United Kingdom

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Abstract

Introduction

China's future major health problem will be the management of chronic diseases - of which mental health is a major one. An instrument is needed to measure mental health inclusion outcomes for mental health services in Hong Kong and mainland China as they strive to promote a more inclusive society for their citizens, and particular disadvantaged groups.

Aim: To report on the analysis of structural equivalence and item differentiation in two mentally unhealthy and one healthy sample in the UK and Hong Kong.

Method:

The mental health sample in Hong Kong was made up of NGO referrals meeting the selection/exclusion criteria (being well enough to be interviewed, having a formal psychiatric diagnosis and living in the community). A similar sample in the UK, meeting the same selection criteria was obtained from a community mental health organisation, equivalent to the NGOs in Hong Kong. Exploratory factor analysis and logistic regression were conducted.

Results:
The single variable, self-rated 'overall social inclusion' differs significantly between all of the samples, in the way we would expect from previous research, with the healthy population feeling more included than the SMI groups.In the exploratory factor analysis the first two factors explain between a third and half of the variance and the single variable which enters into all the analyses in the first factor is having friends to visit the home. All the regression models were significant, however in Hong Kong sample only one-fifth of the total variance is explained.

Conclusion:
The structural findings imply that that the SCOPE-C gives similar results when applied to another culture. As only one-fifth of the variance of 'overall inclusion' was explained in the Hong Kong sample it may be that the instrument needs to be refined by using different or additional items within the structural domains of inclusion.

300 words

Keywords

Severe mental illness, social exclusion, health assessment, social policy

Introduction

Cross-cultural comparison tests the boundaries of knowledge and stretches methodological parameters; highlights important similarities and differences; and promotes institutional and intercultural exchange and understanding (Matsumoto and Van de Vijver 2011). The present paper looks at these matters in relation to the concept of social inclusion in the UK and Hong Kong.

A considerable amount of the literature about social inclusion is actually about social exclusion (eg Leff and Warner 2011), and some treat social inclusion as if it is only the converse of social exclusion (Wright and Stickley 2015). Repper and Perkins (2003) among others take the view that social exclusion focuses on negatives and deficits, whereas social inclusion is about affirmative action to address those factors that lead to exclusion. In the USA this change in focus has taken place over the past ten years (Boushey et al 2007) .Social inclusion has been defined in the European Union (EU) as 'A process which ensures that those at risk of poverty and social exclusion gain the opportunities and resources necessary to participate fully in economic, social and cultural life and to enjoy a standard of living and wellbeing that is considered normal in the society in which they live. It ensures that they have greater participation in decision-making which affects their lives and access to their fundamental rights (as defined in the Charter of Fundamental Rights of the EU)' (Council for the European Union, 2003). The aim of the social inclusion policy in the EU is 'to prevent and eradicate poverty and exclusion and promote the integration and participation of all into economic and social life' (Commission of the European Communities, 2000). In 2008, Mental Health Europe produced a descriptive report from 27 member states (including Scotland and Ireland, but not England or Wales) on the outcome of its work programme on social inclusion for people with mental health problems (Mental Health Europe, 2008)

 Curran and colleagues (Curran et al 2007) identified two broad schools of thought in the social inclusion literature. The first may be called a rights-based approach in which social inclusion reflects the rights as a member or a citizen of a particular group, community, society or country. The second approach starts from the assumption that social inclusion is the opportunity to participate in key functions or activities of the society in question. This approach is a development of the traditional concerns of social science and especially social policy: measuring poverty and multiple deprivation (Gordon 2000; Townsend 1979). Rights-based conceptions of social inclusion may be particularly important in the context of mental health, as a denial of rights and/or access to the means to realise entitlements has historically been a feature of the treatment of people with mental illness. Conceptions of social inclusion based on participation are also important, however, especially where comparisons with the general population are sought.

