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TABLE OF CONTENTS

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When Less Is More: A Group Of First Year Undergraduate Malaysian Students' Experiences Of The Essay Revision Process.

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ABSTRACT

The teaching of English as a Second Language (ESL) in Malaysia has undergone many changes. Different ways of looking at and employing pedagogical approaches in Malaysian ESL classrooms have been considered and attempted; some of these have not only altered but also challenged traditional approaches in the classroom. However, writing, seen by many Malaysian students as the most difficult of the four, has often been neglected. ESL teachers cannot be entirely blamed for this minimal emphasis on composition writing. Factors, which work against both the teachers and students, include the time factor, which inevitably compels teachers to focus on a product-based rather than process-based writing. Although there is an extensive body of research on process-oriented first language writing, little attention has been given to second language classroom practice. Therefore, researchers who examine ESL writers in Malaysian universities are required to determine whether the process-oriented approach to teaching writing can be used effectively with ESL students so that the gap between the actual level of English language proficiency amongst Malaysian university students, especially writing skills, and the level of competence required for learning at tertiary levels can be bridged relatively quickly. This paper reports the finding of one of the research activities looking at the contribution of a teaching intervention based on the process centered approach; i.e. the types of revision changes employed by this group of students in developing the drafts. Revising is the process of making sure that the writing says what the writer wants it to say.

Keywords: English as a second language, process writing, revision, tertiary writing, review

INTRODUCTION

The main objectives of writing instruction is to enable the students to write well. Yet, we know from our classes, as well as from published articles and from writing scholars, that ESL or EFL students do not write as well as we think they should (e.g., Hillocks, 1986; Rijaarsdam et al.,2005). The reasons for students' inability to write well enough to meet teachers' expectations are many and varied. Most students lay it on the writing skill for being extremely complex. However, according to Smit (1991), the most obvious reason that students do not

write well is that they do not receive a great deal of instruction, practice, and feedback in writing.

It is necessary, then, if we are going to improve the writing of our students, that we teach writing more often and more effectively, and that we require our students to write more often so that they can get the practice they need (e.g., Hampton, 1995; McCormick, 1989). Moreover, it is only by responding to comments on early drafts and putting them into practice that students can "demonstrate what they have learned and internalize from the advice they have received" (Smit, 1991, p.3). However, there is a great deal of evidence that teacher written comments have no effect on student writing except when they are focused (e.g., Hillocks, 1986; Leki, 1990).

Naginder (2006), Jalaludin et. al. (2008) and Che Musa et. al. (2013) are to name a few of Malaysian researchers who have been concerned over low literacy attainment in English language among Malaysian learners. They have been examining the reasons that led Malaysian students low English literacy even after going through 11 years of learning English in school. At University Malaysia Sabah this is also observed, resonating findings of Isarji Sarudin et al. (2008). This disables the students' progress especially through low writing skills.

Malaysian educationists are constantly plagued with opinions that the standard of English proficiency is worsening "among students and graduates…(and made worse by)…the rote-learning and exam-oriented education system which hinders students' creativity and critical thinking…" (Education Reform in Malaysia Report, 2012:2). When addressing the deteriorating standard of English, it is important for us to study the contributing variables to this issue. One of the reasons is perhaps students' employment of writing strategies, specifically revision. Abdullah (1993:124) states that Malaysian students in general seem to be merely "going through the motions, pouring commonplace ideas into a pre-cast rhetorical mould". She observes that the students seem to produce work that is weak in content and which displays a lack of general knowledge, regurgitation of platitudes and clichés, an undiscerning reliance on printed sources, unquestioning acceptance of 'received wisdom', simplification of complex issues, ideas expressed in sweeping over generalisations, and a lack of adequate supporting evidence.

Dissatisfied with the depth of analysis that students were able to demonstrate, regarding their own and each other's writing, we decided to analyse students' revision activities to establish their revision activities and see whether this group of students are able to respond to each other's writing. The insights generated by the description and analysis of the data collected for this study can be used for a variety of purposes: to better understand Malaysian ESL writers; to help Malaysian ESL curriculum development and instructional practice and to provide useful insights for educational language policy-making.

LITERATURE REVIEW

Revising, especially of content, has generally been shown to be beneficial (Stallard, 1974; Sommers, 1980; Faigley & Witte, 1981; Leki, 1991; Gillam-Scott, 2010; Hawes, 2013): 'Rewriting a piece of writing correlates more closely with improved writing than does almost any other form of instruction in writing' (Beyer, 1979: 189). This is so even with no feedback provided on the first draft (Fathman & Whalley, 1990; Polio et al., 1998). Content should be focussed on first, then form: 'editing errors and revising for better organisation should be attended to at a later stage in writing to prevent a breakdown of what Perl calls 'the rhythms generated by thinking and writing'' (Spack, 1984: 656).

Despite the importance of revising within the process of writing well, students are generally not aware of its purpose. They may see revising as a time to concentrate on sentence-level concerns, changing individual words or reorganising sentences. Actually, revising is a multi-layered process that a writer does as he/she goes along. The process of concentrating on sentence level concerns could more accurately be called editing, which is discussed later in some detail. Editing deals with the surface features of writing and is generally performed after the writer has achieved the desired objectives with a paper. Revising is more properly what writers do to the writing before the desired objectives have been achieved.

As discussed earlier, good writers appear to revise mentally during pauses in composing, and they tend to focus on global changes that are intimately linked to their audience, purpose, and stance. Revising, then, requires that writers consider their role, as well as that of their readers, in regard to the topic. It requires that writers be critical readers (Carter 1997). The revising process demands that a writer stand back from his work that has taken time and effort to produce, and make objective decisions about it. It must be seen as it is, not as it is wished to be. A good writer must be able to delete sentences and paragraphs that do not work, and they must be willing to shift sections from one place to another to enhance the overall organisation of the composition.

Peer feedback is a popular revising activity. It is the process by which students exchange constructive criticism of their work to help each other edit and hone their critical reading, writing, and speaking skills. Many instructors use some form of peer feedback groups in their writing courses. They have found that encouraging students to respond to each other's drafts has numerous benefits, including:

- Increasing student editing skills, for use on their own writing as well as on the writing of others;
- Promoting active learning;
- Motivating multiple drafts and substantial revisions;
- Building classroom community;
- Providing a wider audience for student-writers;
- Underscoring the collaborative nature of writing;
- Modelling most workplace writing.

Simply telling students to respond to each other's writing, however, is seldom sufficient. Experienced instructors have found they must teach students how to respond. This effort often spans an entire semester. Providing students with guidelines or rubrics for responding is one especially useful way to foster effective peer feedback.

Writing theorists have used peer groups in high school and college classrooms to encourage students to write and revise. Elbow (1973) promoted the use of "teacherless writing groups"; Murray (1982) suggested that teachers train students how to respond constructively to writing in process; Moffett (1983) suggested that teachers teach students to teach each other; Macrorie (1984) discussed the value of creating a "Helping Circle" and Bruffee (1983) insisted that students "talk through" the task of writing. Bruffee felt that this would produce an essential form of collaborative learning. Graves (1983, 1984) and Calkins (1982, 1983) conducted peer feedback groups, even with young writers, and found that this brought positive benefits. As a result of these studies and others like them, writing groups, sometimes referred to as "peer conferencing" or "peer collaboration", have become a pedagogical tool in a wide range of teaching/learning contexts.

Research indicates that students writing without reactions from a writing group often do not anticipate an audience. Hedge (2000) agrees that helping student writers to develop a sense of audience is important. This is especially so with less mature writers; making them aware of whom, they are writing for, helps them develop a sense of audience.

There are also reports that support the use of writing groups for encouraging revision. The study by Kantor (1984) concluded that the development of a peer community fostered growth from egocentrism to audience awareness and that knowing the audience helped students become more aware of possible strategies for revising the written message. Furthermore, peer feedback affords students much more immediate and frequent feedback than one instructor can possibly provide. This process produces advantages that compensate for any irregularity of quality (Topping 1998).

Nilson (2002: 2) suggests that peer feedback is not without it shortcomings. She notes that the causes are:

- Emotions and loyalties intrude, making most students reluctant to find fault with a fellow student's work and inducing a few to trash the work of someone they don't like (Strachan & Wilcox 1996; Pond, Ulhaq, & Wade 1995).
- Students lack the disciplinary background to know, let alone to apply, professional expectations and standards, so they don't know how to give helpful feedback (Svinicki, 2001). No doubt if they did know how to write a clear thesis statement, a logical argument, a convincing conclusion, etc., they would do so without peer collaboration.
- Students fail to put adequate effort and care into analysing each other's work and into providing constructive, detailed feedback – in part because the peer-feedback questions may not require them to. When a question explicitly asks only for a yes or no answer, students may not know enough to give a justification or to refer to particulars in the work. In addition, since the questions usually ask for an "opinion", students at a certain level of cognitive development may believe that one opinion is as good as another, justified or not. Besides, students reason, the only opinion that matters is the instructor's, so their peers aren't the real audience anyway.

Fitzgerald (1987) summarizes some of the main findings on revision. She states that research has shown that inexperienced writers do not revise very much, and unless given support and encouragement, neither do more experienced writers. In general, the most common revisions are surface changes, but among experienced writers, there is a greater tendency to revise more for meaning, which appears to improve the quality of compositions. Thus, based on current knowledge about revision, it seems that a crucial variation in strategies concerns the writer's tendencies to focus revision either on meaning of text or on aspects that do not concern meaning. This division of meaning versus surface revisions is the main criterion in Faigley and Witte's (1981) taxonomy of revision strategies.

Revision has been identified as the most important determinant of the final quality of written work (Sommers, 1980; Zamel, 1983); unfortunately, overall, there is less research in L2 revision process than in L1, not to mention research on revision strategies. Given these findings, the close relations between revision and the quality of written work, and the scarcity of research in the area (i.e., L2 revision strategies), this study seems to be both necessary and important to instruction and research of L2 writing.

RESEARCH METHOD

The researchers investigated 20 Universiti Malaysia Sabah first year students' revision activities in writing through the analysis of multiple drafts of their writings. The students revised the drafts using peer review activities. By collecting and analysing these between drafts reviews, the researchers hope to be able to understand their revision strategies employed over the semester.

The students' essays comprised both drafts and completed work. In total the students had to complete three essays. The first one was collected in week five, the second in week nine and the third in the last week of teaching. All the drafts were reviewed twice. The students were also taught to use the reviewing checklist by applying it to sample essays. Students have to evaluate a sample essay and discuss problems in class. The reviewers reviewed the essay based on a peer-review checklist that was adapted from White and McGovern (1994). All written work was collected, and changes in students' writing skills were observed, if any, at the different stages of the course. The Faigley and Witte instrument (1981, 1984), also well-established among previous researchers, was used to quantify between draft revisions in the type of change.

Sample Selection

This study employed students who are taking English Level 3. The lesson time is 3 hours per week for 14 weeks. With the permission of the Dean of Centre for the Promotion of Knowledge and Language Learning, the researcher worked with a group of 20 first-year students. Attendance for this course is compulsory to all students with Malaysian Universities Entrance Test (MUET) Band 1 and 2.

Homogeneous purposive sampling is chosen in selecting the research participants for this study. This non-probability sampling technique is chosen because the sample being investigated is quite small, especially when compared with probability sampling techniques. The goal of purposive sampling is not to randomly select units from a population to create a sample with the intention of making generalisations. Its main purpose is to focus on particular characteristics of a population that are of interest and aids the researcher to answer his or her research questions. The sample being studied is not representative of the population, but for researchers pursuing qualitative or mixed methods research designs, this is not considered to be a weakness. Rather, it is a choice. In homogeneous sampling, units are selected based on their having similar characteristics because such characteristics are of particular interested to the researcher, i.e. in this research MUET band 1 and 2 students.

RESULTS

When the texts were analysed according to Faigley and Witte instrument (1981, 1984), the types of revision made by the students were:

1. Deletion
2. Change in Tense
3. Change in Spelling
4. Change in Singular/Plural
5. Change in Pronoun
6. Change in Sentence to Illustrate Meaning
7. Change in Verb to Be
8. Change in Word to Preserve Meaning
9. Change in Preposition

10. Change in Capitalisation

The students seemed to make more meaning preserving changes and no paragraphing format changes. The researchers' identification of the above types of revisions in the students' texts supported other studies' findings that peer review/feedback favours mechanics and content revision (Al-Hazmi and Scholfield, 1999; Bisaillon, 1999).

This is demonstrated in Figure 1.1 below.

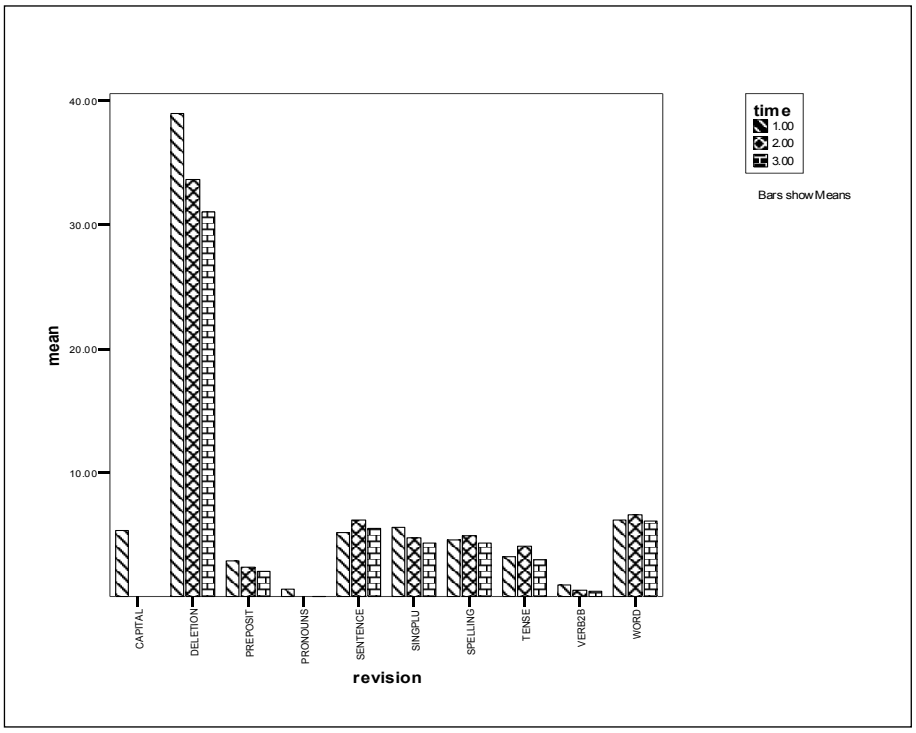

Figure 1: Types of Revision and Number of Occurrences

From Figure 1, the types of revisions with a decreasing pattern are changes in capitalisation, deletion, prepositions, pronouns, singular/plural, and the verb to be. Despite the emphasis of the checklist on content and organisation, changes were predominantly at the word, sentence and preserving meaning levels.

Deletion seems to have been the most employed type of revision when totalled for all the essays. In most cases, the students deleted words and sentences in their attempt to clarify meaning. However, they restricted themselves much more to rewording in their first draft, especially the linguistic basics of vocabulary and sentence structure. Because of that they considerably employ deletion. It could have been their proficiency level that handicapped them from revising extensively at the graphic and multi-sentential level, for example by adding new text. Counts of Different Types of Revision on Essay Drafts

From Tables 1–3, it can be seen that deletion was the activity most conducted, followed by changing words to clarify meaning, changing sentences also to clarify meaning, rectifying plurals and singulars in nouns, articles and verbs, spelling corrections, tense corrections, corrections of prepositions and capitalisations, corrections of the verb to be (is/are/was/were) and, finally, the activity with the lowest count number was corrections of pronouns.

Table 1: Revision Count for Students 1–7

	S1E	S1E	S1E	S2E	S2E	S2E	S3E	S3E	S3E	S4E	S4E	S4E	S5E	S5E	S5E	S6E	S6E	S6E	S7E	S7E	S7E
DELETION	5	1	1	3	1	1	12	5	1	33	37	29	49	21	19	53	61	49	144	109	97
TENSE	1	1	0	1	0	0	1	1	1	1	1	2	10	13	11	3	2	2	5	3	4
SPELLING	5	7	4	3	3	5	5	7	5	11	9	9	6	7	6	0	1	0	0	0	0
SINGULAR/PLURAL	3	3	2	0	0	0	0	0	0	3	3	3	6	3	5	12	11	13	25	19	21
PRONOUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
CHANGE SENTENCE	0	0	0	0	0	0	0	0	0	8	11	10	16	15	15	6	4	6	20	23	21
VERB TO BE	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	9	3	0
CHANGE WORD	0	0	0	0	0	0	0	0	0	5	6	3	15	13	14	12	15	13	27	21	23
PREPOSITION	0	0	0	1	0	0	0	0	0	1	1	1	2	3	1	4	4	3	15	9	7
CAPITALISATION	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0
TOTAL	16	12	7	8	4	6	18	13	7	63	69	58	104	75	71	90	98	86	264	187	173

Table 2: Revision Count for Students 8–14

	S8E	S8E	S8E	S9E	S9E	S9E	10E	10E	10E	11E	11E	11E	12E	12E	12E	13E	13E	13E	14E	14E	14E
DELETION	11	17	13	54	52	47	32	21	13	61	58	59	12	15	9	27	31	29	13	10	8
TENSE	2	2	1	0	0	0	13	17	11	6	13	7	0	0	0	1	1	1	0	0	0
SPELLING	0	0	0	13	11	9	1	1	1	5	3	5	5	4	5	3	3	3	0	0	0
SINGULAR/PLURAL	0	0	0	2	2	2	0	0	0	2	2	1	5	5	3	9	13	7	4	3	3
PRONOUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHANGE SENTENCE	2	2	2	1	1	0	0	0	0	11	17	13	7	9	7	0	0	1	1	2	1
VERB TO BE	0	0	0	1	1	1	0	0	0	3	3	3	0	0	0	0	0	0	0	0	0
CHANGE WORD	1	1	1	2	3	2	14	15	13	4	4	4	1	1	1	2	3	2	1	1	1
PREPOSITION	1	1	1	1	1	1	3	3	3	2	2	2	4	3	4	0	0	0	6	6	5
CAPITALISATION	0	0	0	30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
TOTAL	17	23	18	104	71	62	63	57	41	95	102	94	34	37	29	42	51	43	25	22	18

Table 3: Revision Count for Students 15–20

	S15 E1	S15 E2	S15 E3	S16 E1	S16 E2	16E	17E	17E	17E	18E	18E	18E	19E	19E	19E	20E	20E	20E
DELETION	56	47	61	39	28	31	71	52	61	16	13	17	51	63	48	38	31	27
TENSE	0	0	0	4	7	4	10	13	7	4	4	6	3	3	3	0	1	0
SPELLING	13	15	9	3	3	2	3	3	3	3	4	3	8	11	13	5	7	5
SINGULAR/PLURAL	2	2	2	3	1	3	25	18	13	0	0	0	7	6	5	4	4	4
PRONOUN	0	0	0	0	0	0	3	0	0	1	0	0	4	0	1	0	0	0
CHANGE SENTENCE	1	1	1	16	19	17	11	15	13	0	0	0	0	0	0	4	4	4
VERB TO BE	1	0	0	0	0	0	3	2	2	0	0	0	1	0	1	0	0	0
CHANGE WORD	2	2	2	5	7	8	14	17	13	8	11	10	5	5	5	5	7	7
PREPOSITION	1	1	1	3	1	1	7	6	5	0	0	0	3	3	3	4	4	3
CAPITALISATION	27	0	0	0	0	0	1	0	0	1	0	0	6	0	0	19	0	0
TOTAL	103	68	76	73	66	66	148	126	117	33	32	36	88	91	79	79	58	50

There were differences between the amounts of improvement on deletion, spelling singular/plural, pronouns, verb to be, prepositions and capitalisation. However, they were entirely due to the improvement in mechanics being greater than that in anything else. This also demonstrates the benefit of the enforced draft writing plus peer and self-revisions.

CONCLUSION

We see revisions being made, probably more than before, albeit mostly low level. There is evidence of between draft improvements of quality. However, revision was reported as focused more on the low-level aspects of writing than higher level ones: grammar, spelling, and vocabulary. This order of preference is consistent with the findings of other studies of low proficiency writers, even when using checklists that prompt attention to higher levels (Doushaq & Al Makhzoomy, 1989; Halimah, 1991). These sources indicate that grammar, spelling and the like are targeted because they are seen by these learners as the main bearers

of correctness, and as therefore important, which in turn arises because teachers themselves concentrate mainly on these features.

It is also observed that the type of revision that they seemed to employ most was deletion. It was seen that in their attempts to clarify meaning, these students tended to delete words and sentences. This appears to suggest that the students felt that by rewording, the meanings of what they were trying to convey were clearer. This again could be due to their proficiency level, as indicated in the interview. They acknowledged that grammar; sentence construction and limited vocabulary were factors that hindered them from writing well.

REFERENCES

Abdullah, N. A. 1993. Beyond the Obvious: Developing Critical Thinking in Academic Writing. In Proceedings of Second National ESP Seminar on English for Specific Purposes: Applications and Implications for Human Resource Development. Universiti Teknologi Malaysia.

Al-Hazmi, S. and Scholfield, P. (1999). 'The effect of peer feedback versus self-assessment on the quality and revision of compositions word-processed by advanced ESL learners.' In Marthan Pennington (ed.) (1999), 95-130.

Ali, Z. and Md. Yunus, M. 2004. An ESL Writing Course: Unraveling Students' Needs And Concerns. The English Teacher Vol XXXIII. MELTA: Kuala Lumpur.

Beyer, B. 1979. 'Writing to learn in Social Studies: pre-writing and rewriting to learn'. Social Education, 187-189.

Bisaillon, J. (1999). 'Effects of the teaching of revision strategies in a computer-based environment.' In Martha Pennington (ed.) (1999), 131-157.

Bruffee, K. A. 1983. "Writing and Reading as Collaborative Or Social Acts." In the Writer's Mind: Writing as a Mode of Thinking. College English 46(7): 159-169.

Calkins, L. 1982. A Study of Children's Rewriting. Final Report for NCTE Research Foundation Project No. 80: 11, p. 405.

Calkins, L. 1983. Lessons from a Child: On the Teaching and Learning of Writing. Portsmouth, New Hampshire: Heinemann.

Carter, R. 1997. Investigating English Discourse: Language, Literacy and Literature. London: Routledge.

Doushaq, H. and Al Makhzoomy, K. (1989). 'A study of teachers' evaluation of English composition in secondary schools in Jordan'. Arab Journal for the Humanities, 9: 388-404.

Elbow, P. 1973. Writing Without Teachers. London: Oxford University Press.

Faigley, L. 1986. Competing Theories of Process: A Critique and a Proposal. College English, 48: 527-542.

Fathman, A. and Whalley, E. (1990). 'Teacher response to student writing: focus on form versus content'. In Kroll, B. (1990) (ed.) Second Language Writing: Research Insights for the Classroom, 178-190. Cambridge: Cambridge University Press.

Fitzgerald, J. (1987). Research on revision in writing. Review of Educational Research, 57, 481–506.

Gillam-Scott, A. (2010). Teaching Revising/Revising Teaching: The ITW Spring Seminar. Journal of Teaching Writing, 1(2), 149-152.

Graves, D. 1983. Teachers and Children at Work. London and Portsmouth, New Hampshire: Heinemann.

Graves, D. A. 1984. Researchers Learns to Write: Selected Articles and Monographs. Exeter, New Hampshire: Heinemann.

Halimah, A. (1991). EST Writing: Rhetorically Processed and Produced. A Case Study of Kuwaiti Learners. Unpublished PhD Thesis. University of Essex.

Hampton, S. (1995). Strategies for increasing achievement in writing. In R.W. Cole (Ed.) Educating Everybody's Children: what research and practice say about improving achievement (pp. 293-321). Alexandria, VA: Association for Supervision and Curriculum development.

Hawes, S. (2013). Integrating reading and writing instruction through close reading and writing revision (Doctoral dissertation, California State University).

Hedge, T. 2000. Teaching and Learning in the Language Classroom. Oxford: Oxford University Press.

Hillocks, G. 1986. Research on Written Composition: New Directions for Teaching. New York: National Conference on Research in English.

Kantor, K. J. 1984. Classroom Contexts and the Development of Writing Intuitions: An Ethnographic Case Study. In New Directions in Composition Research. New York: Guilford, pp. 72-94.

Leki, I. 1990. Coaching from the Margins: Issues in Written Response. In B. Kroll (ed.) Second Language Writing. Cambridge, UK: Cambridge University Press, pp. 57-68.

Leki, I. 1991. The Preferences of ESL Students for Error Correction in College Level Writing Classes. Foreign Language Annals. 24(3): 203–218.

Macrorie, K. 1984. Writing to Be Read. Upper Monclair, New Jersey: Boynton/Cook.

McCormick, K. (Ed.). (1989). Expanding the repertoire: An anthology of practical approaches for the teaching of writing. (Tech. Rep. No. 2-038-882). Berkeley, CA: Center for the Study if Writing.

Moffett, J. 1983. Teaching the Universe of Discourse. Boston: Houghton Mifflin.

Morais, E. 2000. Reading, Thinking and Writing in an ESL Context. Kuala Lumpur: The Beacon Press Sdn. Bhd.

Murray, D. 1982. Learning by Teaching: Selected Articles on Writing and Teaching. Upper Montclair, New Jersey: Boynton/Cook.

Nilson, L. B. 2002. Helping Students Help Each Other: Making Peer Feedback More Valuable. Essays in Teaching Excellence 14(8): 1-2.

Polio, C., Fleck, C. and Leder, N. (1998). ' "If only I had more time:" ESL learners' changes in linguistic accuracy on essay revisions'. Journal of Second Language Writing, 7: 43-68.

Pond, K., R. Ulhaq and W. Wade. 1995. Peer-Review: A Precursor to Peer Assessment. Innovations in Education and Training International. 32: 314-323.

Raimes, A. 1979. 'A Grammar for Composition: the Grammar of Cohesion'. Paper presented at Thirteenth Annual TESOL Convention, Boston, Massachusetts.

Rijlaarsdam, G., Berg, H.V.D., & Couzijn, M. (eds.) (2005). Effective learning and teaching of writing: A handbook of writing in education (2nd ed.) Boston, MA: Kluwer Academic Publishers.

Smit, D.W. (1991). Improving student writing. Idea Paper No 25. Kansas: Center for Faculty Evaluation and Development.

Sommers, N. 1980. Revision Strategies of Student Writers and Experienced Adult Writers. College Composition and Communication; 31:378-388.

Spack, R. (1984). 'Invention strategies and the ESL College composition student'. TESOL Quarterly, 18: 649-668.

Stallard, C. (1974). 'An analysis of the writing behavior of good student writers'. Research in the Teaching of English, 8: 206-218.

Strachan, I. B. and S. Wilcox. 1996. Peer and Self Assessment of Group Work: Developing an Effective Response to Increased Enrolment in a Third-Year Course in Microclimatology. Journal of Geography in Higher Education. 20: 343-353.

Svinicki, M. D. 2001. Encouraging Your Students to Give Feedback. In K. G. Lewis (ed.) Techniques and Strategies for Interpreting Student Evaluations. New Directions in Teaching and Learning. San Francisco: Jossey-Bass. Vol 87: 17-24.

Taylor, B.C. 1976. Recent Research on Writing Pedagogy. TESOL Quarterly, 21:687-715.

Topping, K. 1998. Peer-Assessment Between Students in Colleges and Universities. Review of Educational Research. 68: 249-276.

Zamel, V. 1982. Writing: The Process of Discovering Meaning. TESOL Quarterly. 16: 159-209.

Zamel, V. 1983. The Composing Processes of Advanced ESL Students: Six Case Studies. TESOL Quarterly. 17: 165-187.

APPENDIX A

Classification of types of revision (Faigley and Witte, 1981; 1984).

I. Surface changes
A. Formal changes: (00)
1. Spelling: 01
2. Tense, number, and modality: 02
3. Abbreviation: 03
4. Punctuation: 04
5. Format
a. Paragraph: 05
b. Other: 06
B. Meaning-preserving changes (10)
1. Additions: 11
2. Deletions: 12
3. Substitutions: 13
4. Permutations: 14
5. Distributions: 15
6. Consolidations: 16
II. Meaning changes
A. Microstructure changes (20)
1. Additions: 21
2. Deletions: 22
3. Substitutions: 23
4. Permutations: 24
5. Distributions: 25
6. Consolidations: 26
B. Macrostructure changes (30)
1. Additions: 31
2. Deletions: 32
3. Substitutions: 33
4. Permutations: 34
5. Distributions: 35
6. Consolidations: 36

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The India Healthcare Sector: Governance and Management Challenges

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ABSTRACT

The global health care industry estimated at $ 5 trillion, is one of the world's largest and fastest-growing industries. India's healthcare industry which is expected to be around $45 billion by the end of 2013 accounts for less than 1 % of the global healthcare industry, but has to address the healthcare needs of 17 % of the global population. The India health sector therefore faces severe resource constraints to deliver health services. India spends about 5 % of GDP on healthcare compared with 10-12 % of GDP on healthcare spending by developed countries. The government's share in the total healthcare expenditure in India has remained around 1 % of GDP, and therefore the private sector has become a dominant player in health service delivery. Regulation of the private sector is essential for successful Public private Partnership. The unregulated private healthcare sector also raises serious concerns regarding the accountability, equity and quality of service delivery. India ranks 112 out of 193 WHO countries on health system performance. The WHO Report on Macroeconomics and Health [Jeffery Sachs, et al 2001], followed by the Report of the National Commission on Macroeconomics and Health [GoI, August 2005] provide strategic directions to improve our health system performance. Improvements in our health system performance call for a significant scaling up of resources by the Government of India, and tackling the non-financial obstacles that have limited the capacity to deliver health services. Building health systems that are responsive to client needs requires politically difficult and administratively demanding choices.

Keywords: Healthcare, Management Challenges**,** India

1-2-3 challenge: The Indian healthcare sector faces the 1-2-3 challenge; India needs to add 1 million doctors, 2 million nurses and 3 million hospital beds to achieve the world average of 1.7 physicians, 3.3 nurses and 3.6 beds per 1000 population.

INTRODUCTION

The World Health Organization defines health as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

Healthcare industry, as per the United Nations International Standard Industrial Classification [UN, 2008] consists of three categories, namely,

- Hospital Activities (mostly inpatient services)
- Medical and Dental Practice Activities (mostly out-patient services)
- Other Human Health Activities (mostly non-medical such as nursing, physiotherapy services etc.)