Curran argues that social inclusion is widely agreed to be:
■   relative to a given society (place and time)
■   multidimensional (whether those dimensions are conceived in terms of rights or key activities)
■   dynamic (because inclusion is a process rather than a state)
■   multilayered (in the sense that its causes operate at individual, familial, communal, societal and even global levels).

Cultural contexts

Hong Kong is officially known as Hong Kong Special Administrative Region of the People's Republic of China, is a city state with a high degree of autonomy on the southern coast of China at the Pearl River Estuary and the South China Sea. Hong Kong has seven million inhabitants over a land mass of over 400 square miles. Ninety-four per cent of the current population of Hong Kong are ethnic Chinese. A major part of Hong Kong's Cantonese-speaking majority originated from the neighbouring Canton province (now Guangdong), migrating to Hong Kong during the 1960s. On the whole, Hong Kong psychiatry has been fashioned close to the British model in terms of its legal framework, guiding theoretical principles, diagnosis and management of psychiatric disorders and types of service delivery (Ungvari and Chiu 2004). These aspects of mental health have not changed since 1997, when Hong Kong became a Special Administrative Region of China. From its inception in 1967, when the first halfway house opened, community-based residential rehabilitation has mainly been the task of non-governmental organizations (NGO) in collaboration with the Department of Social Welfare and aided by the psychiatric services.

Over the last ten years there has been increasing activity to improve the disability rights and well-being of the Chinese population, and this has taken place against a very gradual shift from collectivism to individualism (Steele and Lynch 2013; Luhrmann 2014). Fisher and Jing (2008) argue that despite strong statements on disability rights in Chinese legislation since 1990, the independent living policy falls short of the social inclusion goals expected from such a policy commitment. They conclude that minimum income support and the introduction of social services are slowly addressing the social inclusion of disabled people in China.

The World Bank has suggested that China's major health challenge for the future is the care and treatment of people with non-communicable chronic physical and mental diseases. In Toward a Healthy and Harmonious Life in China, (2011) the World Bank urged China to step up efforts to tackle its rising tide of non-communicable diseases (NCDs), warning of not only the social but the economic consequences of inaction. NCDs are China's number one health threat, contributing to more than 80% of the country's 10·3 million annual deaths and nearly 70% of its total disease burden.

In Hong Kong, where social services are considered as one of the most well-developed when compared to other parts of China, the inclusion spirit has never been stronger In 2011 the Community Investment and Inclusion Fund funded projects to the tune of more than 30 million HK dollars. Nevertheless, there is a lack of a valid measure to evaluate the objective of improved social inclusion in Hong Kong. Not only will developing a valid inclusion measure help to augment the evidence base about the inclusion of ethnic groups and disabled groups, but it may also be used to demonstrate the inclusion efficacy of service programmes. Such a development could have the great potential for programme evaluation at local (HK) level, and for to extended application to Mainland China and other Chinese communities where inclusion/ exclusion issues remain very challenging (Blaxland et al 2015).

Cross cultural measurement issues

Interest in cross-cultural measurement issues has grown rapidly since the turn of the century. Although psychologists have taken the lead on measurement issues (Matsumoto and Van de Vijver, 2011) social work researchers have recognised the importance of developing cross-cultural measurement for the profession, especially for work with minority and immigrant groups (Tran, 2009) including marginalised Asian immigrants (Willgerodt et al. 2005). Both professions recognise the same bias and equivalence issues in cross-cultural measurement (Matsumoto and Van de Vijver,2011; Tran 2009)

Issues of equivalence

There are many types of cross-cultural research. Herdman et al (1998) listed 19 type, others have suggested that there are perhaps as many as 50 (Johnson et al 2011). Most authors agree on five or six fundamental ones: these include conceptual, item, semantic, operational, metric or measurement unit, structural and functional equivalence (Berg et al (2003); Herdman et al (1998); Lee and Jung (2006); Mahler et al (2009); Matsumoto and van de Vijver (2011); Streiner and Norman (2008); Tran (2009) Van Widenfelt (2005)).

In essence, these look at whether the construct is conceptualised in the same way in different cultures; whether it consists of the same constituent elements; and whether its relation with other constructs is the same. Structure-oriented studies (such as reported here) focus mainly on the consistency of relationships among variables and between measures in more than one culture. Fischer and Fontaine (2011) distinguish four levels of equivalence: functional; structural; metric; and full score equivalence. They define structural equivalence as 'the same underlying dimensions emerge and item responses are not trivially related to these dimensions in each of the cultural groups'.

It has been suggested that there has been a misguided pre-occupation with scales rather than the concepts being scaled and too much reliance on unsubstantiated claims of conceptual equivalence between them (Bowden and Fox-Rushby 2003) . The same issue arises in relation to the cross cultural adaptation of HRQOL instruments (Cheung and Thumboo 2006) The approach we take to the question of conceptual equivalence between cultures is universalist rather than absolutist (Herdman et al 1998) . This approach does not make the prior assumption that constructs will be the same across cultures and, consequently, implies a need to establish whether the concept exists and is interpreted similarly in the two settings.

The development of SCOPE-C

In previous work we have reported on the conceptual equivalence of the concept in the UK and in Hong Kong (Chan et al 2014a). A focus group study involving concept mapping was conducted in Hong Kong during September to October 2012. The objective of the study was to investigate how the concepts of social inclusion are

understood by Hong Kong residents. Seven groups of 61 participants (38 females; 23 males) were interviewed, including separate groups of non-professional workers at a service centre, senior centre users, a mixed group of parents as well as community residents, persons with severe mental illness, professional social service providers, communication studies students, and social work students. Six major themes were identified by these groups: (1) material resources and wealth, (2) work, (3) social (dis)harmony and diversity, (4) discrimination, (5) communication, and (6) participation in activities. Hong Kong respondents gave more prominence to issues of stigma and discrimination, than UK respondents so further items were introduced into the SCOPE-C. Translation and back translation of the other SCOPE domains was undertaken as per the research protocol. As a result certain variables within domains were replaced by Hong Kong specific items and codes based upon the HK population census questions and coding.

The SCOPE-C was then piloted tested for acceptability and clarity among a group of professionals and NGO patients. No further amendments were deemed necessary. The SCOPE C was then applied to the sample of NGO patients at baseline and two weeks later to assess test retest reliability and then again after 6 months to assess change. The main mental health sample in Hong Kong was made up of NGO patients meeting the selection/exclusion criteria (see method below). A similar sample in the UK, meeting the same selection criteria was obtained from a community mental health organisation, equivalent to the NGOs in Hong Kong. In both samples the main diagnosis was psychosis, and individuals were still receiving psychiatric services while resident in the community. The mental health samples were collected contemporaneously in late 2013 and early 2014. Previous papers (Chan et al, 2014a, 2014b, 2015a, 2015b) have reported on the development of the instrument and aspects of validity and reliability:

• The similarities and shared understanding of the model of social inclusion in focus group samples in the UK and Hong Kong
• The high reliability and validity of the SCOPE-C in the Hong Kong sample
• The relationship between health and the experience of discrimination and inclusion in the Hong Kong sample

Present study aims

The aim of the present paper is to report on the analysis of structural equivalence and item differentiation in two mentally unhealthy and one healthy samples.

Method

Samples

The main SCOPE-C mental health sample in Hong Kong was made up of NGO patients meeting the selection/exclusion criteria (being well enough to be interviewed, having a formal psychiatric diagnosis and living in the community under NGO supervision). A similar sample in the UK, meeting the same selection criteria was obtained from a community mental health organisation, equivalent to the NGOs in Hong Kong. In both samples the main diagnosis was psychosis, and individuals were

still receiving psychiatric services while resident in the community. The main healthy population sample in the UK was collected from SCOPE interviews with individuals in a representative sample of households across the UK collected in 2011 (Huxley et al 2011).