The global healthcare industry, estimated at $5 trillion, is one of the world's largest and fastest-growing industries consuming over 10 per cent of the Gross Domestic Product (GDP) of most

developed nations. Ancillary sectors of the healthcare industry include pharmaceuticals, medical equipment and devices, biotechnology, information technology, medical insurance, medical tourism, and so on.

The India healthcare industry has grown from $4 Billion in 1990-91 to almost $ 40 Billion by 2011-12, thereby registering an impressive growth. However, India's healthcare industry projected at $ 45 billion by the end of 2013 accounts for less than 1 % of the global healthcare industry estimated at $ 5 trillion. Among the ancillary industries, the Indian pharmaceutical industry, growing at 12 % annually and valued at $ 22 billion, is the world's fourth largest by volume and is likely to lead the manufacturing sector of India. The Indian biotech industry, estimated at $ 1 billion is likely to be a leader in the employment of skilled human resources like the IT sector. Other ancillary sectors, especially the medical equipment, and healthcare IT sectors are likely to witness unprecedented growth as result of increasing investments in these industries by the private healthcare sector.

Good health services are those which deliver effective, safe and good quality services. Availability, access, affordability and equity in service provision are important determinants of service quality. Improving access, coverage and quality of health services depends on the ways services are organized and managed. In India, the Ministry of Health and Family Welfare (MoHFW) is the nodal ministry for healthcare service delivery. The MoHFW focuses on prevention and cure of diseases, and coordinates with other ministries to take care of physical, mental and social well-being needs for good health (Please refer to the WHO definition of health mentioned in the beginning). For example, the MoHFW coordinates with the Ministry of Women and Child Development for nutritional supplements to children and pregnant women, Ministry of Human Resource Development for adolescent health and education, Ministry of Rural Development for water and sanitation, and so on.

Health plays an important role in the economic development of any country. The GDP growth of a country and its sustainability requires a healthy workforce to contribute to increased productivity. An unhealthy population would end up consuming more than what it produces and thereby retard the GDP growth.

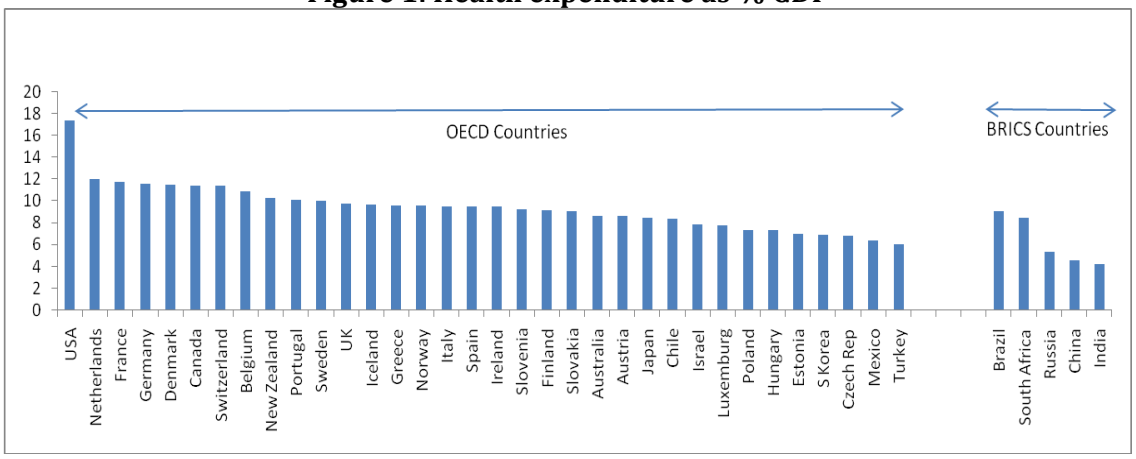
A MACRO-ECONOMIC PERSPECTIVE

A comparison of India's healthcare sector with other developing and developed economies in the world may throw some light for our policy makers to formulate evidence based health policy and planning.

The global GDP is dominated by the OECD1 and BRICS2 groups of countries. Together, the OECD and BRICS groups represent 20 % of the number of countries in the world and account for 80-85 % of the global GDP. In this section, we therefore provide a macro-economic perspective of India's healthcare system Vis-à-vis the OECD and BRICS groups of countries.
Even though India's economy is the third largest in the world, our total expenditure on healthcare is less than 5 % of our GDP, compared with 10-12 % of GDP spent on healthcare by the OECD countries, as can be seen from Figure 1.

[1] The Organization of Economic Co-operation and Development (OECD) group of 34 developed economies account for 60% - 65 % of the global GDP.
[2] Brazil, Russia, India, China and South Africa (BRICS) group of 5 developing economies account for 15-20 % of the global GDP.

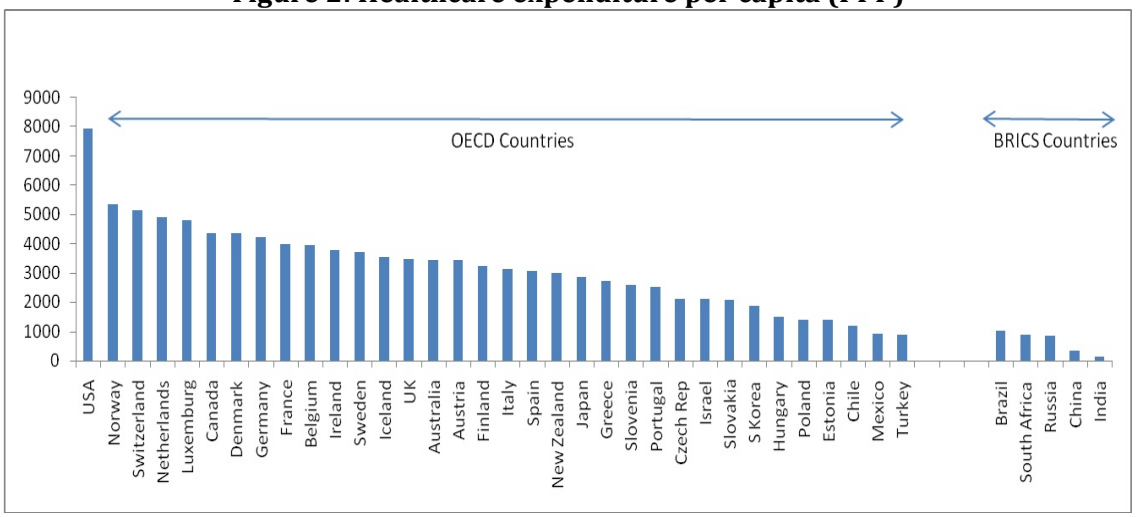
Figure 1: Health expenditure as % GDP



Such a low level of spending on health in India for a population of 1.2 billion translates into $ 45 (at average market exchange rate) or equivalently $ 122 (PPP exchange rate) per capita expenditure on health [WHO, 2011]. As per WHO estimates, a minimum of $ 50 (at average market exchange rate) per capita is necessary to meet basic healthcare needs. Why is India not investing in health?

A comparison of India with OECD and other BRICS countries on per capita expenditure (PPP) on health is shown in Figure 2.

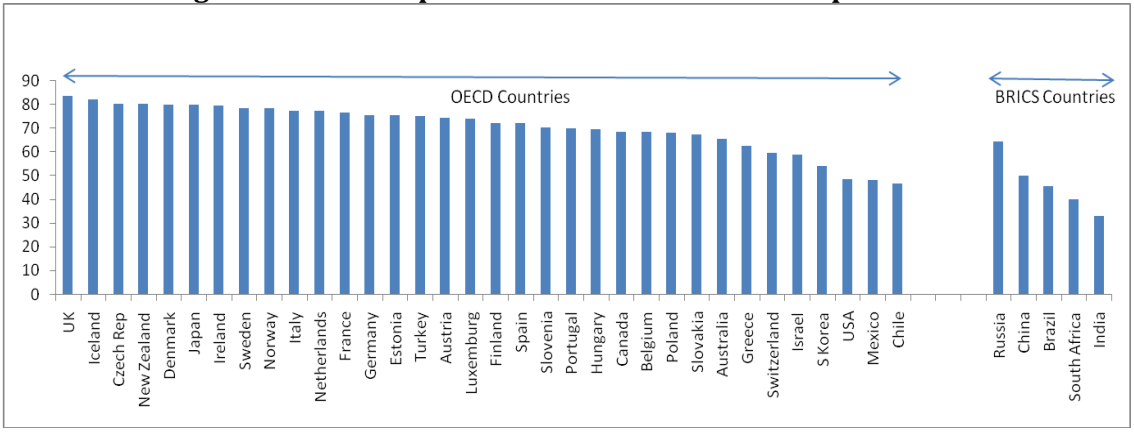
Figure 2: Healthcare expenditure per capita (PPP)



It can be seen from Figure 2 that the per capita expenditure on healthcare among OECD countries ranges from approximately $ 8000 by USA to about $1000 by Turkey. Among the BRICS group of countries, Brazil tops the list on healthcare expenditure per capita while India gets the lowest rank.

A breakdown of the healthcare expenditure into expenditure by the Public and Private Sectors raises more alarms, as can be seen in Figure 3. It can be seen from Figure 3 on next page that USA is ranked 32 out of 34 OECD countries on public health expenditure even though USA tops the world on total healthcare expenditure. Public health expenditure by many OECD countries ranges from 50-80 % of their total health expenditure. In India, public health expenditure accounts for less than 30 % of the total health expenditure. In fact, India is ranked 171 out of 193 WHO countries on public health expenditure.

Figure 3: Public Expenditure as % Total health expenditure



It is also well known that USA which tops the list of countries on per capita expenditure on health, does not top the list of countries on health system performance [WHO, 2000]. This may be because public health expenditure by USA is very low, as can be seen from Figure 3. The same conclusions may be drawn for the poor health system performance by India. It therefore seems to reason that the government's share in the total healthcare expenditure is an important determinant for health system performance; this research is currently underway by the author.

The Planning Commission of the Government of India has committed to increase the public healthcare expenditure from 1 % to 3 % of our GDP by the end of the 12th Five Year Plan. However, there is no reliable data on the projected growth of the unregulated private health sector for the above period, even though it currently accounts for almost eighty percent of the total healthcare expenditure (equivalently 4 % of the 5 % GDP on total healthcare expenditure). The unregulated private healthcare sector raises serious concerns regarding the accountability, equity and quality of service delivery. It is therefore surprising that the Government, at the national and state levels, is actively pursuing Public Private Partnership for improving healthcare delivery with very little knowledge of the private healthcare sector. It would be necessary to regulate the private healthcare sector so that the public and private sectors could work closely for improving our health system performance.

HEALTHCARE FINANCING

The dominance of the private healthcare delivery system in India is evident from the fact that out-of pocket expenditure on health accounts for almost 68 % percent of the total healthcare expenditure, as can be seen from Figure 4 [GoI Sept 2009].

An analysis of the out-pocket expenditure in the rural and urban India (see Table 3) shows that that both rural and urban India depends largely on the private sector for outpatient services, and on the public sector for inpatient services.

Figure 4: Healthcare Financing

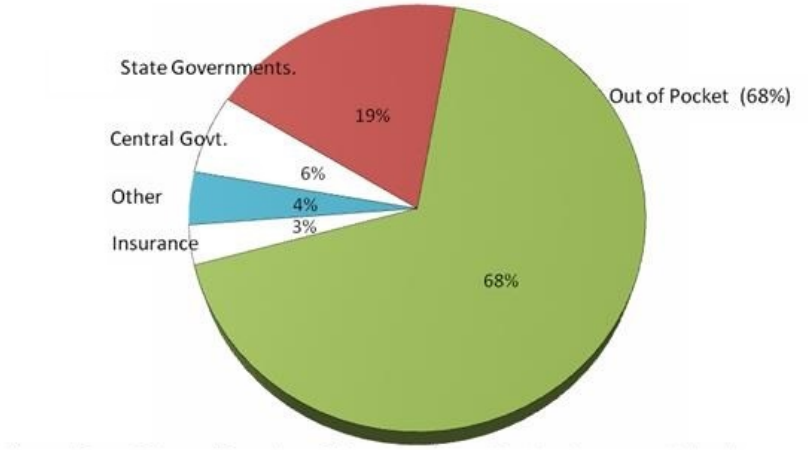


Table 3: Out-of-Pocket expenditure: Private Sector

Type of service	Rural	Urban	Total
Out patient-care	69 %	62 %	66 %
In-patient care	21 %	27 %	24 %
RCH services (*)	5 %	6 %	5 %
Other services (**)	5 %	5 %	5 %
Total	100 %	100 %	100 %

Source: [Mahal, et al 2010]
(*) Anti natal, intra-natal, post natal and abortion services
(**) Includes Immunization, Family Planning etc.

An analysis of expenditure by function (Table 4) reveals that curative care accounts for almost 78 % of the total expenditure.

Table 4: Health Expenditure by function

Function	Billion Rs	%
Curative Care	1042.87	77.96 %
RCH an FW	107.97	8.01 %
Control of communicable diseases	18.01	1.35 %
Control of Non Communicable diseases	2.42	0.18 %
Other public health activities	6.54	0.49 %
Medical Edu and Research	30.14	2.25 %
Health admin and Insurance	43.32	3.24 %
Others	86.49	6.47 %
Total	1337.76	100 %

[Source: GoI, Sept 2009]

The very low expenditure on preventive care and promotion of good health behaviour explain the reasons for the poor performance of our public healthcare system. About 200 mothers and 5000 children under the age of five years die every day in India [Ramani, 2010]. Almost 2/3rd of the maternal and child deaths are preventable with timely interventions. Besides maternal and child mortalities TB accounts for an additional 1000 deaths per day. India will certainly miss the MDG on maternal and child health. The government of India should divert more funds for preventive care and promotion of healthy behaviour given that the Planning Commission of

India is committed to increase public share of the healthcare expenditure from the current level of 1 % GDP to 3 % GDP by the end of the 12th Five Year Plan.

The discussions so far have highlighted the need to scale up financial resources in the India health sector, and to increase the government's share in the total health expenditure with a larger allocation to prevention and promotion activities. Next, we turn our attention to analyse the non-financial barriers which constrain the delivery of healthcare services.

NON-FINANCIAL OBSTACLES IN SERVICE DELIVERY

One of the recommendations in the WHO report [Jeffery Sachs, et al 2001] is the need to tackle the non-financial obstacles that have limited the capacity to deliver health services. The management of our healthcare system has to be made more effective and efficient. This calls for evidence based planning and monitoring the utilization of resources in the delivery of healthcare services in order to (i) attain optimum utilization of the health infrastructure, (ii) achieve maximum productivity from healthcare workers, (iii) avoid shortages of medicines, drugs and vaccines, and (iv) maintain minimum downtime of medical equipment and devices.

Health Infrastructure

Infrastructure forms a critical part of health service delivery in any country. Availability, access, affordability, and equity of quality services highly depend on the distribution, functionality and quality of infrastructure. India's record of investing in public health infrastructure has not been very satisfactory

Public Health Infrastructure

The District Health System (also known as Rural Health System) got considerably strengthened when the Government of India launched the National Rural Health Mission (NRHM) in April 2005 to carry out the necessary architectural corrections in the basic healthcare delivery system [GoI, 2005]. The Rural health system consists of approximately 150,000 Sub-health Centres (SC), 24,000 Primary Health Centres (PHC), and 4600 Community Health centres (CHC), and still has a shortfall of 30 % health facilities as per government norms. The real worrying question is not the shortfall in health facilities, but the number of health facilities which are functional. The functionality of a health facility is determined by the availability of all services, namely, consultation, investigation, and medication at any given point in time. An estimated 65 % shortages of doctors (GoI, Sept 2009]) in the rural health system explains the poor functionality of the public healthcare facilities. Poor functionality of public healthcare facilities is the major reason for the private sector to dominate healthcare service delivery even in rural areas (see Table 3 above). Besides the SCs, PHCs, and the CHCs, the public health system has an estimated 13,000 secondary and tertiary care hospitals.

The Urban Health System in India continues to remain neglected, even though the current urban population in India is estimated at 350-400 million. Urban health caught the attention of the national health planners for the first time in the 10th Five Year Plan 2002-2007. A proposal to set up a National Urban Health Mission (NUHM) is still pending with the Government of India [GoI, 2012]. Unfortunately, no recent statistics are available from the government on the number of urban health facilities in India.

Private Health Infrastructure

The private health sector in India is not regulated and so there is no reliable source to provide information on private health care facilities. Private health care facilities include dispensaries, clinics, nursing homes and hospitals, big and small. It is estimated that the private sector has

about 2/3rd the number of hospitals, owns about 1/3rds of the total number of hospital beds, and accounts for 75 % of healthcare workforce3. The private sector in India has a dominant presence in all the sub-markets- medical education and training, medical technology and diagnostics, pharmaceutical manufacture and sale, hospital construction and ancillary services, and finally the provisioning of medical care. Of concern is the quality of services provided at the rural periphery by a large number of unqualified healthcare staff. Its relationship to health outcomes at the population level has never been established. The private sector's predominance in the health sector has led to inequities in access to healthcare; hospitalization among the well-off is six times higher than that of the poor [GoI, 2010].

As per the World Health Statistics report [WHO, 2011], India has approximately 700,000 beds in the country implying a ratio of only 0.6 beds per 1000 population, as against the world average of 3.6 beds per 1000 population. India therefore needs an additional 3 million beds to reach the world average. It will take a few decades to achieve the world average for the number of hospital beds per 1000 population.

Human Resources in Health

Health service delivery is highly labour intensive and therefore health workforce is the most critical component of the health sector in any country. Table 4 provides a comparison of HR staff levels in the Indian health sector with the global scenario.

Table 4: HR staff In Indian health Sector

Healthcare workforce	**Global statistics**	**India statistics**	
	Number	Number	Density per 1000 population
Physicians	9,171,877	660,801	0.6
Nursing and Midwifery personnel	19,379,771	1,430,555	1.3
Dentistry	1,932,650	78,096	0.07
Pharmaceutical	2,587, 043	578,179	0.52
Community health workforce	1,369,772	50,715	0.05
Total	**34,441,113**	**2,798,346**	

Source: WHO, 2011

It can be seen that the Indian health sector has approximately 2.8 million workers compared to 34.5 million healthcare workers worldwide. Indian health sector has thus 8 % of the global workforce to meet the healthcare needs of 17 % of the global population.

As per the WHO statistics [WHO, 2011], India has 0.6 physicians per 1000 population, against the world average of 1.7 physicians per 1000 population. The number of nursing and midwifery staff in India is estimated to be 1.2 nurses per 1000 population, against the world average of 3.3 per 1000 population. The India healthcare system therefore requires an additional 1 Million physicians, 2 million nurses so as to meet the world average. It would take decades to meet the above requirements, since India produces only 45,000 doctors [MCI website], and 180,000 nurses per year [INC website].

[3] Healthcare workforce is not merely the number of doctors and nurses; it includes all health service providers and administrators from remotest sub centres to large hospitals, both public and private.

Availability of Medicines and drugs

Availability of medicines, drugs and vaccines in the healthcare facilities at all times is an important indicator of health system performance. As per the India facility survey [IIPS, 2005], the availability of medicines and equipment in working condition is as low as 40 %. The District Level Health Survey, DLHS-3 survey [IIPS, 2009] reported shortage of essential medicines in PHCs and CHCs for about 5- 10 days in a month. The National Family Health Survey, NFHS-3 survey [GoI, 2007] pointed out that only 54 % of our children are completely immunized. A recent study [IIMA, December 2011] showed that one of the major reasons for low levels of complete immunization is the poor transport arrangements and cold storage facilities for vaccines in villages. The logistics management of transportation, storage and distribution of medicines and vaccines requires considerable strengthening.

Maintenance Of Medical Equipment And Devices

As per the report of the National Commission on Macroeconomics and Health [GoI, August 2005], capital expenditure accounts for only 5 % of the total expenditure in the public health sector. This has serious implications on the quality of service delivery. The downtime of medical equipment and devices in public healthcare facilities is alarmingly high [IIPS 2009], partly due to poor monitoring and control measures, and partly due to procedural delays. Too frequent and long downtime of USG (Ultra Sono-graphy) machines would force the pregnant women to seek USG services from elsewhere incurring high costs, and thereby defeating the very policy goal of the government to provide timely maternal care services at affordable costs to the poor. It has been well documented in the literature that 60-70 percent of medical decisions are based on the investigation reports [IIMA, November 2011. It is therefore imperative to maintain the medical equipment and devices properly so as to deliver good healthcare services.

INTER-SECTORIAL AND INTER-MINISTERIAL COORDINATION

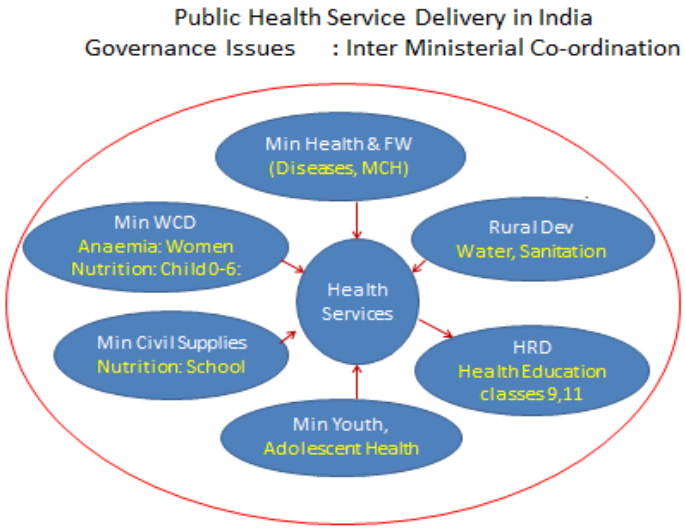
The Indian health sector works closely with several sectors which include pharmaceuticals, medical equipment and devices, information technology, medical insurance, medical tourism etc. The Pharmaceutical Industry in India (under the Ministry of Chemicals and Fertilizers), is the world's fourth largest in terms of volume. Pharmaceuticals play an important role in our healthcare delivery system since curative care accounts for almost 80 % of our total healthcare spending. Investment in medical technology needs to be considerably increased to improve the quality of service delivery, as brought out clearly in the report of the National Commission on Macroeconomics on Health [GoI, Aug 2005]. Information technology in healthcare is gaining wider acceptance now to enhance the clinical and administrative workflow of service delivery. Medical insurance coverage has to be expanded to address concerns on the equity of healthcare service delivery.

It is important to realise that healthcare indicators on mortality and morbidity are influenced by several factors such as age at marriage, anaemic status of pregnant women, malnutrition in children, quality of drinking water and so on. As per the NFHS-3 survey [GoI, 2007] and DLHS-3 survey [IIPS, 2009], about 50 percent of girls in India get married before the legal age of 18 years, 20 percent of mothers are adolescents, 60 percent of pregnant women are anaemic, 54 % of children are fully immunized against vaccine preventable diseases, and 50 percent of our children are underweight. Adolescent anaemic mothers are vulnerable to maternal mortality and morbidity. Malnutrition among children is high among those children born to adolescent anaemic mothers. As per the report of the National Commission of Microeconomics and Health [NCMH, 2005], poor hygiene and sanitation accounts for 9 percent of all deaths and an estimated 27.4 million years of life lost per year in India.

In order to address the above issues, MHFW coordinates its activities with several other ministries (as MHFW focuses only on disease prevention and cure). The Ministry of Women and Child Development (MWCD) looks after the nutritional needs of children (under the age of five years) through its ICDS program (Integrated Child Development Scheme) and of the adolescent girls under its Kishori Shakthi Yojana. The Ministry of Human Resources and Development (MHRD) is in charge of the Mid-Day Meal scheme, the National Programme of Nutritional Supplement to Primary Education to children in classes I to V in government and government aided schools. MHRD also looks after the school Health Education and Life-skills Programs (HELP) in classes IX and XI. Issues related to adolescent health are with the Ministry of Youth, Culture, and Sports. The Ministry of Drinking Water and Sanitation is responsible for the overall coordination of programs of drinking water and sanitation in the country. As per WHO estimates, unsafe water supply, sanitation, and hygiene accounts for as high as 88 percent of the burden of diseases and is mostly concentrated on children in developing countries [WHO website].

The Ministry of Health and Family Welfare (MHFW), which is the nodal ministry for healthcare delivery, thus faces enormous challenges in inter-sectorial and inter-ministerial coordination in order to address issues on all aspects of health, as can be seen from Figure 5.

Figure 5: Public Health Service Delivery in India



CONCLUSION

From the above discussions it is clear that the India health sector is at cross roads today and needs serious reforms. After establishing NRHM in 2005, there has been no major reform in the India health Sector. NRHM was conceptualized in response to perceived systemic flaws in our health system, namely, lack of a holistic approach, absence of linkages with collateral health departments, gross shortage of infrastructure, inadequate skilled human resources, and so on. In spite of additional resources made available to the states under NRHM, Maternal Mortality Rate (MMR) continues to be high around 178/100,000 live births. India would therefore miss the MDG target for MMR at 100/100,000 live births by 2015, even though we may be close to achieving the MDG for Infant Mortality Rate. The Planning Commission of India proposed to increase the Government share of total healthcare expenditure from 1 % of GDP to 2-3 % of GDP by the end of the 11th Five Year Plan (2007-2012), but the government share continues to remain at 1 % GDP. The government's poor share in the total healthcare expenditure has led to

rapid growth of the unregulated private sector for healthcare service delivery in India. The dominant role of the private healthcare sector raises serious questions on the equity and accountability of service delivery. A regulated private health sector is also necessary for any meaningful Public Private Partnership (PPP) so that the public and private sectors could complement each other's strengths and weaknesses for improving our healthcare system performance. It would be necessary for the government of India to divert more funds for preventive care and promotion of healthy behaviour given that the Planning Commission of India is committed to increase public share of the healthcare expenditure from the current level of 1 % GDP to 3 % GDP by the end of the 12th Five Year Plan (2012-17). Even if we achieve this target of government expenditure on health by the end of the 12th Five Year plan, India still lags behind the OECD countries on health system performance and expenditure on health. The OECD countries spend around 10-12 % of GDP on total healthcare expenditure, and the government's share on total health expenditure averages around 70 % . It therefore seems to reason that the government's share in the total healthcare expenditure is an important determinant for health system performance; this is an area for future research.

While NRHM has had some success, the fate of NUHM still hangs in the balance. The proposal to include NUHM under the NRHM umbrella proves the inability of our government to admit the basic differences in health care issues of the urban population from the rural population. Neglect of urban health planning has resulted in many urban health indicators being worse than rural health indicators. Government has to take up urban health planning on a war footing.

Lack of management capacity to transform the available financial resources into better service delivery is evident from the unutilized NRHM budget by the states. Functionality of the existing public health infrastructure has to be improved so as to make basic healthcare services available at all times. India requires an additional 1 Million physicians, 1.8 Million nurses and 3 Million hospital beds to reach the world average of 1.7 physicians, 3.3 nurses and 3.6 beds per 1000 population. At the current rate of 45,000 doctors and 2 million nurses produced every year, it would take another 20-25 years for India to achieve the world average for the number of physicians and nurses per 1000 population. The logistics management system to transport, store and supply medicines and vaccines to health facilities in rural areas should be strengthened so as to avoid shortages of essential medicines and vaccines. The government should invest more on medical and information technology to improve the quality of care. Health System planning has to be strengthened in order to manage the health system resources effectively and efficiently.

The governance of the Indian healthcare sector should facilitate inter-sectorial and inter-ministerial coordination between the Ministry of Health and all other ministries participating in delivering health related services such as nutrition, health education and so on.

Managerial challenges have to address the urgent need to scale up the financial resources to the health sector and tackle the non-financial barriers coming in the way of healthcare delivery. Building health systems that are responsive to client needs requires politically difficult and administratively demanding choices.

REFERENCES

[GoI, Aug 2005] Report of the National Commission on Macroeconomics and Health; Ministry of Health and Family Welfare, Government of India, New Delhi, August 2005

[GoI, 2005] Government of India. National Rural Health Mission (2005–12): Mission Document; Government of India. Available at www.mofhw.nic.in; Last accessed on 3 Oct 2013

[GoI, 2007] National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare, Government of India.

[GoI, Sept 2009] Government of India, National Health Accounts India,
Ministry of Health and Family Welfare, Government of India, New Delhi

[GoI, 2010], Annual Report, Ministry of Health and Family Welfare, Government of India,
http://mohfw.nic.in/WriteReadData/l892s/9457038092AnnualReporthealth.pdf
Last accessed on March 3, 2012

[GoI, Oct 2012], Ministry of Health and Family Welfare, Government of India, National
Urban Health Mission: Framework for Implementation, www.mohfw.nic.in; Last accessed on 12 Oct 2013

[IIMA, December 2011] D V Mavalankar, KV Ramani, Manjari Singh: Universal Immunization Program in India: a Study of HR needs and Assessment at National and State levels; Study commissioned by the HRD Committee on UIP constituted by the Government of India, December 2011.

[IIMA, November 2011] Poonam Trivedi, Nailesh Shah, KV Ramani; Managing Clinical laboratories: Monitor and Control lab errors to improve Lab Performance; IIMA Working Paper; W P. No. 2011-11-12, November 2011.

[IIPS 2005]: India facility Survey; International Institute for Population Sciences, Mumbai, December, 2005.

[IIPS 2009] District Level Household and Facility Survey (DLHS-3), 2007-08: Ministry of Health and Family Welfare, Government of India.

[Jeffery Sachs et al, 2001] Jeffery Sachs, Manmohan Singh et al; "Macroeconomics and
Health: Investing in Health for Economic Development", WHO, December 2001.

[Mahal et al., (2010)] , India Health Report 2010, Indicus Analytics: BS Books.

[Ramani KV et al, 2010]. 'Why should 5000 children die in India every
day: Major Causes of Death and Managerial Challenges' Vikalpa. 35 (2), pages 9-19.

[UN, 2008] International Standards Industrial Classification of all Economic Activities. Statistical papers, Series M, No.4, Rev 4. Available at unstats.un.org/unsd/publication/
seriesm_4rev4e.pdf; Last accessed on 14 Oct, 2013.

[WHO, 2011] World Health Statistics 2011—Table 6: Health workforce, infrastructure and essential medicines

[WHO, 2000] The World Health Report, 2000, Health Systems: Improving Performance, World health Organization

[MCI Website] Medical Council of India, List of colleges teaching MBBS;
www.mciindia, last accessed on 14 Oct 2013.