Analysis

For an understanding of structural equivalence, exploratory factor analysis has been advocated and principal components analysis proposed as a data reduction technique. By using Procrustean rotation (Fischer and Fontaine 2011) the factor structure can be rotated towards the theoretically expected structure. It is an alternative to confirmatory factor analysis (CFA) in complex data sets.

Differential item functioning (item bias) (DIF) is used can be assessed using analysis of variance (Van de Vijver and Leung 2011) or logistic regression. These two statistical techniques were applied to the data.

Results

Samples compared

Table 1: Baseline socio-demographic variables for individuals in the three populations (UK mentally ill sample (UKSMI), Hong Kong mentally ill sample (HKSMI), and UK General Population)

	UKSMI (n= 43)	HKSMI (n= 168)	UK General Population (n= 212)	Chi-squared (df)	p
Age – proportion under 50	48%	59%	41%	12.71 (df2)	=0.002
Gender: (%) Female	56%	52%	57.5%	1.03 (df2)	NS
Long-term limiting illness or disability: (%) Yes	91.7%	49.4%	32.7%	50.16 (df2)	<0.001
In any form of work % yes	9%	60%	91%	137.75 (df2)	<0.001
Car ownership % yes	14%	0%	86%	191.64 (df2)	<0.001

While the age and gender items could represent sampling bias, the other variables could also be seen as representing cultural differences.

'Overall social inclusion' results

The following analysis compares the three samples in terms of their response to a single overall inclusion question: " overall, how do you feel about the extent to which you are included in society?". We have reported the analysis of variance result but the Kruskal Wallis test gave the same result.

Table 2 Anova						
Sample	n	mean	sd	se	95% CI lower bound	95% CI upper bound
General population	208	5.13	1.08	0.08	4.99	5.28
UK SMI	40	3.95	1.60	0.25	3.44	4.46
HK SMI	168	4.65	1.22	0.09	4.46	4.84
Total	416	4.82	1.25	0.06	4.70	4.94
Between groups sum of squares =55.77 df 2, mean square 19.44; F=19.44 p<0.001; Within group = 592.41 df 413 mean square = 1.43						

From this analysis we are able to say that overall SI differs significantly between all of the samples, in the way we would expect from previous research, with the healthy population feeling more included than the SMI groups.

Structural equivalence: factor analysis results

Next we look at the structural equivalence using factor analysis, the rotated factor patterns in each sample and the item loadings. Many of the variables included in tables 3,4 and 5, are either of the form 'how satisfied are you with your participation/ engagement in' (eg opportunities to to enhance your income (SO income)) or perception of the range of opportunities available in the area (eg to find suitable work (PO work). Identical variables were entered into all three analyses.

Table 3: Exploratory factor analysis SCOPE UK general population sample (ordered by item loading)					
Factor 1 (22%)	Factor 2 (13%)	Factor 3 (12%)	Factor 4 (9%)	Factor 5 (9%)	
SO leisure (.774)	Age (.771)	PO family contact (.780)	PO Education (.898)	Safety of the area (.833)	
PO community groups (.726)	PO Work (.615)	Car ownership (.774)			
Overall inclusion (.761)	Years in the area (.538)				
Friends to home (.620)					

Loadings greater than .5; varimax rotation; variance explained = 65%

Table 4: Exploratory factor analysis SCOPE UK severe illness sample					
Factor 1 (30%)	Factor 2 (18%)	Factor 3 (15%)	Factor 4 (13%)	Factor 5 (12%)	Factor 6 (12%)
Overall inclusion (.925)	SO Education (.855)	SO income (.932)	SO Work (.728)	SO Family contact (.912)	Years in area (.923)
SO leisure (.857)	Safety of the area (.812)	Car ownership (.683)	PO income (.928)		Age (.677)
PO Work (.746)	PO Income (.686)				
PO community groups (.625)	PO Housing (.517)				
Friends to home (.517)					
Loadings greater than .5; varimax rotation; variance explained = 91%					