[INC website] Indian Nursing Council, www.indianursingcouncil.org, last accessed on 12 Oct 2013.

[WHO Website] WHO Report, India Country Health Profile: Country Health System Profile, India, www.searo-who.int/en/Section313/Section1519_10852.htm, last accessed 3/7/2012

[WHO website], http://www.who.int/water_sanitation_health/diseases/burden/en/index.html, last accessed on Nov 9, 2013].

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Integrating Mainstream Mental Health Approaches and Traditional Aboriginal Healing Practices: A Literature Review

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ABSTRACT

Aboriginal ways of knowing and being are said to originate from the intrinsic connectedness of the spiritual, natural, and human realms of existence. A model of practice that acknowledges and is informed by shared worldviews, beliefs, and values may facilitate the integration of mainstream mental health approaches and traditional Aboriginal healing practices. There is an abundance of accessible and available research regarding Indigenous and Western methods related to health and well-being. However, the connection between Western and Indigenous approaches to mental health and the manner they serve the distribution of culturally relevant services has not received the attention it deserves. This paper bridges this gap through a review and analysis of literature on definitions of cultural safety; mainstream mental health approaches; Aboriginal mental health; research considerations; traditional Aboriginal healing practices; integrated mental health approaches; and considerations for rural practice.

Keywords: Aboriginal mental health; culturally relevant and holistic approaches; promoting health and well being; cultural safety; mainstream approaches.

INTRODUCTION

In addressing the mental health needs of Aboriginal populations, professionals are encouraged to adopt culturally relevant approaches to service delivery. These methods should reflect standards of practice that embody conceptual frameworks for cultural safety. Culturally safe frameworks support practical applications that acknowledge Aboriginal perspectives concerning the interconnectedness between the physical, mental, spiritual, and emotional components of human existence [1].

The health needs of Aboriginal populations in North America reflect a unique mosaic of cultural traditions and historical trauma. Traditional Aboriginal healing practices reflect cultural ideology concerning social and emotional wellness. These traditional practices support a holistic approach to promoting health and well-being [1].

Mental health professionals tasked with the delivery of interventions and supports that improve outcomes for Aboriginal populations must be well informed about culturally safe frameworks of practice and culturally derived views concerning health and well-being. In acknowledging the importance of cultural safety, mental health professionals have sought to integrate mainstream mental health approaches and traditional Aboriginal healing practices. Traditional healing practices may include, but are not limited to: sweat lodges, smudging,

talking circles, healing circles, and Indian medicines [21]. These holistic approaches are believed to promote improved outcomes for Aboriginal mental health service users [2].

A great deal of research, from both Indigenous and Western perspectives, is available on approaches to health and well-being. Attention has also been given to the importance of delivering culturally relevant services in the field of mental health. However, the links between Western and Indigenous approaches to mental health and how they support the delivery of culturally relevant services has not been equally addressed. This paper bridges this gap through a review and analysis of literature on definitions of cultural safety; mainstream mental health approaches; Aboriginal mental health; research considerations; traditional Aboriginal healing practices; integrated mental health approaches; and considerations for rural practice.

LITERATURE REVIEW

Defining Cultural Safety: Initiatives in Policy and Programming

The conceptual framework for cultural safety is rooted in work inspired by the Maori people of New Zealand in the 1980s, reflecting that population's dissatisfaction with the delivery of health services. Practical applications employing this framework recognize the interconnectedness of the physical, mental, spiritual, and emotional aspects of the self. Canadian policies guiding the delivery of health services to Aboriginal populations assert that the conceptual framework of cultural safety may be helpful in guiding the development of strategies and practical service applications [7].

The importance of cultural safety and competence is further evidenced by the National Native Addiction Partnership Foundation (NNAPF) in *Honouring Our Strengths: A Renewed Framework to Address Substance Use Issues Among First Nations People in Canada*, which provides information and advice on cultural competency and safety in the delivery of mental health and addiction services [33]. NNAPF defines cultural competency as evidence of the service provider's awareness regarding cultural differences and their knowledge of and willingness to understand the contextual reality of the client [33]. This resource asserts that cultural competency may support cultural safety, which is defined as reflection at both individual and organization levels on cultural and historical differences, including recognition of power differentials [33].

National and provincial government-sponsored initiatives have issued directives for the development of culturally safe programming in mental and behavioral health services. These directives increase cultural safety within an Indigenous context. Cultural safety fosters professional competency by facilitating communication and relational approaches within the professional–patient relationship and encouraging sensitivity and understanding of "social, political, linguistic, economic, and spiritual issues" [31].

Canada's response to the need to improve supports and services to Aboriginal populations is exemplified by the priorities set in 2006 by the Tripartite Agreement of the Government of British Columbia, the First Nations Leadership Council, and the Government of Canada. The Agreement governs the collaborative and coordinated efforts of federal and provincial entities in their commitment to improving health outcomes for the Aboriginal populations of British Columbia [31]. A provincial agreement was reached through the efforts of the Government of British Columbia and the First Nations Leadership Council, resulting in the inception and implementation of the bilateral Transformative Change Accord: First Nations Health Plan. The Accord reflects the principles established in the Tripartite Agreement, making a commitment to provincial programming that respects and recognizes the unique needs of Aboriginal people. The Accord is committed to active efforts to bridge the gap in health outcomes for Aboriginal

populations in British Columbia (BC), cultivates rapport between government entities and Aboriginal partners, and bears evidence of transparency in all transactions [31].

The need for and value of culturally safe programming is further emphasized in the recommendations of the Aboriginal Mental Health Committee and presented in their *Aboriginal Mental Health: 'What Works Best'* discussion paper. The recommendations suggest a process of transformation promoting mental health services and programming that recognizes the uniqueness of the Aboriginal context and encourages the delivery of culturally safe supports. Noteworthy is the Committee's acknowledgment that the recommendations presented in their discussion paper may not be reflective of Aboriginal perspectives [45]. The materials and recommendations were primarily generated by non-Aboriginal sources, a limitation that should prompt a search for Aboriginal perspectives.

Academic acknowledgment of the need for consistent competency standards in Indigenous public health evaluation and research prompted the formation of a collaborative partnership between the University of Victoria in Canada and Aboriginal scholars around the world, including Australia, New Zealand, Canada, and the United States. The Competencies for Indigenous Public Health, Evaluation and Research program (CIPHER) aspires to "decipher" cultural safety through public health competencies supporting Aboriginal healthcare. CIPHER's conceptualization of cultural safety acknowledges the historical factors that contributed to hostilities between settler and Aboriginal cultures, examines inequalities, considers the influences of colonialism on institutional structures, and informs health care practice that acknowledges the unique attributes and identity of the client population [49].

The BC First Nations Health Council (FNHC) is comprised of representatives from First Nations political organizations in BC. The formation of the Council was supported by various national and provincial initiatives, including the Transformative Change Accord: First Nations Health Plan. The Council is tasked with advocating for the health priorities and objectives of Aboriginal populations in BC, administering the analysis of policy and research in the health field, and contributing to the planning of First Nations health-related policies and programming [18]. The mental health needs of Aboriginal populations must be supported through programming that acknowledges and promotes mental wellness through a balance of the social, physical, spiritual, and emotional. FNHC's recommendations reflect community feedback and encompass a broad spectrum of key areas. FNHC recommends mental health services being a core element of First Nations community health plans; health plans reflecting community-identified priorities; the necessity of services addressing the factors contributing to Aboriginal mental health issues and substance misuse; detoxification services; supportive recovery; re-entry; and life skill development. Programming must reflect the full spectrum of needs for both the individual and the community [18].

The literature reviewed above provides a helpful overview of historical and ongoing efforts by both settler and Aboriginal groups to improve access to and delivery of mental and behavioral health supports for Aboriginal populations in BC. However, the literature fails to provide criteria for the development of integrated approaches. This gap presents a potential barrier for clinicians. A lack of standardized guidance may create a lack of consistency in the development and delivery of integrated forms of service.

Research Considerations

Aboriginal people are among the most studied populations in the world, and research with these groups has rarely been to their benefit [44]. Historical research conducted on

Indigenous peoples has not been ethically sound, further perpetuating colonial power (Cochran et al., 2008). Researchers are tasked with being cognizant of the impact of historical research and being vigilant about these sensitivities while ensuring a balance of culture, purpose, and ethics. Furthermore, continued pressure on the research community demands that organizational studies recognize the value and importance of efforts rooted in cultural awareness and safety while embracing the voice and expertise of Indigenous populations. The adoption of culturally relevant research approaches reflects acknowledgment that the absence of Aboriginal support and participation compromises the relevance and applicability of findings.

Research approaches concerning Aboriginal populations have been the focus of various scholarly inquiries. Topics have included the decolonization of research methodologies and considerations for a culturally relevant research framework [22, 44] Linda Tuhiwai Smith's *Decolonizing Methodologies: Research and Indigenous Peoples* (2012) [44] offers a review of the historical occurrences and sociopolitical priorities that have shaped the intent and outcomes of research on Indigenous populations. In Chapter 6, "The Indigenous Peoples' Project: Setting a New Agenda," Smith depicts the Indigenous cause of social, legal, and political equality. This is the context for Smith's agenda of Indigenous research, which she terms the "Indigenous Peoples' Project" (p. 111). The Indigenous research agenda is represented through the "metaphor of ocean tides" (p. 120), which reflects the views of Indigenous peoples from the Pacific region and their regard for the sea as a source of life. The metaphorically derived agenda presents four "major tides": survival, recovery, development, and self-determination (p. 121). Ethical considerations in research practice include the struggle to overcome historically derived Indigenous perceptions about the nature of research. Smith raises concerns about Western views influencing the directives and priorities for research [44].

The chapter offers a thought-provoking review of the ongoing struggle of Indigenous populations to assert their rights and to ensure that their voices are heard and reflected throughout local and global priorities. The impact of colonization on the welfare of Indigenous populations is considered from multiple perspectives, including the physical, spiritual, emotional, socioeconomic, and political. The author presents a unique perspective that considers the impacts of Western priorities on the efforts of the global Indigenous community to assert their rights and establish their agenda at the international level. Another important aspect is Smith's consideration of the historical and ongoing challenges faced by Indigenous populations and their impact on the Indigenous research agenda. The provision of examples of Indigenous frameworks for research offers additional insight. The chapter allows the reader to gain a better understanding of the unique journey Indigenous populations have taken toward asserting their voices in academic and political circles.

Jamieson et al. (2012) [22] describe the principles of best practice concerning research with Aboriginal populations as an essential framework for conducting culturally relevant inquiry. The principles are reflected in a vast number of scholarly publications and government entities. The authors set out to develop an accessible document to help researchers understand and apply these principles. The set of principles is divided into two categories, essential and desirable. Essential principles are: addressing a priority health issue as determined by the community; conducting research within a mutually respectful partnership framework; capacity building as a key focus of the research partnership, with sufficient budget to support it; flexibility in study implementation while maintaining scientific rigor; and respecting communities' past and present experience of research. Desirable principles include recognizing the diversity of Indigenous populations; ensuring extended timelines do not jeopardize projects; preparing for Indigenous leadership turnover; supporting community

ownership; and developing systems to facilitate partnership management in multi-centre studies [22].

Jamieson et al.'s (2012) [22] contribution is an important advance in establishing clear guidelines for culturally relevant research. The inclusion of examples of research endeavours guided by the recommended framework would have strengthened the analysis, as would identification of the potential pitfalls of failing to apply the recommended guidelines. Despite these shortcomings, the authors have facilitated access to essential information that will promote ethically based standards of practice in research with Indigenous populations.

Aboriginal Mental Health

The history of Aboriginal peoples in Canada dates back thousands of years. Their history speaks of peoples wealthy in tradition with a strong sense of identity derived from their intrinsic connectedness with their environment. Complex social structures gave individuals a distinct sense of worth within the context of their community. They achieved a sense of balance and purpose through their connection with the environment [1]. This ecological state of harmony was disrupted by the arrival of a race that imposed their own beliefs and values while negating the intrinsic strength of the Aboriginal cultures.

Colonization promoted a Eurocentric approach that sought to impose cultural "progress" on established Aboriginal frameworks of socialization and identity. The loss of vital social structures resulted in the loss of cultural identity and in vulnerability to insensitive dominant culture paradigms [8]. The period of colonization in North America was a time of great upheaval for the Native peoples of Canada. Having been stripped of their lands and community, and losing their sense of identity, they became isolated and vulnerable. Recent acknowledgments of the impact of this period in history have led to systemic changes that seek to reinstate the rights of Aboriginal peoples in North America while recognizing their unique strengths and needs.

Mental health and substance abuse are a top concern for Canadian Aboriginal populations [37]. Aboriginal populations in British Columbia experience significantly higher incidences of mental health and substance abuse problems than the population at large [32]. Culturally safe mental health practices, rooted in Indigenous paradigms, would address culturally specific issues such as identity, trauma, and colonization and would promote social and emotional well-being, confidence-building, and advocacy [37]. Further concern arises when one considers scholarly assertions that the application of mainstream mental health frameworks of practice may serve to perpetuate the cycle of traumatization for Aboriginal populations [15].

Aboriginal mental health has been the focus of various scholarly inquiries on topics such as Eurocentric consciousness, the basis for knowledge concerning Aboriginal mental health, and multidisciplinary perspectives on Aboriginal mental health [19, 24, 50]. Scholars have also challenged the notion of homogeneity in relation to Aboriginal populations as it fails to acknowledge the diversity of Aboriginal groups and traditional perspectives. Attempts to revitalize traditional worldviews have shed light on the limitations and impacts of Eurocentric perspectives and have resulted in notable contributions by Aboriginal professionals and scholars.

The impact of Eurocentric values and beliefs on the educational experiences of Aboriginal populations in Canada is explored in Fyre Jean Graveline's *Circle Works: Transforming Eurocentric Consciousness* (1998) [19]. From an activist's stance, Graveline challenges professionals of all creeds and ethnicities to evaluate the origins of their practice and consider

the inherent value of alternative ways of knowing and sharing knowledge. The author explores Aboriginal teaching, feminist theory, anti-racist methodologies, and their practical applications. The section entitled "The Eastern Door: Challenging Eurocentric Consciousness" examines the origins and modern conceptualization of consciousness-raising, with consideration given to applications of the concept, including the feminist approach. Additional consideration is given to influential concepts such as homogeneity and heterogeneity and to the impact of oppression and racism on the Aboriginal consciousness [19].

Graveline's (1998) [19] implementation of an Aboriginally informed analytical lens illustrates the applicability and strengths of traditional knowledge. The reader is provided with an informed comparison of mainstream ideologies and traditional knowledge, allowing for an improved understanding of their similarities, differences, and conflicting priorities. The consistent referencing of Aboriginal scholars gives further credence to the value of the Aboriginal way of knowing. Another valuable aspect of Graveline's analysis is her encouragement that professionals seek knowledge beyond dominant paradigms. She also challenges the professional community to examine its practice and its derived sources of knowledge in an effort to detect and correct any racist approaches to practice.

Non-Aboriginal scholars have also contributed to this body of knowledge [3, 12, 17, 34, 40, 50, 51], including examinations of the impact of Eurocentric systems on research, service delivery, and access. James B. Waldram's (2004) [50] *Revenge of the Windigo: The Construction of the Mind and Mental Health of North American Aboriginal Peoples* seeks to address the basis of knowledge about the mental health of Aboriginal populations. In Chapter 10, "The Clinician's Aboriginal," Waldram examines the generalizations and misconceptions that have shaped the clinical conceptualization of the "Aboriginal client." From its anthropological roots to its psychological origins, the notion of the Aboriginal client has been shaped into a prescriptive configuration of value orientations, personality traits, and characteristics of dysfunctionality. The generational transfer, within professional communities, of misconceptions and cultural biases is identified as a particularly concerning aspect of unquestioned ethnic and cultural generalization.

Waldram also explores the impact of socioeconomic issues in shaping the value orientations of Aboriginal populations. He emphasizes the conflicting nature of literary resources and scientific knowledge concerning the value orientation and cultural characteristics of Aboriginal populations, giving particular consideration to their impact on culturally competent clinical practice approaches [50].

Waldram's [50] analysis adds to the vast array of scholarly works on cultural competency in clinical settings and the influences and implications of refined approaches to working with multi-cultural populations [see, for example, 3, 34, 51]. Waldram provides an amply sourced and insightful examination of the origins, influential factors, and implications of clinical work with Aboriginal clients. From both an anthropological and a psychological perspective, he examines the factors that have shaped culturally competent clinical approaches to working with Aboriginal clients. Waldram considers the professional implications of long-standing generalizations about Aboriginal culture. In challenging these ill-informed and potentially dangerous generalities, he prompts the professional community to uphold well-informed, up-to-date standards of practice in the delivery of culturally competent supports. Overall, his argument and recommendations are a valuable contribution. However, *Revenge of the Windigo* would have benefited from a more inclusive and global approach that considered similar trends of influence and response in other Western societies. Consideration of the impact of similar fields of practice would have further improved the applicability of the author's analysis

and recommendations.

Kirmayer and Valaskakis' (2009) [24] compilation of multi-disciplinary perspectives on Aboriginal mental health explores the various social, economic, and political issues affecting the health and well-being of Aboriginal people in Canada. McCormick's chapter "Aboriginal Approaches to Counselling" depicts innovations in approaches to counselling work with Aboriginal populations. McCormick explores factors influencing Aboriginal health and well-being, including Aboriginal worldviews, spirituality, tradition, and culture. McCormick's work succinctly outlines what constitutes a well-informed and conscientious journey toward culturally competent practice. The chapter also validates integrated approaches.

McCormick's [28] assertion that additional research is needed to establish the value and impact of traditional and mainstream approaches challenges the professional community to extend knowledge in this area. He also explores the role of mainstream mental health methodologies and traditional healing practices in supporting the mental health of Aboriginal clients and the efficacy of amalgamating mainstream and traditional approaches, giving particular consideration to applications within counselling scenarios such as sex abuse, career/vocational, suicide, and substance abuse [28].

The histories, worldviews, and needs of Aboriginal populations and the importance of developing and implementing services that reflect the uniqueness of Aboriginal culture are acknowledged in multiple areas of research and practice. Walker, Cromarty, Kelly, and St Pierre-Hansen (2009) [51] offer a Canadian example of culturally competent service delivery. The authors' comparative review of traditional healing approaches and mainstream methodologies provides insight into how integrated methods complement and strengthen individual components while promoting improved client outcomes. Their discussion of existentialism and its homogenous roots in both mainstream and traditional ideologies illustrates not just the differences, but also the important similarities between the two belief systems.

Mainstream Mental Health Approaches

The World Health Organization (WHO) defines mental health as the range of endeavours aimed at promoting mental well-being as it relates to overall physical, mental, and social welfare. These endeavours include education, support, preventative measures, treatment, and rehabilitation [53]. In the last century, approaches to mental illness have shifted from those that sought to isolate the individual facing a mental disorder to modalities that utilize social and environmental factors to promote prevention, treatment, and care.

Mental health is "a state of well-being in which the individual realizes his or her own abilities, can work productively and fruitfully, and is able to make a contribution to his or her community" [35]. A lack of proper attention to one's mental health may compromise one's physical health and productivity. The success of mental health interventions will greatly depend on the professional's ability to implement the appropriate combination of tools needed to meet the unique needs of the client.

Mental and behavioural health services in northern BC are delivered through a variety of resources. These resources include government-sponsored organizations and private practice service providers. Government sponsored-organizations responsible for the delivery of mental health services in northern BC include the Northern Health Authority (NHA), the Ministry of Children and Family Development (MCFD), and the Central Interior Native Health Society (CINHS). Service delivery through these organizations seeks to respond to age-specific,

cultural, and lifespan needs of northern populations. The NHA provides mental and behavioural health services through a wide range of programming [36]. MCFD is specifically concerned with addressing the mental health needs of children and youth in BC. Supports are delivered to children and youth and their families through a wide range of "community-based specialized mental health services" [30]. CINHS offers a primary health care team approach in the delivery of supports for Aboriginal populations in northern BC. The organization is committed to a holistic approach to health and well-being by addressing the four pillars of wellness: spiritual, mental, emotional, and physical [10].

Mainstream mental health treatment approaches derive from consensus-based arguments about what constitutes a problem and how the perceived problem may be addressed. The noted limitations of this "cookie cutter" approach to service delivery are that it tends to rely on prescriptive categories or ideas, fails to give credence to internal experiences, lacks appreciation for how individuals respond to their environment, and fails to account for cultural factors [20]. Various scholarly studies have examined mainstream mental health service delivery in relation to the facilitation of cultural competence in both mental health and educational settings, racist influences in mental health practice, cultural relevance in family therapy, the impact of Western tools in the delivery of mental health services to diverse populations, and the implications of multiculturalism on the helping profession [12, 17, 27, 29, 40].

Constantine and Sue's *Addressing Racism: Facilitating Cultural Competence in Mental Health and Educational Settings* (2006) [12] is a compilation of scholarly works exploring and analysing issues of racism as influenced by multiple factors such as classism and poverty, and their impact on the quality and effectiveness of mental health services. In Chapter 5, "Linking Poverty, Classism, and Racism in Mental Health: Overcoming Barriers to Multicultural Competency," William Ming Liu, Jovan Hernandez, Amina Mahmood, and Ren Stinson explore socioeconomic and political factors and consider their impact on access to and perception of mental health services by marginalized populations. The intersections of these oppressive factors are important considerations in the clinician's repertoire of personal and professional developmental tools [26].

In both professional and scholarly circles, the importance of informed professional interventions is an established platform [3, 34, 50, 51]. Liu, Hernandez, Mahmood, and Stinson's [26] study further emphasizes this platform through a comprehensive examination of various oppressive factors and how understanding their impact on marginalized populations can support culturally relevant practice in clinical and educational settings. They provide an insightful structural approach to culturally competent professional development. Professionals are encouraged to consider their personal views concerning race, class, and poverty, and how those views may impact their practice. They invite reflection by professionals on how attitudes and policies may serve to perpetuate racist trends. The authors' acknowledgment of global implications and the inclusion of multicultural perspectives, including those of African American, Asian American, Native American, and Latino populations, grants further credibility and applicability to their work. Statistical data further supports the authors' stance and provides contextual information.

A number of scholars have sought to increase understanding of Western epistemological influences on the mental health field and practice [3, 12, 17, 34, 40, 50, 51]. Suman Fernando's (2003) [17] *Cultural Diversity, Mental Health and Psychiatry: The Struggle Against Racism*, for example, provides an examination of the racist influences impacting mental health practice with culturally diverse populations. Fernando focuses on racism, its origins, its historical impact, and its influence on the mental health field. The author emphasizes the value of

educational approaches that foster multi-culturally informed, anti-racist, and culturally relevant professional practice.

In Chapter 5, "Moving Forward," Fernando [17] delves into various factors, including legislative measures and professional field initiatives, impacting culturally relevant and anti-racist practices in mental health and psychiatry. The roots of Western psychotherapy are explored in relation to their impact on "fundamental cultural assumptions" about the nature and condition of humanity [17]. The author reiterates the importance of acknowledging differing worldviews and ensuring that this knowledge is reflected through constructive, informed practice. The connection between the professional and the client is emphasized as a key aspect of effective therapeutic practice; consequently the value of an informed approach in matters concerning cultural views and values is accentuated. Fernando (2003) [17] proposes changes to professional training that will better promote multicultural perspectives and anti-racist practice.

Fernando's [17] most significant contribution is his multi-level approach to developing and enhancing professional practice in mental health as evidenced by his examination of educational, cultural, geographic, societal, economic, and political factors. Unfortunately, Fernando is predominantly influenced by Western worldviews, which impacts his ability to address racism, multiculturalism, and culturally relevant professional practice. The author's failure to acknowledge the impact of his own worldview limits the reliability and applicability of his ideas.

McGoldrick, Giordano, and Garcia-Preto's (2005) [29] *Ethnicity and Family Therapy* is a compilation of scholarly works on the cultural relevance of the family therapy model and applications in multicultural environments. CharlesEtta T. Sutton and Mary Anne Broken Nose's contribution, "American Indian Families: An Overview," explores the history and modern concerns of American Indian populations and proposes the family therapy model as an effective tool to address the unique needs of this ethnic group. The professional community is encouraged to improve their understanding of traditional worldviews, cultural misconceptions and stereotypes in order to advance the efficacy of therapeutic supports and interventions [48].

Scholars and professionals alike have acknowledged the need for delivery of informed and effective mental health services to culturally diverse populations as a rapidly growing reality for clinical staff [27, 34, 39, 47]. Self-awareness, informed practice, culturally relevant practice, and multiple approach integration are just some of the issues scholars have examined in an effort to improve the delivery of mental health services to multicultural populations. Sutton and Broken Nose's examination of the similarities of mainstream therapeutic approaches and traditional American Indian approaches to healing demonstrates that traditional approaches are applicable in multicultural settings. The principle of ongoing development of professional practice lies at the heart of the authors' position. Through an understanding of the worldviews of other cultures, the professional will be better equipped to implement the most effective intervention approaches and more able to establish a respectful and empathetic therapeutic relationship. A comparative analysis of the applicability of other models of therapeutic intervention, such as group, art-based, and outreach approaches, would strengthen the authors' platform. Information concerning their backgrounds and professional experience would support positioning, a key aspect of professional development.

Regehr and Glancy's *Mental Health Social Work Practice in Canada* (2010) [40] offers a comprehensive analysis of social work practice in a Canadian context. Chapter 4, "Social Work Assessment in Mental Health," considers whether Western-influenced mental health evaluation tools capture accurate depictions of the mental health status of diverse populations in Canada. The implementation of assessment tools within a cultural context is explored, with consideration given to Aboriginal worldviews, Asian perspectives, and African notions of health. Socioeconomic, political, and historical stressors on the psychological health of these ethnic groups are depicted. Regehr and Glancy [40] examine a range of perceptions and manifestations of psychological conditions as derived from culturally influenced factors. Emphasis is given to trends in expressions of distress that lead certain ethnic groups to associate psychological unrest with physical symptomology. Cultural influences on service access trends and culturally bound sets of symptoms are also appraised [40].

Several scholars have attempted to shed light on the complexities of multicultural access and perceptions of mental health services influenced by Western culture [3, 12, 34, 50, 51]. Regehr and Glancy [40] expand this body of knowledge through their examination of the efficacy of mainstream mental health assessment tools and diverse cultural factors that may impact the accuracy of Westernized means of measurement. Most significant is their perceptive overview of cultural perspectives on the origins and manifestations of mental health imbalances. Their argument is supported by the inclusion of statistical data concerning mental health diagnosis and treatment among some of the cultures that make up the Canadian societal landscape. A close examination of the most commonly used diagnostic tools including the *Diagnostic and Statistical Manual* (DSM) reveals the limitations of commonly used means of measurement when applied within a multicultural context. In contemplating the meaning of key concepts such as psychologization and somatization, the reader can consider the varied ways in which psychological maladies may be conceptualized and experienced, giving further understanding of the limitations of mainstream approaches.

Aretha Faye Marbley's *Multicultural Counseling: Perspectives from Counselors as Clients of Color* (2011) [27] is an axiological study of multiculturalism and its implications for the helping profession. In Chapter 1, "From Hills and Molehills All Across America," Marbley examines the delivery of mental and behavioral health services in the context of the cultural landscape and history of the United States, with an emphasis on racism and acculturation. Service access and impact experiences of African American, Asian American, Latino, and Native American populations are considered. The author contends that professionals must become knowledgeable about the history and unique cultural distinctions of their target populations in order to improve the likelihood of effective interventions [27].

Scholarly efforts to further understanding of the impact of multicultural factors in the delivery of therapeutic supports and interventions have gained momentum in recent years. Scholarly contributions promoting therapeutic frameworks and interventions informed by multicultural research, such as the work of Spanierman and Poteat (2005) [46], increase awareness about the significance and value of well-informed practice with culturally diverse populations. Marbley [27] provides a valuable addition to these efforts by capturing the experiences of professionals and service users.

The most valuable aspect of Marbley's [27] analysis is her assertion that culturally relevant practice must be well informed, requiring the professional to take an active stance in his or her professional development. The inclusion of culture-specific examples, specifically concerning challenges in accessing services and successful applications of culturally relevant interventions, demonstrates the applicability of the concepts discussed. Marbley's definition of pivotal terms such as culture and race lends further credibility to her argument about the

importance of well-informed practice. Despite the valuable ideas Marbley puts forth, however, failure to consider other nations with similar migration and diversity trends limits the persuasiveness of her message.

Traditional Aboriginal Healing Practices

Traditional Aboriginal healing practices are now more commonly practiced due to recent protections, such as the Canadian Charter of Rights and Freedoms, which ensure the freedom to explore and apply these methods. Traditional ways of healing include sweat lodges, smudging, talking circles, healing circles, and Indian medicines [21]. Traditional Aboriginal practices are rooted in the belief that balance and harmony with nature must exist. Overall well-being is achieved through the balance of the four main components of human existence. Physical, emotional, mental, and spiritual aspects of the self are irrefutably interconnected. Some modern approaches to public health and health promotion have adopted the Aboriginal ecological approach to well-being, giving further credence to the value of these traditional approaches to health [31]. Scholars have examined traditional healing practices in relation to the origin and role of traditional healers, perspectives from Native practitioners on the delivery of supports to urban Aboriginal populations, and cultural safety in the context of institutional change [13, Walker51, 52].

The significance, role, and impact of traditional healers are examined through a series of anecdotal accounts and reflective excerpts in Vine Deloria Jr.'s *The World We Used to Live In: Remembering the Powers of the Medicine Men* (2006) [13]. In "Dreams—The Approach of the Sacred," Deloria, a world-renowned Native American scholar, explores the traditional healing approach to deciphering dreams and to using dreams as tools for healing. He depicts the origins, spiritual linkages, and roles of medicine men. The experiences of traditional healers are illustrated through anecdotal accounts. The significance of traditional events and the role these play in supporting the holistic health of Aboriginal individuals and communities are also described [13].

Deloria [13] makes a significant contribution to scholarship on the value and revitalization of traditional knowledge. His combined anecdotal and analytical approach grants the reader access to traditional worldviews on health and healing and perspectives on the significant value of traditional healing practices while considering the potential for modern applications. He provides insight into the cultural implications associated with the role of traditional healers, including how the suppression of these practices has impacted the health and well-being of Aboriginal populations. Deloria recognizes the inherent wisdom of Aboriginal holistic approaches to health. His portrayal of the medicine man or traditional healer through anecdotal and first-hand accounts offers great insight into what constitutes effective practice. These accounts attest to the importance of continuing development in practice and the undeniable importance of the therapeutic relationship.

Witko's *Mental Health Care for Urban Indians: Clinical Insights from Native Practitioners* (2006) [52] is a compilation of works exploring culturally relevant therapeutic approaches. A chapter by Dolores Subia Bigfoot and Megan Dunlap explores the traditional origins of storytelling, its cultural significance, and therapeutic applications. The authors discuss storytelling as a therapeutic tool for supporting American Indian individuals facing histories of trauma, abuse, and neglect. Consideration is given to the urban use of modern-day technologies such as websites to access traditional supports and tools, and sample stories and application tools are included to enhance the concepts presented [6].

Considerable attention has been given in recent years to the value and applicability of traditional healing ideologies and tools. Bigfoot and Dunlap (2006) [6] offer an exciting addition to this body of knowledge. By looking at the cultural significance and healing properties of storytelling, the authors acknowledge the value of traditional ideologies and practices. Their approach of exploring the inherent developmental and therapeutic value of storytelling beyond its cultural significance within Indigenous populations prompts the reader to consider the application of this valuable tool with various populations, regardless of ethnic and cultural background. The inclusion of resources and application tools, including mainstream clinical methods and sample storytelling narratives, strengthens the applicability of the concepts presented. Storytelling is validated as a therapeutic approach in different therapeutic settings such as addictions treatment and sexual abuse therapy. However, despite the significant strengths of this section of the book, a more in-depth look at the value of integrated mainstream and traditional approaches is needed to substantiate the authors' claims.

Walker, Cromarty, Kelly, and St Pierre-Hansen (2009) [51] describe the work of the Sioux Lookout Meno Ya Win Health Centre (SLMHC) with First Nations populations of northern Ontario. Program leaders are among the authors of this article, including the organization's CEO and Special Advisor on First Nations Health. The authors provide an in-depth exploration of cultural safety and the process of effecting institutional change. The historical and methodological origins of the Centre's adopted modality, known as the SLMHC menoyawin model, are also explored. A review of findings from the program evaluation provides an analytical perspective on the successes and challenges of delivering culturally safe services to the Aboriginal peoples of northern Ontario through the Centre's Traditional Healing, Medicines, Foods and Support Program [51]. The authors examine the process of supporting both individual and organizational transitions into culturally safe service delivery and include detailed information on the guidelines for cultural safety [51]. Reliability and clarity are enhanced by the article's depiction of institutional change as considered through the development and implementation of the program. Consideration of First Nations traditional healing views and practices increases the article's impact. A review of the program's expected outcomes, obstacles to implementation, and results to date illustrates the realities of implementing culturally safe health care programming for Aboriginal populations.

Inclusion of examples of other regional, national, and global approaches to culturally safe health care practices, or mention of a lack of these, would have increased the article's impact. Nevertheless, the depiction of a uniquely Canadian approach to culturally safe practices in the delivery of health care services will enrich the existing body of knowledge. The article also provides an important perspective that may inform future assessments of the delivery and impact of culturally safe approaches.

Integrated Mental Health Approaches

The integration of traditional healing methods and mainstream strategies promotes opportunities for health and well-being that are not bound by the scientific limitations of Western medical paradigms. A holistic view of health is adopted, allowing for the acknowledgment and inclusion of the four pillars of health paradigm, which considers human health from a perspective of the interconnectedness of the spiritual, emotional, physical, and mental aspects of the self. These integrated approaches also promote empowerment and a sense of connectedness with family, community, and the environment [21].

Clinical perspectives on delivery of integrated, informed, and effective mental health services to culturally diverse populations have gained attention in recent years. Marbley (2011) [27]

examines the perspectives of counsellors as individuals and professionals of color in relation to self-positioning and the professional's ability to understand how their personal cultural lens may impact their practice with diverse cultural groups. Stevenson's study (2011) offers a valuable account of Elders' perspectives on the integration of mainstream and traditional practices.

Olga Oulanova's (2008) [39] thesis *Navigating Two Worlds: Experiences of Canadian Mental Health Professionals Who Integrate Aboriginal Traditional Healing Practices* considers the convergence of mainstream and traditional healing practices in mental health from the perspective of mental health professionals in Canada. Oulanova's findings revealed four central themes concerning professionals' implementation of integrated methods of practice: becoming the helper, deciding when to integrate, describing integrative efforts, and experience with integration [39]. Oulanova examines the factors that influence Canadian professionals' approaches to delivering culturally relevant supports and interventions. Her structural approach offers helpful insight into both internal and external factors. The journey toward becoming a helping professional is described in terms of personal, historical, societal, and political experiences, allowing the reader to consider the vast range of factors that help shape an individual's cultural lens. However, Oulanova fails to consider the experiences of non-Aboriginal professionals and their journey toward understanding and effectively supporting Aboriginal populations, limiting the persuasiveness of her message. She also gives insufficient attention to the experiences of Aboriginal professionals working with populations of varying cultural and ethnic backgrounds.

The theoretical origins of Western therapies and traditional healing practices or "shamanism" are explored in Duran and Duran's (1995) [15] *Native American Postcolonial Psychology*. Duran and Duran undertake a comparative analysis of Western therapeutic strategies and roles and those of traditional origin. The impacts, both positive and negative, of therapist and shaman roles are explored. Duran and Duran present the integration of Western therapy approaches and traditional healing practices as a natural process that incorporates the long-standing sources of knowledge and modern adaptations of this knowledge, otherwise referred to as "collective psyche" (p. 66). The symbolism of death and rebirth "transformative experience" (p. 67) is presented as an example of the collective psyche. The authors use Jung's four major functions of the psyche to contrast Western and Native American worldviews. This tool and a proposed variation described as more accurately representative of Native worldviews are explored in their application in therapeutic settings [15].

In exploring the parallel and contrasting origins of Western and Native worldviews and subsequent therapeutic approaches, Duran and Duran have joined other scholars in expanding knowledge on how these two perspectives might enhance clinical interventions and improve outcomes for Native clients [see, for example, 24, 25, 51, 52]. They demonstrate the congruencies between worldviews often considered ideologically opposite. Their analysis is presented in a manner that allows for critical consideration of the attributes and potential applications of ideologically derived interventions. The concept of a collective psyche supports the notion of a common ideological foundation, which grants equality to the inherent value of traditional practices. The comparison of the paternalist quality of Western views and the gynocentricnature of Native ideologies offers a unique perspective on the historical and ongoing oppressive tendencies of one worldview over the other.

The authors' [15] use of Jung's four major functions of the psyche tool provides additional insight into the limitations of Western ideologies' capacity to give credence to differing

worldviews that do not fit the Western schematic. However, adherence to Jung's teachings and methodologies limits the scope and value of the analysis. Consideration of other notable therapeutic methodologies would have enhanced the analysis of Western culture's ideological trends. Equally limiting is the failure to include the worldviews of other cultural groups.

The realities of developing and implementing culturally relevant programming are explored in Nebelkopf and Phillips' *Healing and Mental Health for Native Americans* (2004) [34]. This compilation gives insight into various approaches to conceptualizing, developing, and delivering culturally relevant mental and behavioral services to Native American populations in the United States. In "HIV/AIDS Programs for American Indians and Alaska Natives," Barney, Duran, and Rosenthal (2004) [4] provide a detailed description and critical analysis of the work of the Native American Health Center, an agency delivering HIV/AIDS supports to Native Americans in the San Francisco Bay area, including analysis of its funding sources and directives, staff background and expertise, collaborative partnerships, and the integration of mainstream and traditional approaches.

Barney, Duran, and Rosenthal (2004) [4] provide a clear picture of the origins, intent, and impact of the Center's approach to working with HIV/AIDS at-risk populations. Their work offers insight into the process of envisioning, securing funding for, developing, and implementing culturally relevant programming for Native American populations. Their analysis of mainstream methodologies best suited for addressing the needs of Native American clients acknowledges the value of frameworks for practice that reflect Indigenous ideologies. However, their failure to give adequate consideration to regional, national, and international efforts limits the applicability of their work. Furthermore, the attention given to the vulnerabilities of bi-sexual and gay populations may foster misconceptions and fears about the nature and risk of HIV/AIDS, despite wide acknowledgment by academic and professional communities about the non-discriminating nature of the disease.

Barney, Duran, and Rosenthal (2004) [4] discuss Limb and Hodge's (2011) [25] study on the application of spiritual ecograms for promoting cultural competency in family therapy settings. Limb and Hodge examine the views of a select number of Native American professionals they identify as having "extensive experience" working with Native American populations. Consideration is given to spiritual ecograms' consistency with Native American culture and how they may promote culturally appropriate therapeutic interventions for Native American clients [25].

Limb and Hodge's (2011) [25]analysis demonstrates increased recognition on the part of the helping professions of the limitations of mainstream approaches to supporting Indigenous populations and the importance of delivering culturally competent services [25]. This shift centers on the role of spirituality in the context of individual and family well-being. Spiritual ecograms' amalgamation of traditional Indigenous perspectives and mainstream professional tools supports current professional interest in cultural competency [25]. The research findings provide perspectives from various helping professions on the similarities between spiritual ecograms and traditional Indigenous perspectives, as well as on their applicability in the work of supporting Indigenous families and children. The inclusion of Indigenous voices further supports the project's stance. Examples, term definitions, and considerations for clinical applications provide the reader with a helpful overview of the origins and potential uses for spiritual ecograms.

The study's primary limitation is its use of a purposive/snowball sampling strategy, which is a constraint on the project's scope, limiting the representation of participants and thus failing to

capture broad professional perspectives and feedback from client populations. Failure to consider global perspectives and strategies is an additional limitation. Nevertheless, the findings and recommendations will enrich the existing body of knowledge in this area while furthering the development of culturally competent approaches in the helping professions.

Eshun and Gurung's *Culture and Mental Health: Sociocultural Influences, Theory, and Practice* (2009) [16] is a compilation of scholarly works on culturally relevant mental health practice. In "Psychotherapy in a Culturally Diverse World," Johnson, Bastien, and Hirschel [23] contemplate the ethical dilemma of operating from a Eurocentric model of care within a multicultural landscape. The authors [23] explore culturally sensitive practice options and available legislative and policy directives on culturally relevant practice, including the *DSM-IV* cultural formulation tool and the American Psychological Association guidelines on multicultural approaches. Further analysis reveals the pitfalls of inappropriate approaches to cross-cultural interactions. Consideration is given to racism and discrimination faced by ethnic minorities, and also to the professional's responsibility to develop culturally competent practice through cultural awareness, knowledge, and skills [23].

Pressures within the helping professions to develop and deliver culturally competent therapeutic services have prompted extensive scholarly efforts to improve and expand understanding of the factors promoting this change and the impact of such interventions [3, 15, 27, 29, 34, 39, 47]. Johnson, Bastien, and Hirschel (2009) consider this issue in relation to the strengths and limitations of Eurocentric approaches and how they compare to culturally accepted healing practices. Their position is well supported by their comprehensive analysis of Eurocentric approaches, including detailed examples of existing guidelines and professional enhancement tools for delivering therapeutic supports within the context of a multicultural landscape, and their comparative analysis of individualistic and collectivist worldviews. Another valuable aspect of their work is its overall tone of encouraging culturally relevant practice through well-informed professional development. The inclusion of Indigenous treatment examples further enhances their analysis.

Ambtman, Hudson, Hartry, and Mackay-Chiddenton (2010) [3] depict the events and circumstances leading to the formation of a cross-cultural work group known as the Circle of Courage. In "Promoting System-Wide Cultural Competence for Serving Aboriginal Families and Children in a Midsized Canadian City" (2010) [3] the authors discuss how Dr. Martin Brokenleg's 1998 workshop on culturally appropriate Aboriginal youth interventions prompted organizers to consider how the ideas and methodology presented could affect long-term systemic changes, which led to the establishment of the Circle of Courage work group. The article examines the development of cultural competence at the micro, macro, and meta levels and the challenges encountered by professionals attempting to implement culturally competent interventions in mainstream organizations. The group's efforts are guided by traditional Aboriginal values and reflect the group's commitment to a "concentric" approach, which focuses on a micro level approach of supporting the individual in developing cultural competency and in turn promotes change at both the macro and meta levels [3].

Ambtman, Hudson, Hartry, and Mackay-Chiddenton [3] provide the reader with a clear outline of the origins, development, and progress of the Circle of Courage work group. The literature review offers a helpful framework to accounts of the group's efforts as informed by the modalities identified in the review. Their depiction of the group's approach to promoting cultural competency grants the reader an opportunity to learn about approaches to developing and promoting cultural competence within a Canadian context.

Despite these strengths, the article fails to provide a scholarly assessment of how the efforts of the Circle of Courage group compare to other approaches to promoting cultural competence. The authors' [3] passive depiction of the events conveys neither their personal stance nor their scholarly opinion. They have limited the scope of their review to a focus on the framework set out by the group. This is initially made evident in the historical review, which lacks information about Dr. Brokenleg's background and journey leading to the inception of his workshop. Information concerning the workshop is also limited, leaving the reader to wonder about the application of the model beyond the city of interest. Updates on the current status of both presenter and strategy are also lacking. Other noted deficiencies include the scope of the literature review, which fails to explore the roots of the noted methodologies and the existence or lack of alternative approaches. The literature review is also limited in its consideration of available tactics, focusing on mainstream methodologies and failing to include traditional approaches. A comparative analysis of the group's efforts and impacts and those of other entities across the country, including global considerations, would have enriched the reader's experience.

Despite the outlined deficiencies, the article does succeed in capturing the unique flavor of the Circle of Courage's [3] approach to developing and promoting cultural competency among educational and social service organizations. The depiction of a uniquely Canadian approach to cultural competency will enrich the existing body of knowledge. The article also provides a launch pad for future assessments of the delivery and impact of cultural competency approaches.

Sinclair, Hart, and Bruyere's (2009) [43] *Wichitowin* examines the historical and theoretical underpinnings of Indigenous social work and the practical application of traditional knowledge. Bruyere's Section III, "The Spirit of Dreaming," is concerned with impact of traditional knowledge on the delivery of social work supports and interventions. Bruyere explores the traditional conceptualization of the helper role. He emphasizes the importance of self-positioning within a cultural context and regards self-awareness as the first stepping-stone toward cultural competence. He also considers the role and impact of educational institutions and the programs they offer and determines them to be a crucial component in achieving cultural sensitivity and relevance in social work practice [43].

Bruyere's [43] work is part of a recent scholarly emphasis on the value of culturally relevant multi-disciplinary service delivery [14, 24, 25, 51]. Culturally relevant practice continues to evolve, as exemplified by counseling approaches that mirror traditional knowledge and practice and intervention tools that incorporate both mainstream and traditional methodologies. Professional and scholarly sources substantiate the importance of effecting change at the micro, macro, and mezzo levels. Furthermore, by exploring the helper's cultural positioning, Bruyere effectively prompts the reader to consider his or her own cultural landscape and how it may impact his or her practice. The road toward cultural relevance is further revealed by Bruyere's examination of the significance of language and how the helper's role may be enhanced through an improved understanding of idiomatic concepts and applications [43].

Bruyere's [43] choice to reflect and build upon his background and knowledge of a specific Aboriginal culture, in this case the Nishnawbe-Aski Nation, limits the wider applicability of his work. His failure to explore the richness of the numerous Indigenous cultural perspectives in Canada deprives the reader of an important reminder that Indigenous cultures are unique and that a single strategy to working with these populations will fail to capture the distinctive

flavor of each community's traditions, language, and worldviews.

Kulraj Bhandari's (2011) [5] practicum report *Cultural Competency: A Path to Deliver Healthcare to Ethnic Minority and Aboriginal Populations* provides an analysis of the realities of implementing cross-cultural competent approaches to service delivery in a hospital setting. The author describes his practicum placement experiences in working with clients from various ethnic and cultural backgrounds, primarily Aboriginal and East Indian, who accessed services at University Hospital of Northern BC (UHNBC) in Prince George, British Columbia. The challenges of accessing culturally sensitive resources are explored. The author's personal journey in developing his own approach to culturally competent practice is the primary focus of the report. Systemic challenges to the delivery of culturally competent services to multi-cultural populations are considered from the author's perspective as an incoming health care professional [5]. Bhandari's account of his experiences as an emerging professional faced with the challenge of understanding the needs of culturally diverse populations is the most valuable aspect of his report. Further to this is the valuable insight into his personal journey toward cultural competency, and how the experiences of his practicum placement served to shape his approach.

Bhandari's [5] approach is sometimes confusing, and generalizations concerning the application of traditional healing practices, such as the medicine wheel, compromise the applicability of his ideas. Content relevance is further restricted by a failure to substantiate proposed ideas with relevant statistical or scholarly data. The report's scope is also limited by the restrictive use of preferred scholarly references.

Walker, Cromarty, Kelly, and St Pierre-Hansen [51] consider cultural competency through a cultural safety lens and explore the origins of culturally safe approaches to health care practice. The scope of their research is furthered by consideration of the process of supporting both individual and organizational transitions into culturally safe applications of service delivery. Nebelkopf and Phillips' [34] compilation offers insight into the various approaches to conceptualizing, developing, and delivering culturally relevant health services to Native American populations in the United States.

Melissa Carlick's thesis *Yukon First Nations Youth Mental Wellness: The Development of Culturally Appropriate Healing* (2009) [9] compares modern mental health approaches and traditional healing practices and their impact on the well-being of Indigenous populations. In Chapter 3, "Strengthening Mental Wellness," the author explores the efforts of a Northern BC initiative known as the Initiating Change Project. The project's primary focus is on promoting community wellness and sustainability through the integration of mainstream and traditional practices. The revival of traditional systems is a key aspect of the project's efforts, and sustaining traditional ways of life is an essential aspect of promoting self-esteem, respect, balance, connectedness, and healing among Aboriginal populations. The project reportedly assumed 57 tasks meant to support the identified goals, including efforts to promote community inclusiveness, the construction of a traditional spiritual house, the development of cultural camps, the renewal of traditional rites of passage, and the creation of a traditional sweat lodge [9].

Carlick's [9] work is a useful contribution to scholarly and professional discussions and debates about the limitations of mainstream mental health approaches in meeting the needs of Aboriginal populations [3, 15, 16, 27, 29, 34, 39, 47]. Carlick furthers our understanding of modern-day efforts to revamp health and social service systems in order to meet the unique

needs of Aboriginal populations and provides practical insight into the realities of integrating traditional healing practices and mainstream systems. She illustrates the realities of implementing change at the micro, mezzo, and macro levels of programming. This approach takes the reader beyond the theoretical notion of cultural relevance, providing a unique opportunity to gain a better understanding of traditional systems and practices and how these could supplant or complement mainstream approaches.

Carlick's [9] failure to consider other projects and initiatives at the local, regional, national, and global levels limits the analysis. A comparative analysis would have enabled assessment of whether the sample project's approach, which focuses on the sociocultural needs of specific Aboriginal groups, could be applied elsewhere. However, awareness of this shortcoming presents a potential advantage to the reader, as it may serve to incite reader awareness of the importance of cultural variances among Aboriginal populations.

Considerations for Rural Practice

Populations residing in rural and remote communities in Canada are faced with unique challenges related to isolation, colonization, trauma, and socioeconomic considerations that have a direct impact on their mental well-being. Restricted access to services due to geographic isolation and socioeconomic issues translates into the over-taxation of existing resources, including formal and informal mental health supports [38]. Aboriginal Communities in northern BC are faced with many of these challenges.

Various scholars have examined the delivery of mental health supports in rural geographical areas, for example in relation to outreach service modalities and challenges in delivery [41, 42]. The assertion is made that multiple models of practice are needed to reflect the varying needs and capacities of rural communities. The outreach model is presented as a viable option for supporting rural practice and has been adapted in order to support different community needs and provider preferences. The original model reflects the hospital and community mental health center secondary level outreach modality, an established health care service delivery framework [42].

The original outreach model offered limited primary care provider interaction, with interventions occurring at the community mental health worker level. Community mental health providers are typically responsible for coordinating care and service integration with primary care physicians and other care providers. Outreach services offer some level of care, but tend to leave the ongoing care to community-based providers. Limited face-to-face contact prompts the delivery of outreach supports via alternative means, such as telephone or e-mail. Outreach services may also include limited education services. Professional recommendations suggest improvements in the delivery of outreach services, including an increase in face-to-face support, and increased capacity for formalized educational and capacity-building opportunities [42].

Several themes predominate in literature on challenges associated with the delivery of mental health services in rural communities, including the lack of available professionals and the strain this places on rural residents in need of services. Urban models of care fail to account for the unique circumstances of rural communities. Challenges are exacerbated through national and local policies that continue to operate on misconceived perceptions of rural realities [41].

Despite the need for improved programming in rural areas, the majority of mental and behavioral health programs exhibit under-resourcing compared to their urban counterparts. Quite frequently, rural mental and behavioral health services are office-based practices located

in moderately sized towns. They see people on a one-to-one basis for outpatient sessions. The most significant challenge is not common source barriers, such as funding or training, but rather a failure by the rural mental health community to develop and advocate for innovative solutions to practice that reflect the unique needs of rural communities [41].

CONCLUSION

The available literature illustrates some of the challenges and benefits of integrating traditional Aboriginal healing approaches into mainstream mental health practices. The integration of mainstream and traditional approaches to mental health is considered from a multitude of perspectives, including professional experiences, theoretical origins, approaches to promoting Aboriginal mental health, use of traditional tools for healing, cultural relevancy in practice, organizational competency, and traditional knowledge. Scholars explored traditional healing from various standpoints, including the origins of traditional healing, roles within traditional healing, Native professional perspectives, and culturally safe organizational shifts.

This selective literature review considered the impact of historical and ongoing socioeconomic and political challenges on the Indigenous research agenda and the importance of establishing ethically based standards of practice in research with Indigenous populations. Research standards and practices were deemed to be of importance as these efforts have a direct impact on systems of practice. Reflection on the conceptualization of Aboriginal mental health and the factors influencing the mental wellness of Aboriginal populations were also included in the scope of this review. Data on the impact of the Eurocentric consciousness on the mental wellness of the Aboriginal psyche offered a valuable opportunity to consider the impact of Western influences on traditional standards of health and well-being. Further insight was provided through the analysis of multidisciplinary perspectives on Aboriginal mental health. Western-influenced perspectives on the nature of and factors influencing Aboriginal mental health seem to clash with Aboriginal perspectives on the issue.

REFERENCES

[1] Aboriginal Canada Portal (2012). Aboriginal peoples: The first people. Retrieved from http://www.aboriginalcanada.gc.ca/acp/site.nsf/eng/index.html

[2] Alberta Mental Health Board (2006). Aboriginal mental health: A framework for Alberta. *Alberta Health Services.* http://www.albertahealthservices.ca/MentalHealthWellness/hi-mhw-aboriginal-framework.pdf

[3] Ambtman, R., Hudson, S., Hartry, R., & Mackay-Chiddenton, D. (2010). Promoting system-wide cultural competence for serving Aboriginal families and children in a midsized Canadian city. *Journal of Ethnic & Cultural Diversity in Social Work, 19*, 235–251. doi: 10.1080/15313204.2010.499328

[4] Barney, D. D., Duran, B. E. S., & Rosenthal, C. (2004). HIV/AIDS programs for American Indians and Alaska Natives. In E. Nebelkopf & M. Phillips (Eds.), *Healing and mental health for Native Americans* (pp. 149–158). California: AltaMira Press.

[5] Bhandari, K. (2011). *Cultural competency: A path to deliver healthcare to ethnic minority and Aboriginal populations*. British Columbia: University of Northern British Columbia.

[6] Bigfoot, D. S., & Dunlap, M. (2006). Storytelling as a Healing Tool for American Indians. In T. M. Witko (Ed.), *Mental health care for urban Indians: Clinical insights from Native practitioners* (pp. 133–153). Washington, DC: American Psychological Association.

[7] Canadian Institute for Health Information (2013). Hospital mental health services for concurrent mental illness and substance use disorders in Canada. https://secure.cihi.ca/free_products/MH Concurrent Disorders AiB-ENweb.pdf

[8] Cannon, M. J., & Sunseri, L. (2011). *Racism, colonialism, and indigeneity in Canada*. Ontario, Canada: Oxford University Press.

[9] Carlick, M. (2009). *Yukon First Nations youth mental wellness: The development of culturally appropriate healing.* (Unpublished master's thesis). Prince George, Canada: University of Northern British Columbia.

[10] Central Interior Native Health Society. (n.d.). What we do. http://www.cinhs.org/programs-services/what-we-do

[11] Cochran, P. A. L., Marshall, C. A., Garcia-Downing, C., Kendall, E., Cook, D., McCubbin, L., & Gover, R. M. S. (2008). Indigenous ways of knowing: Implications for participatory research and community. *American Journal of Public Health, 98*(1), 22–27. doi: 10.2105/AJPH.2006.093641

[12] Constantine, M. G., & Sue, D. W. (Eds.). (2006). *Addressing racism: Facilitating cultural competence in mental health and educational settings.* Hoboken, NJ: John Wiley & Sons.

[13] Deloria Jr., V. (2006). *The world we used to live in: Remembering the powers of the medicine men*. Colorado: Fulcrum.

[14] Duran, E. (2009). *Healing the soul wound: Counseling with American Indians and other Native peoples*. New York, NY: Teachers College Press.

[15] Duran, E., & Duran, B. (1995). *Native American postcolonial psychology.* http://library.unbc.ca:2192/refworks2/default.aspx?r=references|MainLayout::init

[16] Eshun, S., & Gurung, R. A. R. (Eds.). (2009). *Culture and mental health: Sociocultural influences, theory, and practice*. Oxford, England: Blackwell.

[17] Fernando, S. (2003). *Cultural diversity, mental health and psychiatry: The struggle against racism*. New York, NY: Routledge.

[18] First Nations Health Council (2012). Understanding the path forward: First Nations/Aboriginal mental wellness and substance use. Tripartite Strategy Council on Mental Wellness and Substance Use. http://www.fnhc.ca/index.php/health_actions/mental_health_wellness/

[19] Graveline, F. J. (1998). *Circle works: Transforming Eurocentric consciousness*. Nova Scotia, Canada: Fernwood.

[20] Grobstein, P., & Cyckowski, L. (2006). Models of mental health: A critique and prospectus. *Serendip.* http://serendip.brynmawr.edu/sci_cult/mentalhealth/models/mentalhealthmodels2.html

[21] Henderson, E. W. (2008). Listening to the spirit voices: Honoring our ancient traditional ways of healing. Retrieved from: http://library.unbc.ca:2082/pqdweb?did=1811498581&sid=4&Fmt=2&clientId=12101&RQT=309&VName=PQD

[22] Jamieson, L. M., Paradies, Y. C., Eades, S., Chong, A., Maple-Brown, L., Morris, P., & Brown, A. (2012). Ten principles relevant to health research among Indigenous Australian populations. *The Medical Journal of Australia, 197*(1), 16–18. doi:10.5694/mja11.11642

[23] Johnson, L. R., Bastien, G., & Hirschel, M. J. (2009). Psychotherapy in a culturally diverse world. In S. Eshun, & R. A. R. Gurung (Eds.), *Culture and mental health: Sociocultural influences, theory, and practice*. (pp. 115–48). Oxford, England: Blackwell.

[24] Kirmayer, L. J., & Valaskakis, G. G. (2009). *Healing traditions: The mental health of Aboriginal peoples in Canada*. Vancouver, Canada: University of British Columbia Press.

[25] Limb, G. E., & Hodge, D. R. (2011). Utilizing spiritual ecograms with Native American families and children to promote cultural competence in family therapy. *Journal of Marital and Family Therapy 37*(1), 81–94.

doi: 10.1111/j.1752-0606.2009.00163.x

[26] Liu, W. M., Hernandez, J., Mahmood, A., & Stinson, R. (2006). Linking poverty, classism, and racism in mental health: Overcoming barriers to multicultural competency. In M. G. Constantine & D. W. Sue (Eds.), *Addressing racism: Facilitating cultural competence in mental health and educational settings* (pp. 65–86). Hoboken, NJ: John Wiley & Sons.

[27] Marbley, A. F. (2011). *Multicultural counseling: Perspectives from counselors as clients of color*. New York, NY: Routledge.

[28] McCormick, R. (2009). Aboriginal approaches to counselling. In L. J. Kirmayer & G. G. Valaskakis (Eds.), *Healing traditions: The mental health of Aboriginal peoples in Canada* (pp. 337–56). Vancouver, Canada: University of British Columbia Press.

[29] McGoldrick, M., Giordano, J., & Garcia-Preto, N. (Eds.). (2005). *Ethnicity and family therapy* (3rd ed.). New York, NY: The Guildford Press.

[30] Ministry of Children and Family Development. (n.d.). About child and youth mental health. Ministry of Children and Family Development. Government of British Columbia. http://www.mcf.gov.bc.ca/mental_health/index.htm

[31] Ministry of Health. (2007). Pathways to health and healing: 2nd report on the health and well- being of Aboriginal people in British Columbia. Government of British Columbia. http://www.health.gov.bc.ca/pho/pdf/abohlth11-var7.pdf

[32] National Aboriginal Health Organization. (2012). Health: Provincial conference targets mental health. *Aboriginal Health News, First Nations*. http://www.naho.ca/blog/2012/01/31/health-provincial-conference-targets-mental-health/

[33] National Native Addiction Partnership Foundation. (2011). Honouring our strengths: A renewed framework to address substance use issues among First Nations people in Canada. http://nnadaprenewal.ca/wp-content/uploads/2012/01/Honouring-Our-Strengths-2011_Eng1.pdf

[34] Nebelkopf, E., & Phillips, M. (2004). *Healing and mental health for Native Americans*. California: AltaMira Press.

[35] New Brunswick Department of Health. (2011). The action plan for mental health in New Brunswick 2011–18. Canadian Electronic Library; New Brunswick. Department of Health Folders. http://www.gnb.ca/0055/pdf/2011/7379 english.pdf

[36] Northern Health Authority. (n.d.). What is rural? http://www.northernhealth.ca/About/QuickFacts/default asp

[37] Ocampo, C. (2010). Is there such a thing as indigenous mental health? Implications for research, education, practice and policy-making in psychology. *American Psychology Association.* http://www.apa.org/pi/oema/resources/communique/2010/08/indigenous-mental-health.aspx

[38] O'Neill, L. K., (2009). Mental health support in northern communities: Reviewing issues on isolated practice and secondary trauma. *The International Electronic Journal of Rural and Remote Health Research, Education, Practice, and Policy*. Retrieved from: http://www.rrh.org.au/publishedarticles/article_print_1369.pdf

[39] Oulanova, O. (2008). *Navigating two worlds: Experiences of Canadian mental health professionals who integrate Aboriginal traditional healing practices* (Master's thesis). UMI Dissertation Services.