Table 5: Exploratory factor analysis SCOPE Honk Kong severe illness sample					
Factor 1 (22%)	Factor 2 (13%)	Factor 3 (10%)	Factor 4 (8%)	Factor 5 (8%)	Factor 6 (7%)
SO Friends to home (.801)	Safety of the area (.815)	SO education (.750)	SO community groups (.867)	PO Income (.846)	SO leisure (.681)
SO Work (.787)	Overall inclusion (.715)	PO education (.697)	PO community groups (.712)		Housing (.663)
SO Family contact (.652)	SO Friend contact (.533)				
Loadings greater than .5; varimax rotation; variance explained = 68%					

Over 60% of the variance is explained in each analysis but in the UK SMI it is over 90%.Two item loading differences stand out. These are the absence of car ownership as an indicator of material well-being in Hong Kong. The second is that highest qualification only emerges in the Hong Kong SMI sample.

Looking at the first two factors which explain between a third and half of the variance, the single variable which enters into all the analyses in the first factor is having friends to visit the home.

There is a specific factor association between age and the length of residence in the area in both the UK samples but not in Hong Kong. As Table 1 indicates there are significant age differences between the samples which may account for this finding.

Differential item functioning results

Next we consider whether there are systematic variations in the responses to specific items, by sample. Using an ordinal regression analysis on overall social inclusion shows that the model fit in all samples is good, but that the amount of variance explained in Hong Kong is much lower at about one-fifth (table 6).

Table 6: Ordinal regression analysis: model fit and variance explained			
	UK general population N=212	UK severe mental illness N=43	Hong Kong severe mental illness N=168)
Chi-squared (df) p	80.94 (7) p<0.001	38.4 (7) p=0.001	20.06 (7) p=0.001
Nagelkirke pseudo R^2	.392	.879	.190

Table 7: Ordinal regression analysis models on overall social inclusion: estimates (95%CI) Wald statistic and p value (ordered by Wald p)

General population predictors (n=250)	Estimate (95%CI)	Wald (p)	UK SMI predictors (n=43)	Estimate (95%CI)*	Wald (p)	Hong Kong SMI predictors (n=160)	Estimate (95%CI)	Wald (p)
SO leisure	.704 (.383-1.02)	19.62 (0.000)	SO leisure	4.31 (1.84, 6.78)	11.71 (0.001)	PO community groups	.526 (.101, .951)	5.89 (0.05)
PO community groups	.432 (.174 - .690)	10.78 (0.001)	PO community groups	1.03 (.032-2.09)	3.61 (0.05)	Friends to home	-.260 (-.492,-.028)	4.84 (0.05)
Friends to home	.382 (.072, .692)	5.85 (0.05)	Friends to home	-.160 (-2.90,-.283)	5.70 (0.05)	PO family contact	270 (549 ,.009)	3.61 (0.05)
PO family contact	.209 (.387, .036)	5.25 (0.05)				SO Employment	.188 (.345, .031)	5.52 (0.05)
Physical health	-.104 (-.187, -.021)	5.98 (0.05)						
Mental health	-.131 (-.234, -.028)	6.25 (0.05)						
* Large confidence intervals reflect small sample size								

While there are item differences between the models, the perceived opportunities to participate in community groups appear important in all of the samples.. The negative relation between overall inclusion mental and physical health is due to the direction of coding the health items, so better physical and mental health are related to better overall inclusion score. It is noteworthy that the health variables only contribute to the model in the healthy sample; the other groups are defined by their mental health status (and physical disability for many –see table 1), and presumably therefore have insignificant variance to fit the model.

Discussion

Two recent reviews emphasise the need to demonstrate the cross-cultural properties of the concept (Baumgartner and Burns 2014; Coombs et al 2013) in order for global outcome measures of social inclusion to be developed. The present results go some way to reassure people that the structure of the concept may be relatively stable. Item differences were found however. The major sample differences in terms of socio-demographic characteristics have an important bearing on these results. Among these major differences are the proportion of people in work in the samples, the extent of car ownership and the type of residential accommodation, all of which influence the findings.

Although the model fit in the regression analyses were all significant, the relatively lower amount of variance explained in the Hong Kong sample is only one-fifth of the total variance. Given the extent of the structural similarity of the dimensions of social inclusion in the UK and Hong Kong, there findings imply that that the SCOPE-C does not give sufficient weight (in the number of questions within domains perhaps) to the more valued aspects of inclusion in Hong Kong.

Having people visit their home is associated with better overall inclusion in the UK healthy sample. There is support for the fact that psychiatric patients' primary social networks tend to be small, and emotional and practical support often comes from significant others (sometimes professionals) and experientially similar others rather than from family and friends (Borge et al 1999; Thoits 2011). Both unhealthy samples have better overall inclusion when friends do not visit them at home. Although this seems to be a perverse finding, the in-depth case study material (as yet unpublished) and the concept mapping group data show a number of indications why this might be the case. First, patients in group home settings in Hong Kong and UK are encouraged to go out to socialise, rather than stay at home all day. In Hong Kong, and to a lesser extent in the UK, homes are often small and not especially welcoming. In addition, some of the housing locations are themselves a factor in that they are often in deprived neighbourhoods and tower blocks which the patient feel is stigmatising, and they would rather socialise away from home at work or in community groups.

There are no car owners in the HK sample, and this is a reflection the cost of purchasing a car in Hong Kong, and of the living arrangements in high rise apartment blocks and close proximity to family members, and the ease of transport around the city and the lowest level of car ownership of any major global conurbation (Cullinane and Cullinane 2003). In the UK however, car ownership is more necessary and has been used previously as a proxy indicator of material wealth and does have a bearing on inclusion, especially in rural areas. Another indicator of material well-being needs to be substituted for or added to car ownership for SCOPE-C, for example the size of the space available per family member might be a better indicator of material advantage in Hong Kong. Although we amended some of the SCOPE objective questions to make them consistent with the wording of the Hong Kong census, we may have to add more questions, or revise existing ones in order to explain more of the variance of overall inclusion.

Conclusion

<mark>SCOPE is one of very few direct measures of social inclusion (Baumgartner and Burns 2014) and has been singled out as one of only two measure worthy of further development work (Coombs et al 2013). The need for a global cross-cultural measure that has been developed and tested in diverse settings has been reiterated recently. Baumgartner and Burns 2014).</mark>

The lower amount of variance explained in the Hong Kong sample suggests that improvements can be made to capture more of the variance of overall inclusion. This will be the subject of further data gathering and qualitative analysis from detailed case studies and a feedback event for NGO managers and workers, plus a re-consideration of the concept mapping data. Evidently, an instrument developed to measure the particular circumstances of one disability group in one culture is more likely to explain a large amount of the variance of local responses. When re-located into another culture, even though the structure of domains of inclusion remains similar, the power to explain overall inclusion ratings seems to be diminishing.

China's future major health problem is going to be the management of chronic diseases (of which mental health is a major one) in community settings ((WHO 2008)5). A suitably modified SCOPE-C may be used by mental health services in HK and mainland China as they strive to promote a more inclusive society for their citizens, and particular disadvantaged groups.

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References

Baumgartner JN, Burns JK. (2014) Measuring social inclusion--a key outcome in global mental health. Int J Epidemiol. 2014 Apr;43(2):354-64. doi: 10.1093/ije/dyt224. Epub 2013 Dec 4.

Berg, M., Jahnsen, R., Holm, I., & Hussain, A. (2003). Translation of a multi-disciplinary assessment - procedures to achieve functional equivalence. *Advances in Physiotherapy, 5*(2), 57-66.

Blaxland, M. Fisher, K.R., & Shang, X. (2015). Transitional and developmental challenges for Chinese social policy. *Asian Social Work and Policy Review*, (9),1:1-2. http://dx.doi.org/10.1111/aswp.12047.