[40] Regehr, C., & Glancy, G. (2010). *Mental health social work practice in Canada*. Toronto, Canada: Oxford University Press.

[41] Sawyer, D., Gale, J., & Lambert, D. (2006). Rural and frontier mental and behavioral health care: Barriers, effective policy strategies, best practices. *National Association for Rural Mental Health*. http://www.narmh.org/publications/archives/rural_frontier.pdf

[42] Sherman, J. E., Pong, R., & Swenson, J. R., (2010). Mental health services in smaller northern Ontario communities: A survey of psychiatric outreach consultants. *Centre for Rural and Northern Health Research*. http://site.ebrary.com/lib/unbc/Doc?id=10443846&ppg=27

[43] Sinclair, R., Hart, M.A., & Bruyere, G. (2009). *Wichitowin: Aboriginal social work in Canada*. Winnipeg, Canada: Fernwood.

[44] Smith, L. T. (2012). *Decolonizing methodologies: Research and Indigenous peoples* (2nd ed.). London, England: Zed Books.

[45] Smye, V., & Mussell, B. (2001). Aboriginal mental health: 'What works best.' *Mental Health Evaluation & Community Consultation Unit*. http://www.london.cmha.ca/data/1/rec_docs/1598_Aboriginal%20Mental%20Health%20What%20Works%20Best.pdf

[46] Spanierman, L., & Poteat, V. (2005). Moving beyond complacency to commitment: Multicultural research in counselling psychology. *The Counselling Psychologist*, *33* (4), 513–523.

[47] Stevenson, N. (2011). *Elders' stories of healing: A narrative inquiry into Indigenous and Western health systems working in tandem.* http://library.unbc.ca:2192/refworks2/default.aspx?r=references|MainLayout::init

[48] Sutton, C. T., & Broken Nose, M. A. (2005). American Indian families: An overview. In M. McGoldrick, J. Giordano, & N. Garcia-Preto (Eds.), *Ethnicity and family therapy* (3rd ed., pp. 43–54). New York, NY: The Guildford Press.

[49] University of Victoria Centre for Aboriginal Health Research (n.d.). CIPHER. http://cahr.uvic.ca/programs-research/programs/cipher/

[50] Waldram, J. B. (2004). *Revenge of the Windigo: The construction of the mind and mental health of North American Aboriginal peoples.* Toronto, Canada: University of Toronto Press.

[51] Walker, R., Cromarty, H., Kelly, L., & St Pierre-Hansen, N. (2009). Achieving cultural safety in Aboriginal health services: Implementation of a cross-cultural safety model in a hospital setting. *Diversity in Health and Care, 6*, 11–22.

[52] Witko, T. M. (2006). *Mental health care for urban Indians: Clinical insights from Native practitioners.* Washington, DC: American Psychological Association.

[53] World Health Organization. (2012). Mental health. http://www.who.int/topics/mental_health/en/index.html

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Income Disparity, Uneven Economic Opportunities, and Verifiability

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ABSTRACT

The function of income in educational investment is considered under asymmetric information on individuals' effort. High income strengthens deep commitment to investment, and hence facilitates access to the capital market. Low income individuals tend to be excluded for the same reason even though they have the same abilities as wealthy individuals. Thus, disparity of income produces uneven economic opportunities. Some income redistribution policy is necessary to cure this social inefficiency. The expenditure of transferred income should, however, be limited to educational investment to avoid wasteful consumption.

Keyword: Educational Investment, Economics, Income Disparity

INTRODUCTION

Human capital investment, especially educational investment, heavily depends on an individual's own income and/or wealth, and thus, non-wealthy individuals are excluded from economic opportunities that not only enhance their intelligence but also increase their future incomes. This article explores why income disparity hinders equality of economic opportunities.[1]

Verifiability of one's effort to succeed plays a key role. Wealthy people, who can invest sufficient money in education, are naturally incentivized to engage in high level efforts regardless of whether it is verifiable or not. This is because they would lose much money when their educational investment fails. Thus, high income and/or wealth signal the soundness of the investment plan to financial intermediaries. Hence, high income and/or wealth facilitate lending towards wealthy individuals' investment.

Since non-wealthy individuals cannot be incentivized by the cost incurred when their educational investment fails, and efforts towards cultivation via education are generally not verifiable, financial intermediaries quote a high interest rate to compensate for such a high risk. Therefore, financial intermediaries' lending to non-wealthy individuals cannot be accomplished easily. Thus, uneven economic opportunities coexist with disparity of income as such.

This article is organized as follows. In Section 2, we construct a model that exhibits the coexistence of uneven economic opportunities and income disparity. Section 3 explains how this problem resolved. Section 4 presents some concluding remarks.

[1] As Deer and Vesovic [2] suggest, main concern of educational economics is to measure how seriously education affects one's income and income distribution. Our research aims to exhibit that there is converse causality under asymmetric information.

THE MODEL

Structure of the Model

The model is an application of the theory of moral hazard to limited liability in financial deals. It originates from Arrow [1] and Stiglitz and Weiss [7].

We assume lenders (financial intermediaries) and borrowers (individuals who intend to invest in education) are both risk neutral, and their concerns are confined to expected return. The investment initially requires a unit of money. The probability of success in the investment, which is controllable by the borrower's effort, is p. The investment generates X amounts of goods when it succeeds, and nothing when it fails. The cost function of the effort to ensure the success probability, p, in terms of money, $c(p)$,has the following properties.

$$c(0) = c'(0) = 0, c' > 0, c'' > 0, \text{ if } c > 0. \qquad (1)$$

Furthermore, we denote the lending interest rate as $1 + r$, and the deposit rate is equal to unity. Finally, we assume the following inequality.

$$X > 1 + r. \qquad (2)$$

This inequality is necessary for all educational investments to be meaningful. Based on this setting, the borrower's payoff function π^B can be defined as

$$\pi^B \equiv p\left[X - \left[1+r\right]\left[1-m\right]\right] - \left[1-p\right]m - c(p). \qquad (3)$$

The first term in the left-hand side of Equation (3) is the net expected revenue from the investment whose income is m. The second term corresponds to the expected loss when the investment fails. The third term is the disutility of the effort to ensure the success probability, p, which is measured in terms of money.[2]

Since an individual maximizes his or her payoff, we obtain the following by differentiating Equation (2) with respect to p.

$$c'(p) = X - \left[1+r\right]\left[1-m\right] + m, \qquad (4)$$

The first term in the right-hand side of Equation (4) represents the gain from lightening his or her redemption. The second term is the effect that reduces the loss from investment failure. Equation (4) is illustrated by Figure 1, where the success probability p is clearly a monotonously increasing function of m. Let us denote this relationship as follows.

$$p = \psi(m), \psi' > 0. \qquad (5)$$

On the other hand, the payoff function of a lender is

$$\pi^L(m) \equiv \psi(m)\left[1 + r(m)\right] - 1. \qquad (6)$$

The first term in the right-hand side of Equation (6) is the expected interest revenue from lending. The second term is the redemption of a deposit. We assume that the deposit market is competitive, and the equilibrium profits from a loan are zero. That is,

[2] The contract settled between a financial intermediary and an individual is a debt contract. As Johnston [5] argues, income contingent repayment (a kind of equity finance by an individual) is a substitutable measure. However, it is not a prevalent type of the contract.

$$\psi(m)\left[1+r(m)\right]-1=0 \qquad (7)$$

holds.

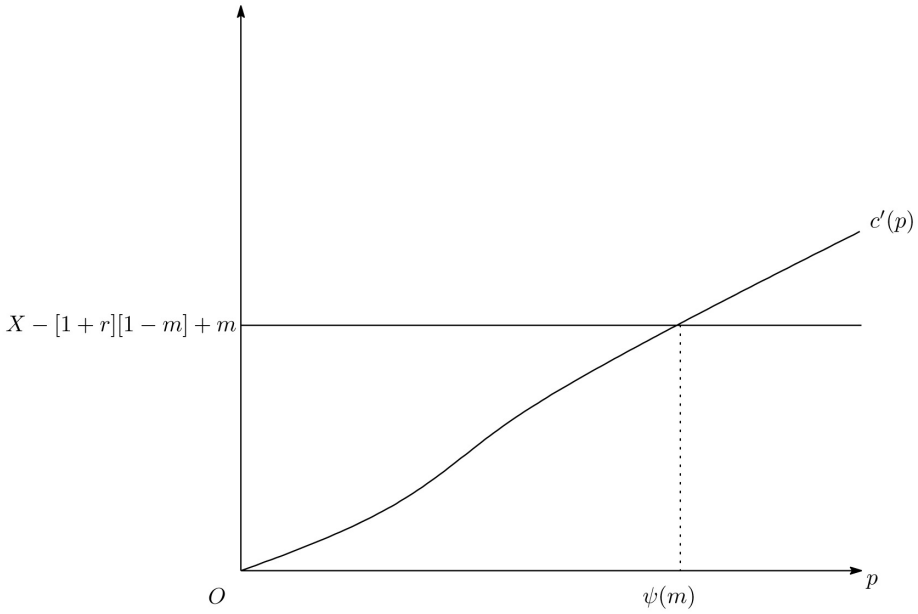

Figure 1: Optimal Effort

Comparative statics and welfare implications

Presuming the relationship in Equation (7), and employing the envelope theorem, we can show that;

$$\frac{d\pi^B}{dm}=\frac{\partial\pi^B}{\partial m}=\psi(m)\left[1+r(m)\right]-\left[1-\psi(m)\right]=\psi(m)>0 \qquad (8)$$

To summarize, we obtain the following theorem.

Theorem 1

The success probability of an education investment is an increasing function of the individual's income, m. Furthermore, the expected net revenue from the investment is also an increasing function of m. Combining Equations (2) and (7), we obtain

$$\psi(m)X>\psi(m)\left[1+r\right]>1,\forall m\Rightarrow\psi(0)X>1. \qquad (9)$$

From Theorem 1 and Inequality (9), we can ascertain that all potential educational investments are socially desirable, because they bring about positive surpluses to potential borrowers.

However, some not wealthy strata cannot access the capital market because surpluses for the investment are too small relatively to the cost incurred by the effort. Henceforth, we assume that the following relationship holds. That is, Assumption 1

$$\psi(0)\left[X-\left[1+r\right]\right]-c\left(\psi(0)\right)<0 \qquad \textit{(10) holds.}^{3}$$

[3] The following is an example. Let $c(p)=\frac{1}{2\alpha}p^2$. Equations (4) and (7) imply that

This assumption, in conjunction with Theorem 1, implies that the net expected return for borrowers whose income is located within the interval $\left[0, m^*\right)$ become negative, where m^* satisfies $\pi^B\left(m^*\right)=0$ (see Figure 2). Consequently, they have to give up the investment even though all individuals have the same innate abilities. Thus, income disparity hinders equalizing economic opportunities, and we have the following theorem.

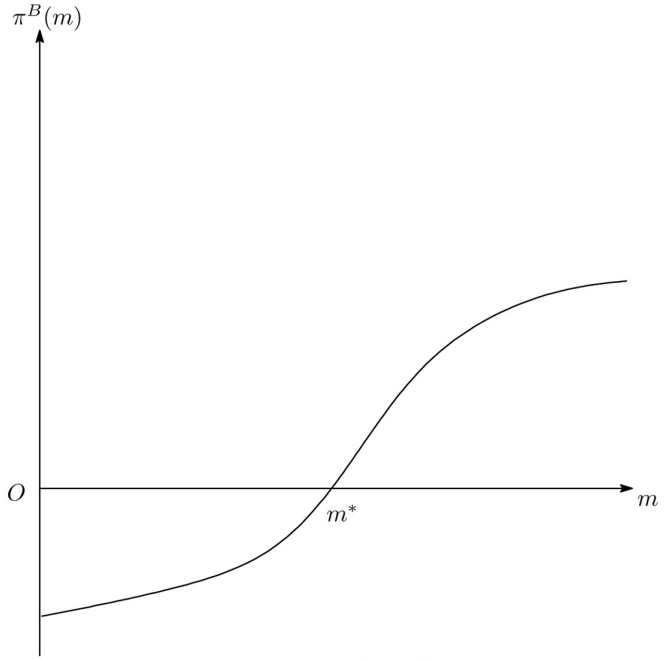

Figure 2: Borrower's Payoff Function

$$\psi\left(0\right)=\alpha\left[X-\left[1+r\left(0\right)\right]\right]=\alpha\left[X-\left[1+\frac{1}{\psi\left(0\right)}\right]\right].$$

Thus, $\psi\left(0\right)$ satisfies the following quadratic equation.

$$\psi^2\left(0\right)-\alpha\left[X-1\right]\psi\left(0\right)-\alpha=0.$$

The solution is

$$\psi\left(0\right)=\frac{\alpha\left[X-1\right]+\sqrt{\alpha^2\left[X-1\right]^2-4\alpha}}{2}.$$

Consequently,

$$\pi^B\left(0\right)=\alpha\psi\left(0\right)X-1-\frac{\psi^2\left(0\right)}{2\alpha}=\frac{\left[X-1\right]\psi\left(0\right)-3}{2}.$$

Since, $\psi\left(0\right)$ is a monotonous decreasing function of α, as long as α is sufficiently small, $\pi^B\left(0\right)<0$ holds.

On the other hand, $\psi\left(1\right)=\alpha\left[X+1\right]$, and thus,

$$\pi^B\left(1\right)=\alpha X\left[X+1\right]-\frac{\alpha^2}{2\alpha}\left[X+1\right]^2=\frac{\alpha}{2}\left[X+1\right]\left[X-1\right]>0.$$

Therefore, there is a value m^* such that $\pi^B\left(m^*\right)=0$ is satisfied.

Theorem 2
The uneven educational opportunity owing to the disparity of income is socially inefficient.

Verifiability and the law of large numbers

The above theory, similar to other economic theories under uncertainty, is based on the law of large numbers. Lenders can know borrowers' effort only statistically. That is, while the average revenue of lenders can be calculated accurately from large samples, lenders cannot anticipate the success or failure of an each individual borrower's educational investment.

This property, which is intrinsic to stochastic phenomena, causes a problem concerning the verifiability of borrowers' efforts. Lenders are unable to identify the cause of investment failure; because of misfortune or their laziness. That is, the cause of failure is not verifiable by its stochastic nature. Hence lenders depend on observable information such as incomes to infer borrowers' efforts.

This implies that even though a talented but non-wealthy individual, who has a low cost function $c(p)$, applies for a loan, his or her request is rejected because of the low income. Theorem 2 proves that such an uneven opportunity reflects the inefficiency of the society, and suggesting the acute need of that some measures to provide educational opportunities to non-wealthy individuals for educational opportunity are acutely desirable.

SUPPLEMENTARY POLICIES

The society faces a problem of shortage of funds for non- wealthy individuals. Hence, it is sufficient that the government transfers incomes to them up to the critical value m^*. However, the government should restrict the usage of money. It should limit the usage to educational investment.[4]

Without this restriction, those who receive the subsidy consume wasteful items. This can be easily proved as follows. From Equation (8), the marginal utility from additional investment is $\psi(m^*) < 1$. On the other hand, the marginal utility of wasteful consumption is unity from the definition of the utility function (3). Accordingly, any additional money transfers to non-wealthy individuals with no condition attached are always used for wasteful expenditure. Thus, we obtain the following theorem.

Theorem 3
An optimal income redistribution policy involves income transfers from those whose income exceeds unity to non-wealthy individuals up to m^*. *However, expenditure must be restricted to educational investment.*

CONCLUDING REMARKS

We have analyzed the role of income in education investment. The results obtained are as follows. First, high income eases investment because it interests lenders. Excessively low income individuals are deprived of educational opportunities even though they have the same abilities as high income individuals. Such deprivation indicates social inefficiency.

[4] In reality, it is a difficult problem how we should finance such subsidies. There was a serious controversy on this problem. See Hansen and Weisbrod [3], Pechman [4], and Hartman [6] for more detail.

Second, some income redistribution policy is unavoidable to cure the inefficiency of the society. Nevertheless, the usage of the transferred money should be confined to educational purposes.

Finally, there is a room for extending the model. When we regard a family as a kind of dynasty, the wealth of the ascendant might affect descendants' educational opportunities. As such, whether or not the initial endowment of wealth accumulation still relates to descendants' economic opportunities belongs to an important future extension.

REFERENCES

[1] K.J. Arrow (1963). Uncertainty and the welfare economics of medical care, American Economic Review 53, pp. 941-973.

[2] D. R. Deere and J. Vesovic (2006). Educational wage premiums and the U.S. income distribution: a survey, in E. Hanuschek and F. Welch (eds.) Handbook of the Educational Economics Vol.1, North-Holland, Amsterdam, Netherland, pp. 253-306.

[3] W. I. Hansen and B. A. Weisbrod (1969). The distribution of costs and benefits of public education: the case of California, Journal of Human Resources 4, pp. 176-191.

[4] R. W. Hartman (1970). A comment on the Pechman-Hansen-Weisbrod controversy, Journal of Human Resources 5, pp. 519-523.

[5] D.B. Johnston (2001). The economics and politics of income contingent repayment plans, The International Higher Education Finance and Accessibility Project. State University of New York, Buffalo.

[6] J. A. Pechman (1970). The distributional effect public higher education in California, Journal of Human Resources 5, pp. 361-370.

[7] J. E. Stiglitz and A. Weiss (1981). Credit rationing in markets with imperfect information, American Economic Review 71, pp. 393-410.

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A Life of Ms Paek Seon Haeng - A National Educator and Patriot of Pyongyang

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ABSTRACT

This paper discusses the life of Ms. Paek, Seon Haeng who was a widow and a rich woman in the Japanese colonized period. Her whole life was noble and influential in Korean modern history. On May 13, 1933 there was a crowd of more than 150 000 people at the riverside of Taedong River. They were in the funeral procession of Pyongyang in memory of Ms. Paek, Seon Haeng who had devoted her whole life to loftiness. She had donated all her wealth to national education.

This essay reviews the patriotic life of Ms. Paek, Seon Haeng under the colonial rule of Japanese imperialism to highlight the value of life dedicated to national education. With a view in avoiding the difference in the interpretation of the North and South Korea's history. I have made reference mainly to the daily news of Dong-a-ilbo (1925-1933) as primary sources. In the first chapter, I dealt with Ms. Paek, Seon Haeng's life and trials in her early years and in the next her first charity for building 'Paekseon Bridge'. In the chapter 3, I wrote about her devotion to education. Ms. Paek, Seon Haeng's devotion to education was originated from her anti-Japanese, patriotic inclination. She made donations to private schools, which then served as a base for national education. This reflects her anti-Japanese, patriotic mindset. In the chapter 4, I dealt with "Paek, Seon Haeng Memorial Hall" and Her Patriotism. The noble life of Ms, Paek Seon Haeng is recorded in history because her life was a laudable one, and became rich braving through all poverty and trials in her widowed life and rendered devoted service to the nation and her country. How one has earned his or her money is important; however, how one has spent his or her money is much more important. .In conclusion, Ms, Paek Seon Haeng is a representative woman who lived like a nobles oblige in the Korean modern history. I hope this essay will contribute to spotlighting the Noblesse Oblige of Ms. Paek of Pyongyang woman who devoted her patriotic life to national education with her love for the nation and her country.

Keywords: Paek, Seon Haeng, Noblesse Oblige, Pyongyang, Japan, Korea, Dong-a-ilbo

Introduction

On 13 May, 1933 there were a crowd of more than 150,000 people at the riverside of the Taedong River. They were in the funeral procession of Pyongyangites in memory of Ms. Paek, Seon Haeng who had devoted her whole life to loftiness. She, who had not known a word, had donated all her funds to national education. Therefore, all pupils of Gwangeong school, Seungin school, Seunghyeon Girls' school and Changdeok school closed down their schools and attended the first public funeral to be given to a woman in Korean history.

This essay reviews the patriotic life of Ms. Paek, Seon Haeng under the colonial rule of Japanese imperialism to highlight the value of life dedicated to national education. With a view to avoiding the difference in the interpretation of history in the north and the south of Korea, I have made reference mainly to the articles of Dong-a-ilbo (Dong-a Daily News, 1925-1933) as primary sources.

I hope this essay will contribute to spotlighting noblesse oblige of Ms. Paek of Pyongyang who devoted her patriotic life to national education with love for the country and nation.

Ms. Paek, Seon Haeng's Life and Trials in Her Early Years

Ms. Paek, Seon Haeng was an unknown woman who was born on November 19, 1848 (15th year of King Hyeonjong) as one and only daughter of Paek, Jee Yeong, who was a poor farmer in Paekgu-*ri*, Pyongyang (now Joongsong-*dong*, Pyongyang). Her father died when Ms. Paek was 7 years old. At the age of 14, she got married to An, Jae Hwang, a poor farmer, but after 2 years he died of illness.

Dong-a-ilbo described her birth and childhood as follows:

> *This great activist was born as the eldest daughter of Paek, Jee Yong, a poor student servant, in Joongsong, Pyongyang, 85 years ago on November 19, 458th year from founding of Choson. When she was 7, she lost her father. Her mother grew her one and only daughter in poverty and solitude left by her husband. Having grown up for 7 years under the care of her widowed mother, she got married to a son of An family at the age of 14. Her ailing husband An, Jae Hwang stayed mostly in bed only to die when Ms. Paek was 16 years old. When her husband was breathing the last breath, she kept praying for his life and cut her own finger to feed her blood to him, thus prolonging his life for 5 days. But, in spite of his young wife's devotion, he passed away. [1]*

With her husband's death, Ms. Paek, Seon Haeng became a 2nd generation widow only to live with her mother in economic difficulty and desolation. In summer they would prepare food only in the morning for the whole day, and in winter they lived on one meal a day.

> *Ms. Paek lost her husband and returned to her widowed mother. Her neighbors advised her to get re-married to change her life. But, for superstitious fear that a girl widowed before 20 could not avoid tragedy unless she got married 3 times, and in sympathy with her mother's solitude, she decided to keep living with her mother to the end, paving a new way of life. The most serious difficulty was to get food for their daily survival. They took the first step of new life with dying fabrics, soy sauce selling and weaving. [2]*

As described above, the childhood of Ms. Paek was interwoven with hardship and trials. The life of widowed mother and daughter was turbulent. In 1873 when Ms. Paek was 25 years old, her mother passed away. In order to afford her funeral, Ms. Paek adopted one of her nephews as advised by her neighbors. Nevertheless, it added fuel to the fire of her agony. According to the prevailing customary practice, her house worth 150 *nyang (Korean old currency)* and cash amounting to 1 000 *nyang* were all judged to be handed over to her adopted son.

> *Ms. Paek protested with all her strength. Behind her adopted son, however, stood her relatives who had promised with each other to distribute the inherited wealth among them. As a result of her unyielding protest, and in appreciation of her filial devotion to her widowed mother, she eventually managed to win back her ownership of the 150-nyang-worth house. 1 000 nyang in cash was distributed among several relatives of hers. Her bitterness over the unfair judgment on inheritance was so deeply rooted in her heart that she has since kept the record of distribution. [3]*

The life of Ms. Paek, who had lost her parents and husband, was synonymous of poverty and loneliness. Heedless of her lonely life, she worked diligently day and night and began to gather wealth. At that time, the governor of Pyongyang was Phaeng Han Joo, who, mad after her wealth, falsely accused her and threw her into jail.

> *Having gone through all twists and turns for 20 years of her widowhood, this woman*

from Phyeongan Province was no longer an easy prey. The governor was such a greedy person that he did everything possible in his power to grab other's wealth once he wanted it, but he dared not stretch out his hands to the wealth of this hard-minded and unyielding widow with no thoer choice but to wait for a better chance. After 10 days of ordeal behind the bars, she was released. [4]

A Charity of Ms. Paek, Seon Haeng (Paekseon Bridge)

In 1908, Ms. Paek, Seon Haeng met her 60th birthday after 45 years of widowhood. Against the expectation of the neighbors that she would give a big birthday party out of her wealth, she irrevocably insisted that there was no need of any birthday party for such an ill-fated woman as her with no husband and children.

Early in the morning of her 60th birthday, she hurried out of her thoroughly latticed house and headed for her husband's grave in Kaeksan-*ri*, Taedong County. On her way back home, she stopped by a village in Kaeksan-*ri* and opened her long-cherished plan to the villagers. She said to them; "I will have the wooden bridge (*Solmae Bridge on the road linking Pyongyang to Nampho*) destroyed and a new stone bridge (Kaeksan Bridge) built." The bridge in Kaeksan-*ri* was so old that nobody knew when it would collapse. Worse still, its supports were so low that it would be uselessly inundated whenever there was a heavy rain. The villagers in Kaeksan-ri named the bridge built with the help of Ms. Paek as "Widow Paek Bridge". Later, feeling awkward to call the well-doer Widow Paek, the elders of the village called her Seonhaeng (good works) and renamed the bridge as Paekseon Bridge (now Ansan Bridge in Songsan-ri, Mangyongdae District, Pyongyang). Her donation to it amounted to 1 000 won of the then value. Hence her name Paek, Seon Haeng, instead of widow Paek.

A poor widow Paek had turned to be a wealthy Paek since the land purchase in 1917. That year, misled by a real estate agent that the land around Mandal Hill in Kangdong County opposite to Pyongyang across Taedong River was profitable, she bought thousands *phyeong* (3.954 sq. yds) of land for 7~8 *won* per *phyeong*. Actually, the land was no better than a desert, where even a grass barely grew because it was too calomorphic. It was virtually a barren land worth less than 1 or 2 *jon(penny, 100 jon=1 won)* per *phyeong(*3.3058 ㎡).

The story that Ms Paek was deceived by a wicked real estate agent to buy a barren land worth less than 2 jon for 7~8 won per phyeong spread rapidly all over Pyongyang. She was jeered that she had worked day and night to earn money only to be ruined. Nobody dreamed that the misfortune would soon turn into fortune. Two or three years later, a Japanese discovered raw material for cement in that area. He kept it a secret and began to buy the land around that area for 3~4 won per phyeong. Ms. Paek also received a proposal for land sale. On receiving the proposal, one thought flashed in the head of clever Ms. Paek. (There must be a definite reason for the cunning Japanese to ask for the land so suddenly.) Ms. Paek refused to sell her land. [5]

The Japanese who implored Ms. Paek to sell the land she had been deceived to buy was Onoda, CEO of the biggest cement corporation in Japan. Since he couldn't set up a cement factory without buying Ms. Paek's land, the price for the land rocketed up. Finally, he went to the governor of Pyonyang to ask him for help. Under the governor's mediation, the land price was fixed at 70 won per *phyeong*, 10 times higher than the one Ms. Paek had originally paid for it. Out of this transaction, she became a millionaire all of a sudden with the wealth worth 300 000 *won*. (At that time 1 bag/60kg of rice costed 5 *won*, which meant that 300 000 *won* was enough

to buy 3 600 t of cement. Against the present price of rice 1 ton would be 650US Dollars, that amount is equivalent to 2.34million US Dollars.)

Paek, Seon Haeng's Devotion to Education

Ms. Paek, Seon Haeng's devotion to education was originated from her anti-Japanese, patriotic inclination. She made donations to private schools, which then served as a base for national education. This reflects her anti-Japanese, patriotic mindset.

The colonial education policy of Japanese imperialism clearly shows what a harsh rule Japan exercised in Korea through education. Paek, Seon Haeng's contribution of her wealth to education is originated from her patriotic reaction to the policy of Japan to obliterate the Korean nation. Then Japan's colonial education policy found its detailed expression, for example, in the "Ordinance on Private schools" (Ordinance of Government-General No. 62) in 1908, the 1st "Ordinance on Education in Korea" (Ordinance of Government-General No. 229) in August 1911, and the "Rules and Regulation for Private schools" (Ordinance of Government-General No.114) in October 1911. These documents prove that it was the Japan's intention to crack down the private schools established by Christian churches (generalization of Japanese language and making private schools public) and assimilate Korea to Japan. In addition, the Government-General in Korea promulgated the drastic revision of the "Rules and Regulation for Private schools" (Ordinance of Government-General No. 24) in March 1915, which made the study of Japanese language compulsory at schools and forced high and general schools to change their names. In August 1915 Japan adopted the "Rules and Regulations for Propagation of Religion" (Ordinance of Government-General No. 83) to publicly declare its repressive approach, and in January 1916, made public "Brainwashing through Education", which advocated that Koreans should be willing to Japanese both land and people of Korea. As seen above, the Japanese imperialists pursued the vicious colonial policy, particularly the repressive education policy to obliterate the Korean nation. In resolute protest to it, Ms. Paek, Seon Haeng expressed her patriotism by contributing her wealth to private schools for the sake of national education. (6)[i]

Ms. Paek is remembered in history not because she was rich, but because she led a noble life through good service to people and devotion to education. In society the nobles win reputation not for their social status or wealth, but for their sense of responsibility and obligation as such (noblesse oblige).

> *On the 25th, Ms. Paek, Seon Haeng, the richest woman in Pyongyang, donated out of her land ownership appx. 10 800 phyeong of paddy field and appx. 3 000 phyeong of dry field, appx. 13 000 phyeong in total, in Yepho-ri, Namgo-myon, Taedong County, to Gwangseong school, the biggest and most promising of all private general schools in Pyongyang. Gwangseong school is so moved that it has decided to establish a foundation on basis of her donation. Now the teaching staff of the school is now under fierce discussion whether to set up her bronze statue or her sculpture in the campus in order to hand down to posterities her noble intention [7]*

Originally, Gwangseong school was set up by Dr. Moor (John Moon), an American missionary of Methodist Church. Ms. Paek had never been to school, not even a village school. She didn't know how to read and write numerals, to say nothing of Chinese characters. Therefore, she did accounting by engraving lines on corn stalks of different thickness with her fingernails. Dong-a-ilbo carried the following article on the establishment and development of Gwangseong school

> *Pyongyang Gwangseong school was set up scores of years ago and has since produced a*

number of primary school-level students, thus making a positive contribution to the development of society. The school has progressed with each passing day and month. Two years ago the school set up a new two-storied building with the floor space of over 400 phyeong and upgraded its equipment and system. Then, it submitted to the authorities the application for recognition as a general school, which was approved on the 16th. [8]

But, Gwangseong school faced difficulties in its management because of harsh repression of Japan in education. Dong-a-ilbo read:

The branch of Gwangseong school in Munhua-up, Sinchon County, Hwanghae Province was set up 19 years ago by the local Christian church, and has since made a great contribution to society. In the early days its principal school was authorized and prospered with high reputation for its faithful education, but since its founder left, it had weakened gradually only to have its authorization withdrawn. The founding group and some influential people tried hard to seek a way-out but in vain. 5 years ago Mr. Choi, Dong Uk, its headmaster, succeeded in getting some contribution from the church and the school was able to produce tens of graduates last year. Now the school has 60 boys and girls as its students, but unable to afford to maintain the school, the school management got together to discuss on the future strategy. The discussion produced no definite result. Therefore, Mr. Choi Dong Uk has decided to travel around Hwanghae Province to meet some influential people. When he gets the travel permission, he will immediately leave for his trip with a sincere hope that the influential people would show full sympathy. [9]

Ms. Paek, Seon Haeng also made donation to Soonghyeon girl's school.