Borge L, Martinsen EW, Ruud T et al. (1999) Quality of Life, Loneliness, and Social Contact Among Long-Term Psychiatric Patients .Psychiatric Services 50(1): 81-84 . http://dx.doi.org/10.1176/ps.50.1.81

Bouchey, H, Fremstad S, Gragg R, Waller M.(2007) Social inclusion for the USA: advocating the use of the concept in the USA. www.inclusionist.org/files/ socialinclusionusa.pdf

Bowden, A., & Fox-Rushby, J.A. (2003). A systematic and critical review of the process of translation and adaptation of generic health-related quality of life measures in Africa, Asia, Eastern Europe, the Middle East, South America. *Social Science & Medicine. 57*(7), 1289-306.

Chan K, Evans S, Ng YL, Chiu M, Huxley P. (2014a) A concept mapping study on social inclusion in Hong Kong. Social Indicators Research, vol. 119 (1): 121-137.

Chan K, Evans S, Chiu M et al.(2014b) Relationship Between Health, Experience of Discrimination, and Social Inclusion Among Mental Health Service Users in Hong Kong. Social Indicators Research First Online. October 2014. DOI10.1007/s11205-014-0780-x

Chan K, l Evans S, Chiu M et al (2015a) Social inclusion and health conditions among Chinese immigrants in Hong Kong and the United Kingdom: An exploratory study", Social Indicators Research. First Online March 2 2015. http://www.springer.com/-/0/bc4f7afc396c4c6b825019d07401e4fd

Chan K, Chiu M, Evans S. et al . (2015b) Application of SCOPE-C to Measure Social Inclusion Among Mental Health Services Users in Hong Kong. Community Mental Health Journal, July. DOI: 10.1007/s10597-015-9907-z

Cheung, Y.B., & Thumboo, J. (2006). Developing health-related quality-of-life instruments for use in Asia: The issues. *Pharmacoeconomics*, *24*(7), 643-50.
Coombs T, Nicholas A, Pirkis J. (2013) A review of social inclusion measures. Aust N Z J Psychiatry. 2013 Oct;47(10):906-19. doi: 10.1177/0004867413491161. Epub 2013 Jun 4

Commission of the European Communities (2000) Social policy agenda: communication from the Commission to the Council, the European Parliament, the economic and social committee and the committee of the regions. Brussels: Commission of the European Communities.

Council for the European Union. Joint report by the Commission and the Council on social inclusion. Brussels: Council for the European Union; 2003

Cullinane S (2002) The relationship between car ownership and public transport provision: a case study of Hong Kong. Transport Policy, 9(1): 29–39.

Cullinane S, Cullinane C. (2003) Car dependence in a public transport dominated city: evidence from Hong Kong. Transportation Research Part D: Transport and Environment, 8(2):129–138

Curran C, Burchardt T, Knapp M. et al. (2007) Changes in multidisciplinary systematic reviewing: a study on social exclusion and mental health policy. Soc Policy Admin. 1:289– 312

Fischer, R., & Fontaine, J.R.J. (2011). Methods for investigating structural equivalence. In D. Matsumoto, F.J.R. Van de Vijver (Ed.), *Cross cultural research methods in psychology*. Cambridge: Cambridge University Press, 179-215.

Fisher, K., & Jing, L. (2008). Chinese disability independent living policy. *Disability and Society*, 23 (2),171 – 185.

Gordon D. (2000) Breadline Europe: the measurement of poverty. Bristol: Policy Press.

Herdman, M., Fox-Rushby, J., & Badia, X. (1998). A model of equivalence in the cultural adaptation of HRQoL instruments: The universalist approach. *Quality of Life Research* 7(4), 323-35.

Huxley P, Evans S, Madge S et al (2011) Development of a social inclusion index to capture subjective and objective life domains (Phase II): psychometric development study.DOI: 10.3310/hta15XXX Health Technology Assessment 2011; Vol. 15: No. XX 77.

Johnson, T.P., Shavitt, S., & Holbrook, A.L. (2011). Survey response styles across cultures. In D. Matsumoto, F.J.R., Van de Vijver (Ed.). Cross cultural research methods in psychology. Cambridge: Cambridge University Press.130-78.

Lee, J.W., & Jung, D.Y. (2006). Measurement issues across different cultures. *Journal of Korean Academy of Nursing, 36*(8),1295-300.

Leff J, Warner R. (2006) Social Inclusion of People with Mental Illness. Cambridge University Press. ISBN: 9780521615365.

Luhrmann, T.M. (2014). Wheat People vs. Rice People - Association for Psychological Science. (n.d.). International New York Times Retrieved March 19, 2015, from http://www.psychologicalscience.org/index.php/news/wheat-people-vs-rice-people.html

Mahler, C., Jank, S., Reuschenbach, B., & Szecsenyi, J. (2009). "Let's quickly translate this questionnaire"- Guidelines for translation and implementation of English-language assessment instruments. *Pflegewissenschaft. 13*(1), 5-12.

Matsumoto, D., Vijver, F.J.R., & Van de, (Eds). (2011). *Cross-cultural research methods in psychology.* New York: Cambridge University Press.

Mental Health Europe (2008). From exclusion to inclusion: the way forward to promoting social inclusion of people with mental health problems in Europe. Brussels: Mental Health Europe.

Nagata, K.K. (2007). Perpectives on Disability, Poverty and Development in the Asian Region. *Asia Pacific Disability Rehabilitation Journal, 18*(1): 3-19.

Steele, G., & Lynch, S.M. (2013). The pursuit of happiness in China: Individualism, collectivism, and subjective well-being during China's economic and social Transformation. *Social Indicators Research*, *114* (2), 441-451.

Streiner, D.L., & Norman, G.R. (2008). Health measurement scales: A practical guide to their development and use. 4th ed. Oxford: Oxford University Press.

Thoits PA. (2011) Mechanisms Linking Social Ties and Support to Physical and Mental Health. Journal of Health and Social Behavior 52(2):145-161. doi: 10.1177/0022146510395592

Townsend P. (1979) Poverty in the United Kingdom. Harmondsworth: Penguin.

Tran, T.V. (2009). *Developing cross cultural measurement*. Oxford: Oxford University Press;

Ungvari G, Chiu HFK (2004) The State of Psychiatry in Hong Kong: A Bird's Eye View. Int J Soc Psychiatry March 1, 50: 5-9.

Van de Vijver, F.J.R., & Leung, K. (2011) Equivalence and Bias: A review of concepts, models and data analytic procedures. In D., Matsumoto, F.J.R., Van de Vijver (Eds.). *Cross Cultural Research Methods in Psychology*. Cambridge: Cambridge University Press, 33-34.

Van Widenfelt, B. M., Treffers, P. D., De Beurs, E., Siebelink, B. M., & Koudijs, E. (2005). Translation and cross-cultural adaptation of assessment instruments used in psychological research with children and families. *Clinical child and family psychology review*, *8*(2), 135-147.

Wang, S., Marquez, P., & Langenbrunner, J. (2011). Toward a healthy and harmonious life in China: stemming the rising tide of non-communicable diseases. *The World Bank, Human Development Unit*.

Willgerodt, M.A., Kataoka-Yahiro, M. Kim, E., & Ceria, C. (2005) Issues of instrument translation in research on Asian immigrant populations. *Journal of Professional Nursing*, *21*(4), 231-9.

World Bank. (2013). *Social development: Sector results profile*. Retrieved from http://www.worldbank.org/en/results/2013/04/14/social-development-results-profile

World Health Organisation (2008). mhGAP: Mental health gap action programme: Scaling up care for mental, neurological, and substance use disorders. Retrieved from http://www.who.int/mental_health/mhgap_final_english.pdf