It is reported that the application submitted by Soonghyeon girl's school for the establishment of foundation was approved by the Government-General on the 4th. This school was set up 48 years ago as the first women's school in Pyongyang. The school has been the cradle of many talents: it has produced 720 graduates on 22 occasions. The total capital of the approved foundation amounts to 70 000 won, out of which 30 000 won was from the late Ms, Paek, Seon Haeng who had made a great service to society in Pyongyang and the rest was from other stakeholders, churches and different social organizations. Now the school gives 6-year course and has 430 students. The task facing the school now is to upgrade it to a general school. The foundation is said to have 5 directors in the board: Yoon Sam Won in the chair, Byon Sook Yong, Lee Won Myeong, Mapho Sam Yeol and Lee Il Myeong. [10]

Dong-a-ilbo carried the following article on Paek, Seon Haeng's donation of building plot to Soonghyeong girl's school:

Widow Paek Seon Haeng in Pyongyang (who had recently amazed many rich people by donating 13 000 won-worth wealth to Gwangseong school) again donated the field of 26 000 phyeong, worth 30 000 won in cash, in Choojado, Taedong County to private Soonghyeong girl's school operated by the Presbyterian Church in Pyongyang. Not only the school management but also the whole community highly praises Ms. Paek for her devoted service. [11]

In 1925 Ms. Paek made a huge donation to Gwangseong school and Soonghyeon girl's school; in 1927 she dedicated the land worth 6 000 *won* to Changdeok school operated by the Presbyterian Church; and in 1930 she contributed the land worth 13 000 *won* to Soongin school, thereby laying a basis for establishing foundations. Ms. Paek, unlearned and childless, had no interest in the management of schools. It was only with the sole intention to relieve the young Koreans from bitter sorrow of being too poor to get education that she made a huge donation of 180 000 *won*-worth wealth with no strings attached.

Dong-a-ilbo carried the following article on her donation to Soongin school:

> *Soongin school in Kyeongsang-ri, Pyongyang is a high general school run purely with the help of the Christians in Pyongyang. It is widely recognized that the school has made a positive contribution to education as a whole. As the original building was considered to be too small, the school started the construction of a new building on the same site in April last year with 28 000 won donated by some individual Christians, and it is now expected to be completed in less than a month thanks to the devotion of many Christians. An elegant 3-storied brick building stands high at the bottom of beautiful Gyeongsang Valley, commanding the picturesque panoramic view of Taedong River to the east, far-stretching Pothong Plain to the west, walled city of Pyongyang to the front, and Moran Hill to the back. On the 5th, the Presbyterian Church had the meeting of its believers in the hall of Pyongyang Soongdok school, its sister school. At the meeting, they decided to upgrade Soongin school to an authorized high general school and formed its preparatory committee, which includes Kim Dong Won, Jo Man Seek, O Yeun Seon and Pak Guee Bong. It is expected that Soongin school will soon be recognized as a high general school and train many celebrities in its new building. [12]*

In addition to Soongin school, Ms. Paek donated her land in Ryongsan-myon, Taedong County, to private Changdeok school in its difficult situation.

> *Private Changdeok school in Ha-ri, Ryongsan-myon, Taedong County, is a highly reputed educational institute which has produced many celebrities for scores of years since its establishment. For its better management, the school submitted to the Government-General an application for the establishment of foundation with the capital amounting to 44 200 won in May, which was approved on the 9th. [13]*

Ms. Paek, an unlearned social activist for educational development, showed unfathomable attention to, and enthusiasm for education. Whenever she made a congratulatory address at a matriculation or a graduation ceremony, she never forgot to make the following advice which reflected her life philosophy:

Remember that you are the sons and daughters of Korea. Do not sleep whenever you want to. Do not play whenever you want to. Do not close your books whenever you don't want to study. Diligently work on books all the time. Our country will be better off when you study hard and promote to higher grades.

It implies that he or she should continue to study hard against his or her own disliking to get bigger, just as a person can become rich when he or she works diligently, however toilsome it may be.

PAEK, SEON HAENG MEMORIAL HALL AND HER PATRIOTISM

When Ms. Paek was over 70 years old, she enjoyed respect of all people as a woman social activist representing Korea. Starting with the mass in praise of Ms. Paek, Seon Haeng for her distinguished service to education at Soonghyeon Church in 1925, there was a succession of meetings in praise of her and unveiling ceremonies of her statues and monuments. In 1928 the Pyongyang branch of Fraternity Society sponsored an amusement gathering in sympathy of Ms. Paek, Seon Haeng. Over 2 000 women gathered in the public play ground in Kirim-*ri.* It was then recorded as an event attended by the largest number of women in Pyongyang. Ms. Paek, Seon Haeng had no child of her own, but she had hundreds of thousands of her beneficiaries who respected her as their own mother or grandmother. Her reputation was so high that in 1928 when the groundless false rumor about her death spread over Pyongyang the price of funeral flower suddenly soared up in the city.

> *For the last several days there has been a false rumor of unknown source spreading in the city that Ms. Paek, Seon Haeng died of illness. Now a lot of people not only from Pyongyang but also from far-away localities are streaming to her house to pay tribute to her. Her house-keepers are having great difficulty to send the misled guest back. Some sensitive flower sellers advertised to place orders for funeral flowers with them. The source of the rumor is not yet known, but the death of Widow Pak must have been misreported. [14]*

Due to the harsh repression of Japanese imperialism there had been no public hall for Koreans in Pyongyang until 1928. When Cho man Sik and O, Yeun Seon called on Ms. Paek, Seon Haeng to tell her about their intention to build a public hall for Koreans (including a library), she gave them 40 000 *won* in cash without the second thought. The public hall, whose construction started in March 1927, opened in May 1929. Ms. Paek, Seon Haeng covered its whole construction cost of 65 000 *won*, and contributed additional 85 000 won as an initial capital of foundation. Jo Man Seek, who chaired its opening ceremony, declared that the public hall would be named "Paek, Seon Haeng Memorial Hall" in reflection of Paek, Seon Haeng's noblesse oblige. Until before the liberation of Korea, Paek, Seon Haeng Memorial Hall had been widely used by Pyongyangites for public gathering and cultural events. On November 8, 1930, there was a gathering praising Ms. Paek, Seon Haeng in the presence of over 300 representatives of educators, businessmen and students. Following the congratulatory addresses made by U Gee Seon, Yeun San, Lee, Gee Chan and Cho, Man Sik, Ms. Paek, Seon Haeng made the following reply:

> *It is good for nothing for people to have this kind of gathering in praise of such a person as me, who had merely given in enough and to spare money to a stone house (Paek, Seon Haeng's Memorial Hall) and some schools. What is the intention of my social service? I am such an ignorant old woman that I naturally have no intention. I am a widow with no children. If I die with some money left behind, my relatives will scramble for it. Nothing is more shameful than that. Isn't it more sensible to use it for anything good for the world?[15]*

The life of Ms. Paek, Seon Haeng who contributed her whole wealth collected diligently throughout her widow life to education was the noblest of noble, indeed. Ms. Paek, Seon Haeng passed away at the age of 86 in the early morning of May 8, 1933. Her demise threw not only Pyongyangites but also the whole of Korea into grief. Her contribution to society amounted to 316 000 *won*. Monuments to Ms. Paek, Seon Haeng's Distinguished Service were set up in the campuses of Changdeok school, Soonghyeon girl's school and Gwangseong school, and her

bronze statue was placed in front of Paek, Seon Haeng Memorial Hall. The last will of Ms. Paek, Seon Haeng, who was respected as a woman social activist representing Korea, was to bury her beside her husband. She was a social activist, a great woman of Pyongyang and a noble-minded patriot of Korea who contributed her wealth to national education under the colonial rule of Japanese imperialism.

Conclusion: A Widow and Rich Woman, Paek, Seon Haeng

The noble life of Ms, Paek Seon Haeng is recorded in history because her life was a laudable one of a Pyongyang woman, in which she became rich braving through all poverty and trials in her widowed life and rendered devoted service to the nation and country.

How and how much money one has earned is important, but how to use it is all the more important.

Dong-a-ilbo carried the following article about the life of Ms. Paek who grew from a child widow to a social activist:

> *At 12:40 p.m. May 8, Ms. Paek, Seon Haeng, a woman social activist of modern Korea, breathed her last breath. How many unimaginable twists and turns has she gone through fro 80 years since she was widowed in her childhood and then collected the wealth of over 300 000 won until she passed away after having made a huge contribution to society? What lesson do her distinguished service and noble personality teach the Koreans? Look back on the miserable part of her 80-year-long history.*
> *This great activist was born as the eldest daughter of Paek, Jee Yong, a poor student servant, in Joongsong, Pyongyang, 85 years ago on November 19, 458th year from founding of Joson. When she was 7, she lost her father. Her mother grew her one and only daughter in poverty and solitude left by her husband. Having grown up for 7 years under the care of her widowed mother, she got married to a son of An family at the age of 14. Her ailing husband An Jae Hwang stayed mostly in bed only to die when Ms. Paek was 16 years old. When her husband was breathing the last breath, she kept praying for his life and cut her own finger to feed her blood to him, thus prolonging his life for 5 days. But, in spite of his young wife's devotion, he passed away. [16]*

Traces of Ms. Paek, Seon Haeng's life are engraved in the moment. I will replace my conclusion with the inscription on the Monument to Ms. Paek, Seon Haeng's Distinguished Service moved now from Changdeok school to the courtyard of Paek, Seon Haeng Memorial Hall. In the middle of the front side are the big Chinese letters reading "Monument to Ms. Paek, Seon Haeng's Distinguished Service", and on both sides are engraved the following 4-line poem in Chinese letters: "*She contributed her wealth to what is righteous. She nurtured the flower root by boosting up education. .Great is her devotion to public interests and charity. It has set an example to be followed for all ages".*

On the back side of the monument is the following inscription in Chinese letters:

> *"Her family name is Paek and her given name is Seon Haeng. Her parents originated from Soowon and she was born in Pyongyang. Generally, the world knows few people whose names and deeds go well together. Nevertheless, her life proves that her name and deed are compatible to each other. Why? Paek (Purity)- she was widowed in her youth but kept her chastity to the end of her life; Seon (Goodness) – she only did good things without any deviation all her life; Hayng (Benefit) –she collected her wealth through diligent and frugal life and contributed them all to public interests nonstop just*

like an inexhaustible water source, thus bringing glory to Pyongyang, her native place.

This consistency of name and deed is really an unheard-of thing in history. Her life records innumerable cases of unknown deeds of giving relief to the poor and taking care of those in need behind their backs. In particularly, she devoted her all to public interests, for instance, her contribution to Kaeksan Bridge for the convenience of people's traffic and her donation to two schools - Gwangseong and Soonghyeon – for the development of national education. Therefore, she deserved praise of all people.

Concerned about the severe financial difficulty of Changdeok school, she again contributed to it huge wealth of hers – the land in Ryongsan-myon, Taedong County. With this contribution of hers, the school got much better than before and the young people in the vicinity could be ushered in civilization. This action of hers is not confined to the happiness of only Changdeok school, but gives blessing and benefit to the whole of Korea. Nothing can be greater than this. Therefore, it is natural that all local people speak high of her and the schools are so moved that they have decided to maintain in real sincerity Kaeksan Bridge loved by her in her life, and to take turns among themselves to take good care of her grave at the eastern bottom of Masan Hill in spring and autumn, as a token of their humble repayment to her solicitude.

With an unquenchable obligation to remember her forever, they bought the monument stone when she was alive and asked me to compose the inscription. Actually, I was afraid I was so unlettered to do it, but as I myself had children who went to school, I was not obliged to refuse it. So, impertinent and unreasonable it might be, I composed this inscription on the basis of her real life story.

Humbly written by Bachelor Jo, Jee Hoong from Paechon and inscribed by Pae, Joon Ryeol, July 16, 1927. "

References

[1] "From young widow to great social activist", *Dong-a-ilbo*, May 10,1933.

[2] "Life of the Late Ms. Paek Seon Haeng" *Dong-a-ilbo*, May 10, 1933.

[3] "Paek, Seon Haeng behind the bars", *Magazine Donggwang*, January 1931.

[4] "Life of the late Ms. Paek, Seon Haeng" II, *Dong-a-ilbo*, May 11, 1933.

[5] "The strong is woman" Seennyosong, Dong-a-ilbo , February 1933.

[6] Refer to the ordinances of Japanese Government-General as primary information: 1). "Ordinance on Private schools" (*Ordinance of Government-General* No. 62) in September 1, 1908. 2). the 1st "Ordinance on Education in Korea" (*Ordinance of Government-General* No. 229) in August 1911. 3) "Rules and Regulation for Private schools" (*Ordinance of Government-General* No.114) in October 21, 1911. 4) the revision of the "Rules and Regulation for Private schools" (*Ordinance of Government-General* No. 24) in March 24, 1915. 5) "Rules and Regulations for Propagation of Religion" (*Ordinance of Government-General* No. 83) in August 16, 1915. 6) "Brainwashing through Education" in January 1916. Refer the other documents of Japanese Government-General in Korea: Yoon Geon Hoom, *Modern Education and Ideological Movement in Korea*, (Publishing House of Tokyo University, 1982), 426.

[7] "80-year-old Widow's Fervor for Education", *Dong-a-ilbo*, February 28, 1925.

[8] "Gwangseong school Authorized on the 16th" *Dong-a-ilbo*, March 19, 1927

[9] "Dark Cloud over Gwangseong school", *Dong-a-ilbo*, July 2, 1924.

[10] "Foundation of Pyongyang Soonghyeon girl's school Approved" *Dong-a-ilbo*, September 12, 1934.

[11] "Ms. Paek's Generosity", *Dong-a-ilbo*, October 26, 1925.

[12] "New Songin School Building under Construction", *Dong-a-ilbo*, April 10, 1924.

[13] "Foundation for Changdeok school in Taedong County", *Dong-a-ilbo*, August 15, 1931.

[14] "Condolers Misled by Groundless Rumor", *Dong-a-ilbo*, March 21, 1928.

[15] "Life of the late Ms. Paek, Seon Haeng" III, *Dong-a-ilbo*, May 12, 1933.

[16] "From young widow to great social activist", *Dong-a-ilbo*, May 10, 1933.

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The determinant of the relationship between the knowledge on HIV/AIDs and safety measures taken by MSEs in Gikomba market, Nairobi, Kenya

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ABSTRACT

Kenya is among the world's nations affected by HIV/AIDS with the virus claiming 600 people per day. The most endangered are the young people of the age bracket of 15-49 years who own/managers and employees of the Micro and Small Enterprises (MSEs). The pandemic has negatively impacted on the successful management of MSEs in Kenya. This study was carried out to determine the relationship between the knowledge on HIV/Aids and safety measures taken by MSEs in Gikomba market, Nairobi, Kenya. AIDS was recognized in 1984 and by 1995, 73,179 HIV/AIDS deaths related cases had been reported in Kenya. Presently, it is estimated that about 2.2 million Kenyans are infected with HIV/AIDS, while 1.5 million have already died from the virus. However, this figure has gone dawn to 1.6 million. The sectoral impact of HIV/AIDS studies done so far has tended to lean on health, education, military, communications, information and agriculture. Little work has been done to investigate the effects of HIV/AIDS on MSEs' management despite its importance in the economic development and its contribution to the Gross Domestic Product (GDP) in Kenya. MSEs contribute 18% to the GDP in Kenya. The research was conducted using descriptive survey design to establish the relationship between the variables in the study of large group of individuals by studying a small group. The study used interview guide and questionnaires for data collection to achieve the desired objectives. The findings have showed that the deaths caused by either HIV/AIDS or its related immunodeficiency illnesses were common among the owners/ managers of MSEs at Gikomba market as attested by 80% on the entrepreneurs interviewed. The effects of HIV/AIDS on MSEs was found to be 93.3% of the about entrepreneurs interviewed. These effects were seen through loss of profits to meet expenses on HIV/AIDS ailments, contributions to medical bills, drug expenses, food supplements, absenteeism from work, psychological trauma, stigmatisation and deaths. The study also showed that 100% of

owners/managers of MSEs are very much aware of HIV/AIDS and its effects but failed to manage it through behaviour change. It was concluded that the effects of HIV/AIDS on MSEs in terms of increased costs of running their businesses was due to cost of medical bills, burial expenses, drugs and food supplements, reduced productivity and absenteeism from work. The knowledge and awareness of HIV/AIDS, influence decisions and measures taken by MSEs owners/managers to control, manage and plan for the future of their businesses. The study has recommended measures that can be taken to control and manage the HIV/AIDS among the MSEs to reduce the effects including continued effort on awareness campaign among MSEs, change of policy and approach towards combating HIV/AIDS and direct involvement of MSEs owners/ managers and their employees in the campaign against HIV/AIDS pandemic.

Key words: HIV/AIDS pandemic, Management of micro and small enterprises (MSEs) Gikomba market, Nairobi, Kenya

INTRODUCTION

Background Of The Study

Africa disproportionately bears the burden of the HIV/AIDS pandemic. Although only 11% of the world's population lives in Africa, roughly 67% of those living with HIV/AIDS are in Africa. (1, 2) In Africa, there were 22.4 million people living with HIV and 1.9 million new HIV infections in 2008. An estimated 14 million children in Africa have been orphaned as a result of HIV/AIDS. (2).

The importance of Micro and Small Enterprises (MSEs) has captured the attention of scholars, organizations and governments worldwide. This is because the sector contributes greatly towards the economic development of many countries in the world (ILO/UNDP, 1994). The MSEs servers as training grounds for entrepreneurial managers and providing access to markets for locally processed produce and materials. MSEs are key generators of local employment and enhance use of local and appropriate technologies to conserve scarce capital resources and thereby preventing rural-urban migration (Gibb, 1988).

The emergence of HIV/AIDS pandemic in the early 1980's to date, has threatened the contributions of MSEs to the development of the economy. The disease has seriously affected the performance and management of MSEs and large-scale enterprises worldwide (Smart Work, 2002). Those infected or affected are losing substantial income/earning for treatment and management of the HIV/AIDS pandemic, hence threatening their growth and success.

In Sub-Saharan Africa, about 22 million people are infected (GoK, 1999). However, this figure has gone dawn to 1.6 million. (UNAID, 2011). In Botswana the first HIV/AIDS case was reported in 1984 and since then the spread of the virus in the population has been explosive, starting in urban areas and rapidly expanding to rural areas. Botswana is one of the countries with the highest HIV infection rate in the world (UNAID/WHO, 2005, 2010, 2012).

It is estimated that the national adult HIV prevalence is 39% in Botswana compared to Zimbabwe (34%), Swaziland (33%), Lesotho (31%), Kenya (13%) Cameroon (12%), Nigeria (6%) and Senegal (1%). The adult prevalence rate for Sub-Saharan Africa is about 9% (UNAID/WHO, 2002). World Bank (1995, 2012) shows that in South Africa, 11% of their work force is sick with HIV, while 0.6% is sick with AIDS with 175,000 new Aids cases per annum. Thus the economic impact of the disease especially on business is undeniable. This negative impact of the pandemic on management of MSEs is great. It is thought that in countries greatly affected by the pandemic, increased costs due to absenteeism, funeral attendances, loss of skills, retraining and recruitment, healthcare and burial fees take substantial toll on businesses.

The economic losses, weakened workforce and the resulting instability have devastated many small businesses (Smart Work, 2002). Therefore, we opted to investigate the impact of the disease on MSEs' management in Kenya with view to provide long term solution to HIV/AIDS pandemic management.

In Kenya, the first HIV/AIDS case was observed in the mid-1980s; by 1995, 73,179 cases had been reported (GoK, 1997). The number of persons in Kenya infected with HIV/AIDS in 1997 was estimated to be 1.2 million and it was estimated to be 1.7 million in the year 2000. Presently, according to NACC and NASCOP (2012), it is estimated that 1.6 million Kenyans are infected with HIV/AIDS, while 1.5 million Kenyans have already died from HIV/AIDS (GoK, 1997). Currently the infection rate is decreasing by 26-49% (UNAID 2012).
In view of HIV/AIDs pandemic, Kenya government developed a sessional paper No. 4 of 1997 to provide a Policy Framework to guide all partners in the nation's response to the challenges of HIV/AIDS (GoK, 1997). In 1999, Mr. Moi the former president of Kenya declared AIDS a national disaster. Subsequently, the government mobilized additional resources and established a National AIDS Control Council to advocate, strengthen and co-ordinate the multi sectoral response to contain the spread of HIV and mitigate the impact of AIDS (GoK, 1997). No study has been done so far in response to this challenge in the MSE sector. This study was aimed at this goal.

The need for a policy framework was foreseen as a pre-requisite to effective leadership in efforts to combat this pandemic. HIV/AIDS prevention activities must be intensified in order to reduce the number of people getting new infections and reduce the impact of this scourge on the people of Kenya and their resources. Sessional paper No. 4 of 1987 on AIDS in Kenya, which provide guidance to all organizations and institutions involved in AIDS work in Kenya (GoK, 1997) provides avenue to tackling HIV/AIDs pandemic management strategy. The paper provides broad guidelines on how best to address critical issues on AIDS in Kenya over the next 15 years and beyond. The paper recommends further research and discussions with experts be done to bridge gaps where divergent views exist. This paper, intends to contribute towards HIV/AIDS management through assessing the impact of the pandemic on management of Micro and Small Enterprises in Kenya. The study is expected to enhance awareness on the impact of HIV/AIDS on MSEs owner/ managers, their employees including precautions to be taken to guard against and hence promoting entrepreneurship development

Objectives

The general purpose of this study was to investigate the impact of HIV/AIDS pandemic on management of micro and small enterprises in Kenya. . However, specific objectives of this study were to:

1. To establish the relationship between the knowledge on HIV/AIDS by MSEs in Gikomba, Nairobi Kenya.
2. Suggest and recommend policy measures towards HIV/AIDS prevention, control and management in MSEs in Gikomba, Nairobi Kenya.

The Significance of the Study

This study is of importance to owner managers of MSEs, prospective entrepreneurs, Non Governmental Organizations and Government Agencies working in a joint effort for HI/AIDS pandemic. Ministry of Education Science and Technology, Ministry of Trade and Industry and the Non-Governmental Organization (NGOs) that are directly involved in promotion and development of MSEs in Kenya will greatly benefit from these findings. It is hoped that the findings will enhance the training of MSEs managers and employees, by creating awareness of

the dangers of HIV/AIDS in running successful business, and enhancing policy measures towards HIV/AIDS prevention, control and management. In addition, the findings will provide information to scholars, researchers and students of entrepreneurship development in Kenya and others who would like to pursue further studies in this area.

RESEARCH METHODOLOGY

The study location and the study population are examined followed by sample size and the sampling technique was used. A questionnaire was developed and then piloted and verified for reliability and validity. This was followed by field data collection via the refined questionnaire. Gathered data in form of responses were entered in Excel spreadsheet and analysed and finally presented in bar charts and graphs.

Research Design

This study adopted mainly descriptive survey as the study dealt mainly with relationships between the variables, the testing of hypothesis and the drawing generalizations with universal validity as recommended by Saunders *et al* (2003). It was envisaged that there was a relationship between the health status of the entrepreneurs, employees and the successful management of their business as dictated by their health status.

Study Location

Field survey was carried out in Nairobi, Gikomba Market. Gikomba is in Nairobi, a capital city of Kenya and houses many micro and small enterprises and other commercial organizations including local and international organisations. It is one of the largest commercial centres in the country. Gikomba has a population of 1,163 people. 467 are males and 516 are females. This is as per the population census of 1999 (GoK, 1999) occupying approximately 10.97 square kilometres.

Study Population

The population studied in this research comprised 500 entrepreneurs in Gikomba market operating micro and small enterprises. However, it targeted the age group of 18-49 years operating MSEs at Gikomba since Kenya sessional Paper No. 4 of 1997 shows that majority of the HIV/AIDS infected fall between 15-49 years of age (GoK, 1997). It was observed that most of the MSEs owners managers and their employees were in this age bracket. The ethnic composition of Gikomba is made up of nearly all communities in Kenya. The majority are the Kikuyu, Luo, Luhyia and Kamba. Gikomba according to 1999 census has a population of 1,163 people and 169 households occupying 0.1 square kilometres (GoK, 1999). It has a density population of 11,630 people with estimated 500 MSE businesses.

Field Survey

The businesses at Gikomba are basically divided into trade premises operating on permanent buildings and non-permanent structures. The types of business include clothing, agricultural crops including fruits, vegetables, meat, fish products and grains. These businesses are either licensed or non-licensed. This research targeted licensed business only. Majority of businesses are owned by age group of 18-49 years. The entrepreneurs in this place come from all over the country. Businesses of all trades are carried out in Gikomba. The sample of study reflected the national outlook and captured the relevant information for this research.

RESULTS AND DISCUSSIONS

This research findings, analysis and discussion were aimed to answer research questions on the relationship between the knowledge on HIV/AIDS by MSEs in Gikomba, Nairobi Kenya.

HIV/AIDS Awareness among MSEs at Gikomba

HIV/AIDS Awareness

The rate of awareness of HIV/AIDS among the MSEs owner managers is very high. Out of 60 interviewed entrepreneurs, 100 percent are aware of the existence of HIV/AIDS while none said is not aware of the HIV/AIDS. This shows that all the entrepreneurs interviewed are aware of the existence of HIV/AIDS. This could be because these are infected or affected by the disease. The awareness of HIV/AIDS among MSEs is not a big issue. Perhaps the change of attitude and behaviour is the issue. The knowledge of HIV/AIDS would enhance their decision making in taking the safety measures to guard themselves against contraction and/or better management of HIV/AIDS. The knowledge of HIV/AIDS will determine the types of measures or precaution they will take.

Source of information on HIV/AIDS

This section analyses the sources of information of HIV/AIDS at Gikomba markets. This is shown by table 1 below

Table 1: Sources of information on HIV/AIDS

	Frequency	**Percent**
Seminars	20	33.3
Public rallies	2	3.3
Both	38	63.3
Total	60	100

The entrepreneurs interviewed gave various sources of their information about HIV/AIDS. Table 1 shows that (38) 63.3 percent of the respondents said they got the information about HIV/AIDS from both seminars and public rallies. (20) 33.3 percent said they got this information from attending seminars only while only (2) 3.3 percent got information about HIV/AIDS from public rallies only. This shows that the owner managers of small and micro enterprises are very much informed about HIV/AIDS. This could also mean that the issue of the rate of infection is not on ignorance on the part of entrepreneurs of micro and small enterprises but perhaps the need for their change of attitudes towards HIV/AIDS.

Other sources of information on HIV/AIDS.

This section discusses other sources of information about HIV/AIDS by MSE owner managers at Gikomba market as is shown by table 2 below.

Table 2: Other sources of information on HIV/AIDS

Sources	**Frequency**	**Percent**
Media: Radio & TV	40	66.7
Pamplets	6	10
Groups	4	6.7
Church	4	6.7
Hospital	6	10
Total	**60**	**100**

The respondent of this research gave other sources of information about HIV/AIDS besides the ones given in Table 2 above. In Table 2, the research establishes that (40) 66.7 percent of the respondents got their information from media especially from Radio and Television while (6) 10 percent got the information from Hospitals and Clinics and /or Voluntary Counselling and Testing Centres [VCTs]. The table shows that a total of 6.7 percent got the information about HIV/AIDS from their organized groups and churches respectively. This is because each one of

them had 6.7 percent. This research thus shows that Radio and Television are very effective tools of communication and thus can be used to campaign against HIV/AIDS not only to micro and small enterprises but also to all other sectors of the economy. This is perhaps because both Radio and Television are owned by majority of Kenyans and especially Radios which transcends the language barriers can be used effectively to communicate information about HIV/AIDS. For Television, it is effective perhaps because of dramatization and demonstration of the dangers of HIV/AIDS to their viewers.

The respondents who got the information through hospitals, clinics, and/or VCTs (mostly females) got the information during pre-natal inspection or during birth periods. Four mentioned VCTs. This shows that VCTs are not as yet popular among the micro and small enterprises owners and their employees. Perhaps they are not keen in visiting them to know their status.

Learnt lesson about HIV/AIDS from the various sources

Most entrepreneurs interviewed in this research gave various responses as to what they learnt from the HVI/AIDS awareness. Table 3 shows these responses.

Table 3: Lessons learnt

Lessons	Count	Percent
Management of HIV-AIDS	18	35
Prevention of infections	20	28
Advocacy	12	17
The disease is fatal	22	31
Total	72	100

Table 3 shows that the entrepreneurs interviewed learnt various lessons from their various sources of information (22) 31 percent said that, HIV/AIDS is a fatal disease (18) 35 percent learnt how to live with and manage HIV/AIDS and (20) 28 percent of the respondents said they learnt to take precautionary measures to prevent infection by HIV/AIDS. This means that information about HIV/AIDS is one of the key tools to fight against the pandemic and perhaps would need to be enhanced among the owners of micro and small enterprises to control and/or reduce the impact of HIV/AIDS among them.

Relationship between business environment and risks of HIV/AIDS infection

This section discusses the relationship between the business environment and risk of HIV/AIDS infection.

Table 4: HIV/AIDS Status

	Frequency	Percent
Yes-Danger of infection	36	60
Yes lack of customers	22	36.7
No	2	3.3
Total	60	100

Table 4 above shows that (36) 58.6 percent of the respondents said that the environment could be risky and dangerous in terms of infection. They said careless behaviour among the entrepreneurs and their employees can spread the infection rate. (22) 36.7 percent said, the environment could be risky in terms of contraction and loss of customers especially when they learnt about the positive status on HIV/AIDS of the owner managers. Only (2) 3.3 percent said they did not feel that there was any danger at all.

Importance of owner managers and the employees knowing about their status on HIV/AIDS

The need of knowing the HIV status of MSEs owner managers is one of the steps towards its management. This section analyses the necessity of MSEs owners at Gikomba and their employees of knowing their HIV status.

Table 5: HIV/AIDS Status

	Frequency	**Percent**
Yes	58	96.7
No	2	3.3
Total	**60**	**100**

Most of the respondents interviewed said that it was necessary for owner manager and their employees to know their status of HIV/AIDS. Table 5 above shows (58) 96.7 percent said yes it was important for them to know their HIV status while only (2) 3.3 percent of the respondents said that it was not important for the owner manager of small and micro enterprises and their employees to know about their HIV/AIDS status. This does not seem to tally with the small percentage that knew their HIV/AIDS status through VCTs indicating that things are easily said than done. This would mean majority of MSEs owners may want to know their HIV status but fear to go for counselling and testing.

Reasons for knowing of HIV/AIDS status

This section presents the analysis of data obtained from MSE entrepreneurs at Gikomba on reasons for them to know their HIV status. These reasons are shown by table 6.

Table 6: Reasons for knowing HIV/AIDS status

	Frequency	**Percent**
Will help the infected & affected in their ways of life style	30	50
Takes care of oneself	28	46.7
Give hope to those living with HIV-AIDS	2	3.3
Total	60	100

The entrepreneurs interviewed gave various reasons why it is important for them and their employees to know about their HIV/AIDS status. Table 6 shows that (30) 50 percent wanted to know their HIV/AIDS status to enable them to help the infected and affected especially on its management. (28) 46.7 percent said it was important as it would enable them to take care of themselves and / or take care of others who may be infected and affected. Only 3.3 percent said that their knowledge on their status of HIV/AIDS would not contribute anything to those living with HIV/AIDS.

Table 6 also shows that in all cases, it is important for micro and small enterprise managers and their employees to know about their HIV/AIDS status enable them plan ahead and contribute to data building which can then be used for designing policies and planning on strategies to fight against HIV/AIDS.

Death resulting from HIV/AIDS at Gikomba market.

All the interviewed MSE owner managers at Gikomba market indicated that they had known or heard of a case of death from HIV/AIDS among them. Infact (60) 100 percent of the respondents indicated that they have known or heard of cases of death from HIV/AIDS or

related ailments among themselves. None said had not known of any. This shows how much HIV/AIDS is prevalent among many small and micro enterprises. This would mean unless controlled, HIV/AIDS would negatively affect the running and management of micro and small enterprises not only through deaths of owner-managers but also reducing their capital investments and profits.

Summary of research findings

Background information of the Entrepreneurs

The purpose of this study aimed at investigating the impact of HIV/AIDS pandemic on running and management of Micro and Small Enterprises (MSEs) in Gikomba market in Nairobi. Kenya. The study on the relationship between the knowledge on hiv/aids and safety measures taken by mses in gikomba market, nairobi, Kenya, the extent to which the owner managers of MSEs at Gikomba knew about HIV/AIDS and the dangers associated with it as regards to the running and management of their businesses and safety measures they took to safeguard themselves and/or enable them to manage the HIV/AIDS. The study used structured interview guide and questionnaires in collecting data to achieve this objective. The researcher conducted the interview himself on sixty (60) respondents infected or affected by HIV/AIDS. These were selected purposively out of the estimated 500 licensed MSEs at Gikomba market in Nairobi. The researcher worked closely with National AIDS control Council of Kenya and the Nairobi Provincial AIDS Control coordinator in identification of organizations and groups dealing with the infected or affected groups or persons operating MSEs businesses in Gikomba market.
The data was collected, analyzed, interpreted and discussed. The following is the summary of the findings:

(i) Small and micro enterprises are owned and managed by both men and women 67% and 33% respectively. Although the research at Gikomba shows that there are more men involved in MSES than women, there is no gender discrimination in terms of ownership and management. This means the prevalence and impact of HIV/AIDS is felt by all sexes among MSEs without discrimination. The risk of its danger and the precautionary measures to guard against its contraction or its management is necessary for all, MSEs in the country.

(ii) Greater number of micro and small entrepreneurs (75 percent) is in the age bracket of 29-40years. Only a small percentage (25 percent) is either above the age bracket of 41-49 or below 29 years. All are within the age bracket of 0-49 which is the prime and most active in life. This is the age bracket within which the HIV/AIDS is most prevalent. Uncontrolled infection–by HIV/AIDS or lack of proper management of HIV/AIDS among this group of entrepreneurs has a devastating impact on the running and management of their businesses and by extension to the whole economy. The extent to which these entrepreneurs are knowledgeable about HIV/AIDS determines the safety measures they take to guard themselves against its contraction and/or its management. The MSEs owner managers and/or their employees know this very well (100% are aware).

(iii) Most of the owner managers of micro and small enterprises are married, majority of whom (70 per cent) have between 2-4 children: This is a burden to both the affected and the infected entrepreneurs which in effect impact negatively to their businesses in the event of death as a result of HIV/AIDS. It is also a burden to the whole economy of a nation. The children may lack the proper care and supervision needed at this critical period in their lives. This results in tremendous strain on social economic systems to cope with such a large number of orphans both at the family level and community level. It reduces MSEs' growth.

(iv) Majority of micro and small enterprises (88 percent) have attained primary education

and above. The entrepreneurs at higher levels of education- ' 0'-level and above, (46.7) percent are at a better position to access to and understand the information and awareness about HIV/AIDS which enhances their decisions in taking safety measures and/or management of HIV/AIDS.

(v) The frequency of experience is highest at 5 and 8 years among the micro and small enterprises (43.3 percent). The loss of such manpower and womanpower so experienced in business through HIV/AIDS is not only a big blow to their businesses and immediate families but to the whole economy as such experiences cannot be easily replaced.

(vi) The impact of HIV/AIDS on micro and small enterprises is felt across the major sectors in the business undertaking as the owners/manages and the employees are in all business sectors. Among the MSEs owner managers interviewed, there were trade (71.7 percent), manufacturing (13.3) percent and service (15) percent. The impact of HIV/AIDS is felt by these MSEs and indeed all business sectors if not checked. These impacts include the reduced productivity as a result of illness, 34 per cent, absenteeism from work, 5.4 per cent early retirement from business activities, and labour turnover. The other impact is the increased costs of running the business due to high medical bills, contributions to burial expenses, high cost of food, drugs, supplements and loss of lives.

Business Information

The study has found that:

(i) Most of micro and small enterprises (96.7 percent) are owned through sole proprietorship with only a few in partnerships. Most businesses start at this level and eventually graduate to other levels of medium and large scale enterprises. The socio-economic impact of HIV/AIDS on these MSES on their profits and savings can inhibit their survival and growth into medium and large scale employment opportunities.

(ii) The start up capital of most of the micro and small enterprises come from either their own savings or from relatives and / or friends (69 percent). Only few MSE entrepreneurs 10 per cent of this group get loans from banks due to banks restrictions on lending to MSEs. This lending is complicated further by the prevalence of HIV/AIDS infections among the MSEs owner manager as banks and other financial institutions are not keen to lend money for business ventures in this sector.

(iii) Most of the MSES entrepreneurs 38.3 start their businesses with the initial capital of Kshs. 30,000/-. Out of this investment, they are able to generate more profits which eventually build up to enable them expand their businesses and meet other socio economic demands. HIV/AIDS is eating into their profits prompting them either to close down their businesses or remain in their start up stage.

(iv) This research has revealed out that most of MSEs entrepreneurs 46.7 make profits in the class interval of Kshs. 21,000 – 25,000 per month which is between Kshs. 252,000 – 300,000 per year on average. If these profits are ploughed back into their businesses, they would enhance their growth and expansion. The expenses incurred in treatment and management of HIV/AIDS impacts negatively on their business growth.

(v) Most MSES (80 per cent) are manned and managed by their owner managers with 90 per cent employing within the cluster of 0-9 people and only 10 per cent employing between 10-18 persons. This concurs very well with what Maitha and Odiege found in their study of MSEs and job creation (Maitha and Odiege, 1997). They found MSEs as a

source of job creation and poverty alleviation. Thus they create job opportunities to many Kenyans and contribute to the Gross Domestic product of the country. HIV/AIDS would reduce this contribution drastically if not checked.

(vi) The owner managers of MSEs run and manage their own businesses. The research has shown 80% per cent do not do any form of delegation neither have they trained assistances/relatives who may take over in the event of death or otherwise. The infection or affection by HIV/AIDS can have a devastating impact on running and management to these businesses. The effect of this on the nation is that the country will loose 18 percent of GDP contributed by this sector annually.

(vii) Quite a good number of MSEs (70 percent) have been making profits in relation to the amount invested and in terms of expansion and number of employees added to their businesses. HIV/AIDS can bring this growth to nought if not controlled in this sector.

Some of the MSEs experience lack of growth in their businesses (33.3 percent). This is because of economic depression experienced in the country, discrimination due to their HIV/AIDS status, lack of enough capital for expansion and stiff competition that exists within the MSES.

Thus stigmatization and discrimination due to HIV/AIDS infection is affecting the running and activities of MSES leading to the loss of their customers and thus poor sales.

HIV/AIDS status and business

The researcher has found that:

(i) One hundred percent of MSES owners are aware of the HIV/AIDS and dangers associated with it. This knowledge has enhanced their decision making in taking the safety measures to guard themselves against contraction and/or better management of HIV/AIDS.

(ii) The prevalence of HIV/AIDS within MSEs is not as a result of ignorance and lack of information on HIV/AIDS and its dangers. The research ahs revealed that all of them 100 per cent are aware and informed about it. But perhaps it is due to attitude to it and behavioural change among other factors. Careless behaviour and lack of change of attitude towards HIV/AIDS can be dangerous within the business environment as it can contribute towards the spread of HIV/AIDS among the MSES entrepreneurs and their employees. Sixty per cent of the respondents concurred with this fact.

CONCLUSION

The impact of HIV/AIDS on small and Micro and Enterprises in Gikomba market in Nairobi is enormous. It is felt by them from high medical bills resulting from treatment of HIV/AIDS and/or related immunodeficiency sicknesses, high expenses on retrovirus drugs, expensive food supplements, loss of working of hours due to absenteeism from work to attend to hospitals and clinics, loss of customers leading to decrease in sales and profits and psychological trauma resulting from HIV/AIDS pandemic.

It can also be concluded that although the rate of awareness about HIV/ADS is very high, there is still high prevalence of HIV/AIDS implying slow change of attitude towards it. However, their knowledge of HIV/AIDS enables the MSEs owner managers and their employees to take the preventive measures against HIV/AIDS and/or its management.

RECOMMENDATIONS

The research findings of this study have shown that although the HIV/AIDS awareness is 100% among the MSE respondents at Gikomba in Nairobi, the HIV/AIDS prevalence is high (86%). Thus there is urgent need for continued awareness campaign and training on management of HIV/AIDS among the MSES sector throughout the country. This would reduce the prevalence of HIV/AIDS within MSES in the country. It would also enhance the lives of MSE entrepreneurs living with HIV/AIDS or those affected.

The findings of this research have found out that the government has succeeded in bringing about the awareness of HIV/AIDS. Almost 100 percent of MSEs owner managers are aware about HIV/AIDS. However, the approach of the campaign should now change so that it is now geared towards attitude and behavioural change as opposed to just awareness. It should be spread to all parts of the country especially to rural areas where the campaign and advocacy has little been done.

The research results of this study has established that the extent of awareness and knowledge of HIV/AIDS among the MSES enhance their decision making in taking the safety measures to guard themselves against contraction and/or better management of HIV/AIDS. However, there is need to enhance more training on management and home-based care of HIV/AIDS especially for those living with it, on better eating habits and other alternative medicines.

From this study, an observation is made that one of the hindrances of successful campaign against HIV/AIDS among MSEs is the change of attitude. Thus, there is a challenge to develop appropriate policy instruments for advocacy and target information, education and communication campaigns to promote significant behaviour change among the sexually active population. The interventions will need to address the non-sexual modes of transmission e.g. circumcision, tattooing, drug abuse and other culture related practices. Targeting is important as it will address the needs of specific groups in the population like MSE entrepreneurs.

SUMMARY OF RESEARCH FINDINGS

From the data collected, analysed, interpreted and discussed, the following is the summary of the findings:

The effects of HIV/AIDS on micro and small enterprises is felt across the major sectors in the business undertaking as the owners/manages and the employees are in all business sectors. Among the MSEs owner managers interviewed, there were trade (71.7 percent), manufacturing (13.3) percent and service (15) percent. The effects of HIV/AIDS are felt by these MSEs and indeed all business sectors if not checked. This effect includes reduced productivity as a result of illness, 34 per cent, absenteeism from work, 5.4 per cent early retirement from business activities, and labour turnover. The other impact is the increased costs of running the business due to high medical bills, contributions to burial expenses, high cost of food, drugs, supplements and loss of lives. Also stigmatisation and discrimination due to HIV/AIDS infection is affecting the running and activities of MSES leading to the loss of their customers and thus poor sales.

REFERENCES

AIDSCAP (1996). *Aids in Kenya Socio-Economic Impact and Policy Implications.* USA: US Agency for International Development.

Barnett, T and Blaike, P. (1992). *Aids in Africa: Its Present and Future Impact.* London: Bellhaven Press.

Bell, J. (1993). *Doing your Research Project. A Guide for First Time Researchers in Education and Social Science.* USA: Open University Press.

Brookmeyer, R. (1994). *Aids Epidemiologist A Quantitative Approach.* New York. USA: Oxford University Press.

Brough, M. (1970). *Understanding the Small Business.* USA: USA and Canada Barclays DTI, the Department for Enterprise, Toronto.

Carolyne, W. N. (2000). *Influence of Socio-Cultural and economic Risk Factors in Spread of HIV/Aids and other Sexually Transmitted diseases.* A case study of Kisumu Municipality. Nyanza, Kenya.

Car'valan, O. V. (1987), *Vocational Training for Disadvantaged Youth in Developing Countries*. ILO, Geneva.

Carpenter, C.G. (1987). *The New Business Success Formula*. Trend Publications. USA: Honolulu, Hawaii.

Gibb, A. (1988). *Stimulating Entrepreneurship and New Business Development,* ILO Geneva.

G O K (1988*). Sessional paper No. 6 of 1988 on Working Party on Education and Man Power Training in the Next Decade and Beyond.* Nairobi: Government Printers.

G O K (1989*). Strategy for Small Enterprise Development in Kenya towards the year 2000.* Nairobi: Government Printers.

G O K (1992). *Sessional Paper No. 2 of 1992 on Small Scale Enterprises and Jua Kali Development in Kenya.* Nairobi: Government Printers,

G O K (1996). *National Aids and STDs Control Program of Kenya*. The Second Five-Year Medium Term Plan for Aids Control, Nairobi. Government printers.

G O K (1997). *Sessional Paper No. 4 of 1997 on Aids in Kenya*. Nairobi: Government Printer.

G O K (1999). *Population and Housing Census*. Population distribution by Administrative areas and urban Centres; Central Bureau of Statistics, Nairobi Government Printers.

G O K (2001). Aids in Kenya. *Background Policy Impact Intervention Policy.* Ministry of Health. Nairobi – Kenya.

Goulding, S. (1984) *Analysis and Presentation of Information.* London, Harper and Row.

Harvey, V. F. (1988). The Social Dimension of Aids, USA. Available from website: http://www.google .com

ILO (1971*). Self-Employment and Informal Sector in Kenya's Economic Development.* Kenya Nairobi.

ILO/UNDP (1994). *Entrepreneurship Education Project*. A National Model. Kenya Technical Teachers College. Nairobi, Kenya.

John, W. B. and James, V. K. (1993). *Research in Education*. Toronto, USA.

K'aol, G. O. (1994). *Perception of Craftsmen and Apprentices regarding Self-employment Skill acquisitions in Kenya informal sector*. University of Illinois – Champaign, USA.

Kibwana, K. (1992). *HIV/Aids and the Law in Kenya*. Preliminary Observations working Paper No. 484 AIDS Nairobi – Kenya.

Maalu, J. (1993). *Trends and Issues in Entrepreneurship Development*. Jomo Kenyatta University College of Agriculture and Technology. Nairobi

Maitha, J. and Odiege, O. (1997). *A Research paper presented to Jua Kali Workshop Nairobi.* April 1997(African Development Foundation and Regional Centre for Social Economic Studies). Nairobi.

UNAIDS. Global facts and figures: The global AIDS epidemic. Available at: http://data.unaids.org/pub/FactSheet/2009/20091123_FS_global_en.pdf

WHO. Facts about health in the African Region of WHO. Available at: http://www.who.int/mediacentre/factsheets/fs314/en/index.html

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Education and Cognitive Skills in the Spanish Adult Population Inter-generational Comparison of Mathematical Knowledge from the PIAAC Data

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INTRODUCTION

Background

The *Programme for the International Assessment of Adult Competences* (PIAAC), coordinated by the OECD, is a new step in the generation of internationally comparable data on the cognitive skills of the population in a wide range of countries. It extends former work on the abilities of the adult population in the field of reading literacy (IALS, ALL) and complements the studies carried out on the levels of competence of young people in different fields and for different ages (PISA, PIRLS and TIMSS, among others).[1] The present study provides cross-section data on the skills of the adult population (aged 16 to 65 years) in the areas of *reading literacy* and *mathematics.* Twenty-four countries have participated in this first wave and a few more will be incorporated in an extension intended for the next years. The assessment of people's skills is carried out through questionnaires and the valuations are measured on a scale of 0-500 points.

The key aim of this new database is that of enabling a better understanding of the relationship between education, acquisition of cognitive skills and the ageing of the population. Those are relevant aspects for personal fulfilment, the accumulation of human capital, the dynamics of the job market, and the development of societies. This study expands substantially the available evidence on those matters and will thus facilitate the design of effective policies to enhance people's skills and to support their development and implementation in different countries (see OECD (2012, 2013) for a discussion).

There is broad range of empirical evidence that shows that investing in expanding the skills of the population is the best recipe for transforming scientific and technological development into growth and welfare (see for example, Acemoglu & Robinson (2012)). The acquisition of those skills is closely linked to both formal education and experience (Desjardins (2003), Statistics Canada & OECD (2000), (2005)). For this reason, the provision of formal education and a suitable integration into the labour market are key for the development of people's skills. One has to bear in mind that the worth of those skills tends to decrease over time, their under-utilization or their lack of use, and the mismatch that may derive from changes into the individuals' environment (Pazy (2004), Staff et al. (2004), De Grip et al. (2005)).

[1] *IALS: International Adult Literacy Survey. ALL: Adult Literacy and Lifeskills Survey. PISA: Program for International Student Assessment. PIRLS: Progress in International Reading Literacy Study. TIMSS: Trends in International Mathematics and Science Study. The first three studies are coordinated by the OECD whereas the last two by the International Association for the Evaluation of Educational Achievement.*

Cognitive Skills, Aging of the population and Demographic Structure

There is a well-defined pattern of the evolution of cognitive skills. Theoretical and empirical studies show that there is a negative correlation between cognitive skills and age. This phenomenon, which is observed in cross-section and longitudinal studies, is compatible with the existence of different pathways, depending on the type of the cognitive skill being considered. All cognitive skills seem to increase up to the ages of 18 or 20 years; soon after the decay starts in some types of cognitive skills while others decrease later on. Be as it may, they always end up by diminishing at older ages (see Desjardins & Warnke (2012) for a fuller discussion).

The dynamics of the cognitive skills are very complex because they involve individual and social aspects. The individual aspects are associated with processes of neuronal and behavioural maturation (the latter resulting from the accumulation of knowledge, the effect of use –experience- and from the individual's interaction with a changing environment throughout his/her life). There are also changes in the social context that affect in different ways the experience of the cohorts present at any given point in time (the so-called *cohort effects* and *period effects*).[2] All of this may alter the pattern of individual and collective interactions associated with the evolution of cognitive skills.

As a result, the analysis of the relationship between cognitive skills and demographic structure turns out to be complex, especially as there is a wide range of cognitive skills whose patterns of behaviour differ over time (e.g. *fluid* skills vs *crystallized* skills, *basic* skills versus *fundamental* skills). In particular, cross-section studies must be interpreted carefully because of the ageing effect being mixed up with cohort effects that can be important.[3] Such studies, however, are suitable for analyzing the differences that exist between individuals of different ages at a point in time and they are relevant from the perspective of public action (see Schaie (1996), (2009)).

The study of the cognitive skills across generations in a given country is particularly important right now for several reasons. Firstly, because of the effect of the economic recession that has generated levels of unemployment unknown for decades, especially among the young, which leads to a very rapid loss of the educational investment. Secondly, because of the progressive ageing of the working population associated with an increase of life expectancy and the delay in the retirement age. And thirdly, because of the impact of human capital endowments on the distribution of income and employment.

Aim of the Study

In this study we analyse the results of the PIAAC tests for Spain in the field of *mathematical competence*, by comparing the relative worth of the skills acquired by the different generations that compose the Spanish working age population.

Although the PIAAC data refer to both reading literacy and mathematics, we have chosen the mathematical competence because it is perhaps the most relevant novelty of that study, since there were already different assessments of adults' reading competence (e.g. IALS and ALL). It

[2] Cohort effects are related to some structural changes that affect the development of cognitive skills of some cohorts in relation to others (eg: the extension of compulsory education). Period effects refer to events that occur at a certain point in time and affect all cohorts simultaneously.

[3] Desjardins & Warnke (2012) propose the use of sequences of cross-section studies as the best alternative, given the scarcity and small size of the samples of the available longitudinal studies. In their study they carry out an exercise comparing results of IALS and ALL for a set of nine countries, with the aim of later incorporating those from PIAAC. Unfortunately Spain did not participate in the earlier IALS and ALL studies, so that this strategy of analysis is not available for our country.

is also a type of cognitive skill in which the effect of ageing might be more significant, since some of the language skills seem to increase through use and context up to relatively advanced ages.

Mathematical competence is defined as the ability "to access, use, interpret and communicate mathematical information and ideas in order to relate and manage mathematical situations found in adult life. This involves managing situations or resolving problems in real contexts, responding to ideas, information or mathematical content represented in different ways."

PIAAC defines six ***levels of competence***, parameterized by certain thresholds of the test scores. Table 1 shows those thresholds and describes the elements that characterise each level. Note that the setting of the levels is essentially qualitative (i.e. the levels are defined in terms of the tasks that individuals are able to perform) and then it is made operational through a convenient parameterization.

Table 1: Description of performance levels in mathematics with corresponding score intervals

Level	Types of tasks successfully completed in each performance level
Below level 1 ***Less than 176***	Tasks at this level require the interviewee to perform simple processes such as counting, sorting, performing basic arithmetic operations with whole numbers or money, or to recognize common spatial representations in specific and familiar contexts where the mathematical content appears explicitly with little or no text or distractors.
1 ***176 – 225***	Most of the tasks in this level require the interviewee to perform basic mathematical processes in common and specific contexts in which the mathematical content appears explicitly with little text or distractors. The tasks to be performed usually require simple processes such as counting, sorting, performing basic arithmetic, understanding simple percentages like 50%, and locating and identifying elements or simple spatial or graphic representations.
2 ***226 – 275***	At this level the interviewee is required to identify and manage information and mathematical ideas within a range of common contexts in which the mathematical content is visually or explicitly presented with relatively few distractors. The tasks usually require the application of two or more steps or processes that involve calculation of decimals with one or two figures, percentages and fractions; simple measurements and spatial representation; estimation; and interpretation of data and relatively simple statistics in texts, tables and graphs.
3 ***276 – 325***	The interviewee is required, at this level, to understand a wide range of mathematical information that may be complex, abstract, or may be found within unfamiliar contexts. These tasks require several steps and may involve problem-solving strategies and relevant processes. Tasks will include the application of the concepts of number and spatial sense; recognition and work with mathematical relations, patterns, and numerically and verbally expressed proportions; and the interpretation and analysis of basic data and statistics in text, tables and graphs.
4 ***326 – 375***	At this level the interviewee must understand a wide range of mathematical information that may be complex, abstract or be included in unfamiliar contexts. For these tasks it is necessary to perform multiple steps and choose relevant processes and strategies of problem solving. The tasks tend to require a more complex level of analysis and reasoning about quantities and data; statistics and probability; spatial relations; and change, proportions and formulas. At this level it may be necessary to understand formulations or formulate explanations for the answers or choices.
5 ***376 – 500***	Tasks in this level require the interviewee to understand complex mathematical representations and ideas as well as abstract and formal statistics, possibly included in complex texts. Interviewees may possibly have to integrate multiple types of mathematical information which require translation and interpretation; draw inferences; develop or work with mathematical models or arguments; and justify, evaluate and critically reflect on solutions or choices.

Source: PIACC (2012)

Our goal here is to carry out an intergenerational comparison of cognitive skills of the Spanish adult population in the field of mathematics. The main novelty of our analysis, besides the database, is the use of the complete distributions of the population of the different cohorts in the five levels of competence defined above. Our approach involves, therefore, going beyond the comparison of mean values and exploiting the information contained in the simplified

version of the density provided by the distribution the cohorts through competence levels. To do so we apply the methodology of Herrero & Villar (2013), which allows the comparison of categorical variables between different population groups. The evaluation of a group is a measure of the probability that this group "dominates" other groups, in the sense that an individual picked at random from this group will have a level of competence above an individual randomly selected from any other group. We describe the evaluation procedure in Section 2. We shall see that the evaluation so obtained differs substantially from the comparison of the average values of the test.

Each cohort will be divided into three groups according to their educational achievements (compulsory education, secondary education and university studies), in order to perform the comparative analysis. We shall use the term "educational achievements", instead of the more usual "education levels", in order to preserve the term *level* for the six "competence levels" in Table 1 and so avoid confusion.

THE EVALUATION PROCEDURE

We address the comparison of the cognitive skills of the different cohorts using the model developed in Herrero & Villar (2013) for the relative evaluation of groups in terms of categorical variables. That approach is related to the statistical analysis of similarity between orderings and to the sociological and economic literature regarding comparative assessments in different contexts (e.g. Lieberson (1976), Reardon & Firebaugh (2002), Laslier (1997), Palacios -Huerta & Volij (2004)).

We focus on the Spanish working age population, which will be divided into five different cohorts. Each cohort is then sub-divided into three different sets, according to the educational achievements of its components. From this configuration we will analyze the distribution of each of the resulting groups (defined by cohort and educational achievement) in terms of the *five* competence levels defined by PIAAC.[4]

The Evaluation Model

The basic idea is as follows. We have a population divided into a set of g groups (the fifteen resulting from five cohorts and three educational achievements, in our case). The individuals' outcomes (PIAAC test results) can be classified into s categories (five competence levels), ordered from best to worst. Let a_{ir}, $i = 1, 2, \ldots, g$, $r = 1, 2, \ldots, s$, denote the share of individuals in group i in the r category.

We say that group i ***dominates*** group j when it is more likely that picking at random an individual from group i she belongs to a higher category than that of another individual randomly chosen from group j. The probability that an individual from group i dominates another from group j, p_{ij},, is calculated as follows:

$$p_{ij} = a_{i1}(a_{j2} + \ldots + a_{js}) + a_{i2}(a_{j3} + \ldots + a_{js}) + \ldots + a_{i,s-1}a_{js} \qquad [1]$$

From here we can define the relative advantage of group i with respect to group j, RA_{ij}, as follows:

$$RA_{ij} = \frac{p_{ij}}{\sum_{k \neq i} p_{ki}}$$

[4] PIAAC actually defines six levels, from below 1 up to 5; yet there is in only one entry in level 5 with too few observations so we have aggregated levels 4 and 5 without loss of generality.

The relative advantage of group *i* with respect to group *j* is nothing more than the probability that group *i* dominates group *j* divided by the sum of the probabilities that group *i* be dominated by some other group.

To obtain an overall evaluation of group *i* in society, we take a weighted sum of its relative advantages with respect to all other groups. That is, the relative advantage of the group *i* is given by:

$$v_i = \sum_{j \neq i} \lambda_j RA_{ij}$$

Since the weights λ_j reflect the relevance of the different groups, it is only natural to choose them consistently with their own evaluation, i.e. taking $\lambda_j = v_j$. In this way, each group enters the evaluation of the relative advantage of the others with the weight corresponding to its own relative advantage. This implies that we have to find a vector $\mathbf{v} = \left(v_1, v_2, ..., v_g\right) > \mathbf{0}$ such that:

$$v_i = \sum_{j \neq i} v_j RA_{ij} = \frac{\sum_{j \neq i} v_j p_{ij}}{\sum_{k \neq i} p_{ki}}, \quad i = 1,2,...,g \quad [2]$$

Herrero & Villar (2012) prove that this vector always exists, is strictly positive and unique (once normalized) and that it can be easily calculated since it corresponds to the dominant eigenvector of the following matrix:

$$Q = \begin{bmatrix} g-1-\sum_{i \neq 1} p_{i1} & p_{12} & \cdots & p_{1g} \\ p_{21} & g-1-\sum_{i \neq 2} p_{i2} & \cdots & p_{2g} \\ \cdots & \cdots & \cdots & \cdots \\ p_{g1} & p_{g2} & \cdots & g-1-\sum_{i \neq g} p_{ig} \end{bmatrix} \quad [3]$$

The off-diagonal elements of the *Q* matrix are the pair-wise dominance probabilities p_{ij}. The elements on the diagonal tell us the probability that a randomly chosen individual from group i belongs to a category that is not worse than a randomly chosen individual from any other group. Is easy to see that the matrix *Q* is a Perron matrix whose columns add up to (g - 1). From this it follows (see for instance Berman & Plemmons (1994)) the existence, positivity and uniqueness (when *Q* is irreducible) of the **v** vector whose components satisfy equation [2].

Application to Our Problem

The problem that we want to address here is the comparative evaluation of human capital accumulated by the different cohorts, in the field of mathematics. For this we are going to use the information on the distribution of PIAAC test results for each cohort and educational achievement in the five competence levels defined. Our reference groups will, therefore, be different ***cohorts by educational achievement***. We have considered five cohorts: population of 24 years old or less, population between 25 and 34 years old, population between 35 and 44 years old, population between 45 and 54 years old, and population of 55 years old or more. And three educational achievements: compulsory education, secondary education, and university studies.[5] The categories correspond to the above-mentioned five competence levels: below 1, 1, 2, 3 and 4 plus 5.

[5] As the study refers to a set of generations that have experienced diverse educational systems, it should be clarified that by compulsory education we mean those individuals who have achieved, at most, the equivalent of the current compulsory education (up to age 16). We include in secondary studies all those who have reached the current level of baccalaureate (or equivalent professional training). In university

Thus, we will have a Q matrix (as in equation [3]) of 15 by 15 entries, which generates an eigenvector of fifteen components. This eigenvector provides an estimate of the relative quality of the human capital in the different cohorts in the field of mathematical competence, where each cohort with a given educational achievement is compared with all the other cohorts with their corresponding educational achievements. Since the eigenvectors have a degree of freedom, we will choose the normalization that makes the first component of the eigenvector equal to one. We measure, therefore, the value of each cohort in terms of the value that it represents over the youngest cohort with the lowest educational achievement. We will refer to this context as ***the joint evaluation.***

From this joint evaluation we will carry out two additional assessment exercises. First, trying to identify the intergenerational profile of those cohorts with the same educational achievements. Second, trying to isolate the impact of intermediate and higher education on the evaluation of each cohort.

To analyse the impact of ageing on cognitive skills, we re-normalize the values of the eigenvector by making the worth of the youngest cohort for each educational achievement equal to one. The resulting values provide a measure of the quality of human capital of each cohort relative to the other cohorts with the same education, in units corresponding to the value of the youngest generation. We will refer to this context as a ***separate evaluation by educational achievements***.

To analyse the impact of secondary and university education on the evaluation of the different cohorts, we will compare groups of the same age, making the value of all the cohorts with compulsory education equal to one. In this way we compare the variation of the quality of human capital due to the increase in education, in terms of the value of compulsory formation for each age group. We will refer to this context as the ***separate evaluation by age***.

RESULTS

Population Distribution by Competence Levels and Joint Assessment of The Cohorts by Educational Achievements

Table 2 provides complete information on the distribution of cohorts in the different levels of mathematical competence, according to their educational achievements. This is the basic information for constructing the Q matrix of equation [3] according to the formula [1].

Table 2: Distribution of the different cohorts in the five competence levels by educational achievements (%)

Cohorts	Competence leves (mathematics)					
	4	3	2	1	< 1	Accummulated
Compulsory education						
24 or less	0.29	18.62	50.53	23.01	7.56	100
25-34	1.25	13.42	43.08	28.51	13.74	100
35-44	0.23	10.85	48.66	28.18	12.08	100
45-54	0.31	7.52	39.66	35.67	16.85	100
55 or more	0.00	3.74	30.41	36.34	29.50	100

education we include both the individuals who have done a five year degree (long cycle), a three year degree (short cycle) or the most recent of four years, as well as the equivalent professional training.

Secondary education						
24 or less	3.85	41.36	45.13	8.68	0.98	100
25-34	2.91	32.25	47.09	16.43	1.31	100
35-44	2.45	35.25	44.28	14.83	3.19	100
45-54	2.87	22.98	56.91	14.64	2.60	100
55 or more	1.35	14.84	56.61	23.53	3.67	100
University studies						
24 or less	16.30	41.24	40.95	0.19	1.33	100
25-34	11.82	50.73	34.05	3.40	0.00	100
35-44	10.01	54.55	31.67	2.64	1.13	100
45-54	12.56	47.53	32.19	6.36	0.98	100
55 or more	5.30	35.31	44.23	14.72	0.44	100

NB: The data on each cohort by educational achievement is obtained by elevating the sample data to the level of the population, using the corresponding elevation coefficients.

The data show that the larger proportion of the population with compulsory education lies in competence level 2, except for the oldest cohort in which most have level 1. There is a broad representation of the population with this education below level 1, especially for the oldest cohorts, while there is practically no participation at level 4. The larger fraction of the population with secondary studies is also situated at level 2, but now there is a significant part of the population in level 3, more so the younger the cohort is. Level below 1 is almost empty in all age groups and level 1 is not very important, except for the oldest population. Finally, in the population with university education level 3 clearly prevails, except for the cohort of 55 or more where level 2 is majoritarian. Level 1 is not very important, except for the oldest cohort, while level 4 has a broad representation, especially in the younger cohorts.

From a formal point of view getting an evaluation of the different cohorts amounts to transforming the matrix of 75 values in Table 2 into a vector of fifteen components that describes the relative position of each group according to the domination probabilities. This form of valuation of the groups takes into account the distributions at different competence levels of the individuals, depending on the cohort they belong to and on the educational achievement

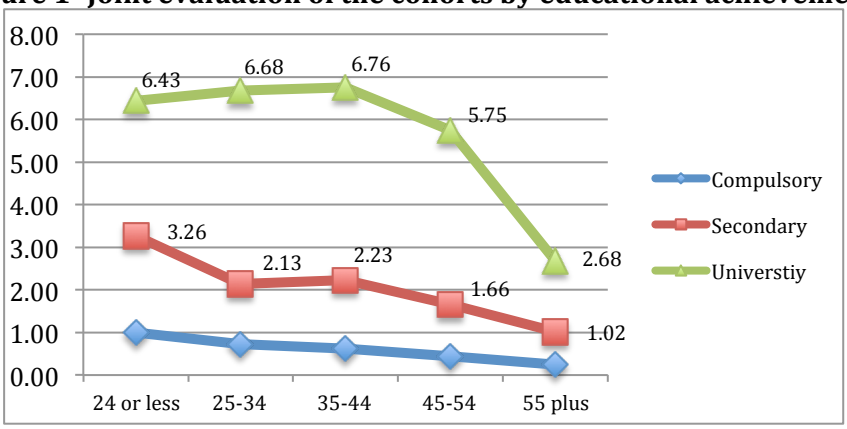
The resulting evaluation provides a measure of the relative quality of human capital in the field of mathematical competence. To properly interpret the results presented below we should bear in mind that we have normalized this measure so that the value of the youngest cohort with the lowest education is equal one. Therefore, each value is expressed in this type of units.

The results of the joint evaluation of the different cohorts by educational achievements, Figure 1 and Table 3 (A), show that:

- Within each cohort the group with university studies has a much higher value than that with secondary studies, and the latter has a value clearly higher than the group with compulsory studies.
- The groups with university studies dominate all the others, except the oldest group with respect to the younger group with secondary studies.
- The values tend to decrease with age for all educational achievements. The difference between the youngest cohort and the oldest is very large, but the reduction path is not uniform.
    - The joint evaluation of the groups with compulsory education shows a moderate reduction, steadily decreasing with age.

- The joint evaluation of the groups with secondary education drops substantially from the first to the second cohort before slightly recovering and then dropping moderately.
- The joint evaluation of the groups with university studies presents a profile slightly increasing for the first three cohorts, dropping noticeably in the fourth and very prominently in the last.

Figure 1- Joint evaluation of the cohorts by educational achievements



This evaluation of the cohorts differs clearly, regarding the relative magnitudes, from the one that would be obtained by associating the average value of the PIAAC tests to each cohort and educational achievement. Table 3 (B) sufficiently illustrates this difference (in it we have also normalized the average values by setting equal to one the average of the youngest cohort with lower education, in order to be able to make the comparison).

Table 3: Valuation of the cohorts according to formative stages and average values (normalized) of the tests

Education	Cohorts				
	24 or less	25-34	35-44	45-54	55-65
(A) Joint Valuation					
Compulsory	1.00	0.73	0.62	0.44	0.24
Secondary	3.26	2.13	2.23	1.66	1.02
University	6.43	6.68	6.76	5.75	2.68
(B) Normalized average values					
Compulsory	1.00	0.95	0.95	0.90	0.84
Secondary	1.12	1.09	1.08	1.06	1.02
University	1.19	1.19	1.20	1.18	1.11

Comparison of the Cohorts by Educational Achievements: Separate Evaluation by Educational Achievements and Separate Evaluation by Age

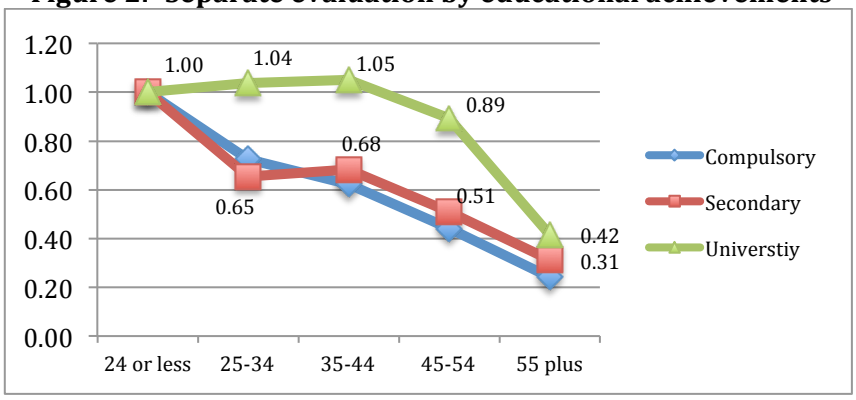
The joint evaluation presented in the previous section combines the effect of ageing and the effect of education. The separate evaluations that follow attempt to assess the importance of each one of these effects.

To carry out the ***separate evaluation by educational achievements*** (Figure 2 and Table 4 (A)), we make the value of the youngest cohort equal to one for each educational achievement. In this way we get an estimate of "the cost of ageing" in terms of cognitive skills, depending on the education. The data show a similar pattern in the population with compulsory and secondary education. On the one hand, the worth of the youngest cohort is well above the others. On the other hand, there is a very sharp drop in the worth of the second cohort with respect to the youngest one. This effect is corrected slightly in the third cohort for the case of secondary education, and then continues to fall sharply in the fourth and fifth cohorts.

The evaluation of the cohorts with university studies shows a different profile. Their worth increases for the first three cohorts, slightly decreases for the fourth one and then drops sharply for the oldest cohort. In addition, the dispersion of the values of the population with university studies is much lower than that of the rest.[6]

The loss of value of human capital between the youngest generation and the oldest one oscillates between 75% for the population with compulsory studies and 60% for the population with university studies. The relatively small difference of this depreciation between the cohorts is largely related to the sharp drop in the value of the older population with university studies.

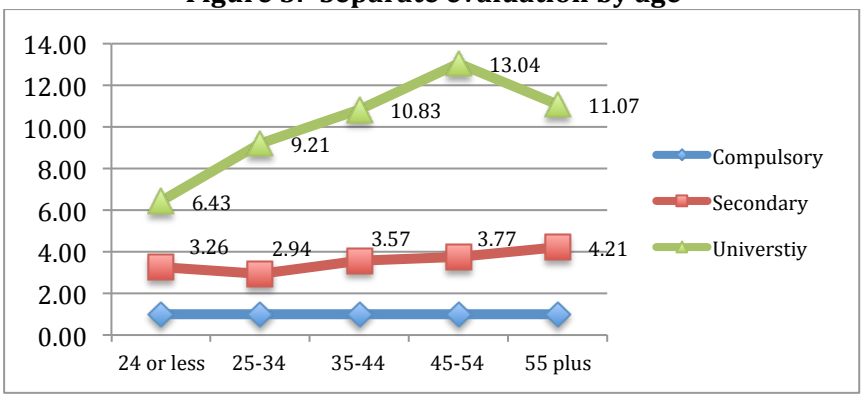
Figure 2.- Separate evaluation by educational achievements



We now consider the ***separate evaluation by age*** in order to get an idea of the effect of education on each cohort. In this case we make the value of each cohort with compulsory education equal to one.

The data show that reaching secondary education translates to a value of between three and four times that of the compulsory education of each cohort, with an increasing impact with age (Figure 3, Table 4 (B)). This figure rises to values between six and a half and thirteen times in the case of university studies, with an increasing pattern until the fourth cohort before falling in the final one.[7] The graphic illustrates well that educational achievements substantially affect cognitive skills across generations.

Figure 3.- Separate evaluation by age



[6] The coefficient of variation is 0.46 for the case of compulsory education, 0.41 for secondary education and 0.29 for university studies.

[7] The values of the ratios between university and intermediate education, from the youngest generation to the oldest, are the following: (1.97); (3.13); (3.04); (3.46); y (2.63).

Table 4: Separate evaluation of the cohorts by educational achievements and by age

Education	Cohorts				
	24 or less	25-34	35-44	45-54	55-65
(A) Separate evaluation by educational achievements					
Compulsory	1.00	0.73	0.62	0.44	0.24
Secondary	1.00	0.65	0.68	0.51	0.31
University	1.00	1.04	1.05	0.89	0.42
(B) Separate evaluation by age					
Compulsory	1.00	1.00	1.00	1.00	1.00
Secondary	3.26	2.94	3.57	3.77	4.21
University	6.43	9.21	10.83	13.04	11.07

DISCUSSION

Introduction

One of the most fundamental changes experienced by the Spanish society in the last decades has been the increase of the educational achievements. The average years of schooling of the Spanish population has been substantially enlarged due to three main causes. First, the extension of compulsory education from fourteen to sixteen years.[8] This implies that the population with "compulsory education or less" has a different composition in the younger and the older cohorts. Second, the wide proportion of children nowadays receiving early education (pre-schooling). There is evidence of the important role that early education has in the acquisition of cognitive skills in adulthood. And third, the expansion of non-compulsory education (particularly with respect to university studies). All those elements create a cumulative effect that modifies the composition of the different cohorts regarding educational achievements, by improving the relative situation of the younger cohorts with respect to the older ones.

There are also some cohort-specific effects due to the institutional features of the education system and the labour market. Those "cohort effects" affect the dynamics of cognitive skills by interacting with the effect of education and ageing. Regarding the educational system, there has been a number of changes in the structure of the studies, whose implementation may involve costs for those who experience them (e.g. the LOGSE or the adaptation of the university studies to the European Space of Higher Education). As for the labour market, there are relevant differences in the probability of getting a permanent job between the different cohorts, due to the institutional design of the Spanish labour market. Young people exhibit much lower rates of stable jobs than older people, a feature that affects the decay of cognitive skills.

The presence of those cohort effects entails that we find differences in the groups even when we homogenize them by educational achievements or by age. As our model is mostly descriptive, the ensuing discussion is to be regarded as a guide to identify possible effects, to be later analysed in magnitude and relevance by more specific econometric studies (see Robles (2013) for an analysis of this type).

[8] This change was introduced when the "Ley General de Educación" was substituted by the "Ley Orgánica de Ordenación del Sistema Educativo (LOGSE)", formally sanctioned in 1990.

Differences by Educational Achievements: The Impact of Aging

In agreement with the predictions of the generally accepted theory and the available evidence, the data from this study show a clear process of depreciation of cognitive skills due to the effect of ageing. Such a tendency is accentuated by the expansion of the years of schooling in the younger generations. This common pattern, though, is compatible with differentiated profiles by educational achievements.[9]

We have seen that the evaluation of youngest cohorts with compulsory and secondary education is well above the others, and that there is a substantial reduction between the first and second cohorts (with a slight correction in the third cohort in the case of secondary education, before dropping again in the fourth and fifth cohorts in both formative grades). The population with a university studies shows a different profile, with increasing values until the third cohort and a significant drop in the last.

In order to understand the sharp drop in the evaluation of the second cohort with respect to the first, for the population with secondary and compulsory studies (a 35% reduction in one case and 27% in the other), and the different behaviour of those with university studies (a 4% increase), we should take into account three aspects that work in a complementary way. Firstly, the number of years elapsed since the individuals quit studying up to the moment in which the surveys were carried out (worse results as more time elapsed). In the case of the population with compulsory education that had finished studying at the time of the survey this time span is a minimum of nine years (six in the case of secondary education), while in the case of university education it can be one or two years.[10] Moreover, some 60% of the population with compulsory education and 65% of the population with secondary education from the first cohort, were actually still studying (something which tends to improve the results obtained by the younger generation with respect to the next because of keeping active the process of formal learning). Secondly, there is an effect induced by the labour market that can also help explaining the sharp drop of the evaluation between the first and the second cohorts. Unemployment rates are particularly high in the youngest cohort during the last years. This implies that, even though the situation is better for the second cohort, those individuals between 25 and 34 have already experienced long periods of unemployment (see Table 5), which entails a faster depreciation of human capital in those groups (the "use it or lose it" hypothesis of Mincer & Ofek (1982)). Finally, the data also suggest the presence of quality changes in the education of the different cohorts. The outcomes might be showing the so called "LOGSE effect", i.e. the negative impact of the changes introduced by that law, which would have had a larger incidence on the population with compulsory and secondary education (see Felgueroso et al (2013) and Robles (2013) for a discussion).

The negative impact of ageing does not show in those individuals with university studies until very late (the fourth cohort). We find also here several factors that may explain such behaviour. First, the fact that lot of people in the second cohort kept studying (50 % of the

[9] It is worth not mistaking this process of depreciation by cohorts described by our cross-sectional data with the intrinsic depreciation of a given generation over time. Although similar patterns are both in cross-section and longitudinal data, the cohort effects may entail substantial differences (see Desjardins & Warnke (2012) for a discussion).

[10] This is assuming that they finish their studies in the corresponding year, which is not always the case. Indeed, many students are finishing their degrees around 25 years of age.

people in the first cohort with university degrees were continuing their studies). Second, the job market seems to enhance this extension of the learning process in a two-fold way. On the one hand, the unemployment rate goes down with age much faster for the population with university studies. On the other hand, because the quality of employment also increases very rapidly with age for those individuals (the share of temporary occupied over the occupied is halved from one cohort to the next). So, people with university studies end later their formal education and exhibit better employment conditions, which may delay the depreciation of cognitive skills.

Yet there may also be other variables that affect negatively the younger cohorts with university studies. One is that the extension of tertiary education may involve some trade-off between quantity and quality (especially bearing in mind the small fraction of 15-year old students in the higher levels of competence shown by the PISA surveys). There is also some evidence that the adjustment between education and employment may better for the intermediate cohorts than for the younger ones (negative effects of over-qualification on the preservation of abilities). Finally, we cannot exclude the presence of differences in the quality of university studies between the intermediate cohorts and the youngest and oldest cohorts.[11]

Table 5: Unemployment and temporary employment by cohorts and educational achievements (%)

Cohorts	Unemployment rate	Long run unemployment rate	Ratio temporary employed /employed
Compulsory education			
24 or less	59.69	30.12	50.39
25-34	38.34	18.88	30.85
35-44	31.36	16.26	23.17
45-54	28.52	16.34	16.43
55 or more	21.90	14.14	8.61
Secondary education			
24 or less	45.28	16.85	55.32
25-34	24.46	10.57	26.42
35-44	20.96	9.79	17.00
45-54	16.02	8.60	10.58
55 or more	14.62	9.79	5.58
University studies			
24 or less	37.78	9.71	75.23
25-34	17.51	7.17	32.03
35-44	10.43	5.00	14.02
45-54	7.36	3.62	6.49
55 or more	6.91	4.00	3.77

Source: INE, EPA Primer Trimestre 2012

It is worth mentioning that there is no evidence of relevant changes in the composition of the studies concerning the scientific or literary orientation (see Robles (2013)).

Differences by Age: The Impact of Education

There is extensive evidence on the importance of formal education in cognitive skills (Statistics Canada & OECD (2000), (2005), Desjardins (2003), Ijzendoorn et al (2005)). Separate evaluation of the population by age allows us to estimate the relevance of non-compulsory with respect to compulsory education through the generations.

[11] One may also consider that the depreciation of knowledge in this population exhibits a greater durability. This is a subject under discussion about which the data do not yet give enough evidence (Desjardins & Warnke (2012, p. 47).

The data clearly show three relevant features in the cohort profiles. First, there is a lower relative value for university education in the youngest generation: 6.4 times the worth of compulsory education compared to between 9.2 and 13 times for the other cohorts, with a maximum for the fourth cohort (the same happens with university education relative to secondary education, as seen from the data in the footnote nº 8). Second, the worth of secondary education in the second cohort differs from the pattern of the rest of the cohorts, as it drops below that of the third. And third, the relative worth of university education with respect to compulsory education drops noticeably in the oldest generation with respect to the previous cohort (the same happens when we compare the worth of university studies relative to secondary education).

The elements that can explain those differences have already been mentioned. On the one hand, the outcomes of the population with compulsory or secondary studies aged 24 or less are not fully comparable with those of other cohorts. The reason is that such a cohort includes, among the population with compulsory or secondary education, many individuals who will end up with higher education (more than half of the youngest generation kept studying when the test was carried out). They are endowed, therefore, with abilities that go beyond the average educational achievement they have reached at the time of the survey. On the other hand, the quality of the university studies of the youngest may be less than that of older cohorts as a result of the late changes in the university system (the particular way of implementing the adaptation of the Spanish university system to the European Space of Higher Education).[12]

The generation between 25 and 35 years old is the one that has experienced the educational change associated with the LOGSE, which started to be implemented from 1991 until completion in 2002. The results of individuals in this cohort with compulsory and secondary education may be reflecting the adjustment costs of the reform. This effect is not clear for those with university studies.

Finally, the relative worth of university studies drops noticeably in the last generation, contrary to what happens with secondary education. Thus we note that the greater relevance of having university studies in that cohort does not offset the depreciation of knowledge due to ageing (even though the worth of the university studies for this last cohort would still be above that of the third). It is possible that the quality of university studies of that generation is below the previous ones and also that the share of people early retired may be significant, which would induce a sharper decline of cognitive skills.[13]

An Overall Evaluation of The Cohorts

The above results are based on the analysis of the distribution according to competence levels of the population of each cohort and formative stage. Let us consider now the educational structure of the different cohorts. That is, the distribution of educational achievement within each cohort (see Table 6).

[12] Note that the population of less than 24 years old that has achieved a university degree is very close to having finished their studies in the time theoretically required (so that there will be a significant fraction of the best university students of their generation in this cohort). Furthermore, we also find in this case that half of the young people with university studies were still studying when the tests were performed, which would also be redundant in a higher valuation.

[13] This is an aspect that requires further analysis, as it is not easy to identify what is behind the smaller worth of university studies in the older generation.

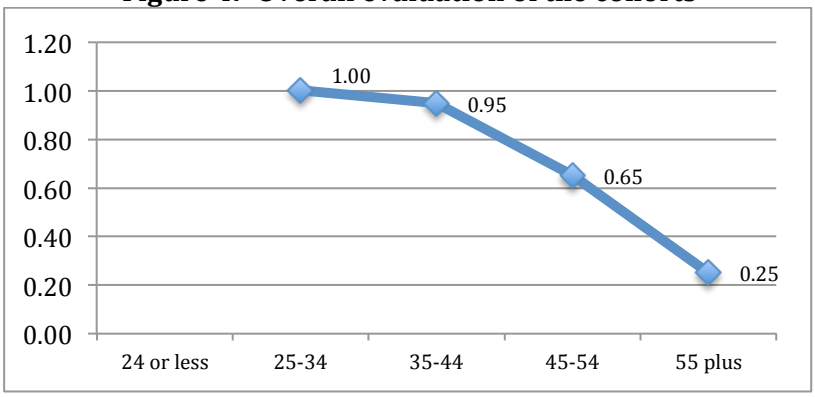
Table 6: Distribution of the educational achievements by cohorts (%)

	Studies		
Cohorts	**Compulsory**	**Intermediate**	**University**
24 or less	52.03	41.10	6.87
25-34	34.07	36.87	29.06
35-44	39.54	33.36	27.10
45-54	49.81	28.58	21.62
55 or more	63.96	22.66	13.38

The data show the extension of non-compulsory education in Spain during the last decades (66 % in the second cohort versus 36 % in the oldest one).[14] We can combine these data with those in Table 3 (A) in order to get an ***overall evaluation of the cohorts***. To do this we attach to each cohort a value that corresponds to the weighted average of the worth of the different educational achievements, using as weights the corresponding fraction of the population.

The results of this exercise are described below (Figure 4) taking the value of the second cohort equal to one and leaving the first cohort out of the comparison, for the reasons stated in footnote nº 14.

Figure 4.- Overall evaluation of the cohorts



The graphic shows a profile that clearly decreases with age. The worth of the fourth generation is around 70% of that of the third and the value of the fifth does not reach 40% of that of the fourth. The sharp drop in the valuation of the fourth and fifth cohorts is derived from the combination of the lower value of the older cohorts for each formative stage, with the smaller proportion of population with higher education in these cohorts.

CONCLUSIONS

In this study we have carried out an evaluation of the cognitive skills of the different generations, using the information on the distributions of each group in the five competence levels defined in PIAAC. The evaluation of each group is associated with the probability that a randomly chosen member of a group be in a higher level of competence than any other

[14] The distribution of educational achievements of the youngest generation deserves a separate comment in the light of the values of the population with university studies and compulsory education. The low proportion of the population with university studies is explained by the fact that only a small fraction of those individuals between 16 and 24 years old may have completed their university studies, due to age. Moreover, more than half of the individuals in this cohort are still studying (60% among those with compulsory education, 65% of those with intermediate education and 50% of those with university education). Consequently, the figures on the distribution of educational achievements in this cohort may be very misleading.

individual randomly chosen from the other groups. It is interesting to highlight that our evaluation discriminates much more between groups than the average scores of the test does.

The results obtained clearly indicate that formal education is the basic determinant of the relative value of human capital of the different cohorts. This conclusion is in line with the results of other studies, in particular the analysis of Desjardins (2003) on reading literacy in adults: education turns out to be the key variable in explaining this competence, over and above the role played by the family environment or experience in the workplace.

The depreciation of cognitive skills due to ageing is another of the relevant aspects of the results obtained, with noticeable differences both in terms of levels as well as rates of variation for the different educational achievements. This depreciation results in a reduction in proportions of population in the higher competence levels and an increase of the population at the lower levels. One of the variables that seems highly related to the depreciation of cognitive skills is the number of years elapsed since finishing formal studies until the realization of the PIAAC test. This would reflect the delay effect in depreciation due to the accumulation of so-called *crystallized cognitive skills*.

The employment status is another element that appears as playing a role in the depreciation of cognitive skills. Unemployment and job instability not only affect the income and welfare of families but they also undermine human capital, so that part of the investment in education is rapidly lost due to these circumstances.

Our evaluation also points out that the changes in educational structure may have relevant implications for the future performance of the generations that experience them. Both the introduction of the LOGSE and the particular adaptation to the European Space of Higher Education carried out in our country seem to have had some negative implications on the cognitive skills of the generations that have suffered the change.

Finally, let us mention that the outcomes of our study suggest that we should be cautious when interpreting the message that today's young people are the ever best educated generation. While Figure 4 seems to support that conclusion, it must be remembered that the higher overall worth of young people from 25 to 34 years old has much more to do with the percentage of population with higher education than with the differential value of their cognitive skills when compared to their peers. The separate evaluations by educational achievements and by age show just this.

From this analysis it follows that continued learning processes and adequate integration into the labour market are the key tools for maintaining human capital investments, due to its effect in delaying the depreciation associated with ageing. Let us recall here that the good results of the first cohort with respect to the second, for secondary and compulsory education, are partly related to the fact that many of these individuals were still studying. And also that individuals with university studies exhibit a slower pattern of decay. The current high levels of unemployment, mostly among the young (with the associated deterioration of the cognitive skills achieved), the process of progressive ageing of the population, the fast technological changes, and the delay of the retirement age, mean that finding effective ways to update and improve education is especially relevant. In the words of the OECD's General Secretary: "The most promising solution to these challenges is to invest effectively in the development of skills throughout the life cycle; from earliest childhood, through compulsory education, and throughout the whole working life "(OECD (2012, p.3)).

REFERENCES

Acemoglu, D. & Robinson, J. (2012), *Why Nations Fail. The Origin of Power, Prosperity and Poverty*, Crown Publishing Group, New York.

De Grip, A., Bosma, H., Willems, D., & Van Boxtel, M. (2008), Job-worker mismatch and cognitive decline, *Oxford Economics Papers*, 60 : 237-253.

Desjardins, R. (2003), Determinants of literacy proficiency: a life-long learning perspective, *International Journal of Educational Reseach*, 39 : 205-245.

Desjardins, R. & Warnke, A.J. (2012), Ageing and skills: a review and analysis of skill gain and skill loss over the life span and over time, OECD working paper nº 72.

Felgueroso, F., Gutiérrez-Domènech, M. & Jiménez-Martín, S. (2013), Dropout Trends and Educational Reforms: The Role of the LOGSE in Spain , Fedea working paper 2013-04.

Herrero, C. & Villar, A. (2013), Group performance with categorical data, *PLoS ONE*, 8(12): e84784. doi:10.1371/journal.pone.0084784 .

Jzendoorn van, M.H., Juffer, F., & Poelhius, C.W.K. (2005). Adoption and cognitive development: a meta-analytic comparison of adopted and nonadopted children's IQ and school performance, *Psychological Bulletin*, 131 : 301-316.

Laslier, J. (1997), *Tournament solutions and majority voting*, Springer, Berlin, Heildelberg, New York.

Lieberson, S. (1976) Rank-sum comparisons between groups, *Sociological Methodology*, 7, 276-291.

Mincer, J., & Ofek, H. (1982). Interrupted work careers: Depreciation and restoration of human capital, *Journal of Human Resources*, vol. 17, no. 1, pp. 3-24.

OECD (2012), *Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies,* OECD Publishing. http://dx.doi.org/10.1787/9789264177338-en

OECD (2013), *OECD Skills Outlook 2013,* OECD Publishing.

Palacios-Huerta, I. & Volij, O (2004), The Measurement of Intellectual Influence, *Econometrica*, 72: 963-977.

Pazy, A. (2004), Updating in response to the experience of lacking knowledge, *Journal of Applied Psychology*, 53: 436-452.

Reardon, S. F. & Firebaugh, G. (2002), Measures of Multi-Group Segregation, *Sociological Methodology*, 32: 33-76.

Robles, J.A. (2013), Diferencias entre cohortes en España: El papel de la Ley Orgánica de Ordenación General del Sistema Educativo y un análisis de la depreciación del capital humano.

Schaie, K.W. (1996). Intellectual development in adulthood. En Birren, J.E. and Schaie, K. W. (eds),

Handbook of the Psychology of Ageing, 4th edition (pp. 3-23). San Diego: Academic Press.

Schaie, K.W. (2009). "When does age-related cognitive decline begin?" Salthouse again reifies the "cross- sectional fallacy", Neurobiology of Ageing, vol. 30, no. 4, pp. 528-533.

Staff, R. T., Murray, A. D., Deary, I. J., & Whalley, L. J. (2004), What provides cerebral reserve?, *Brain*, 127 : 1191-1199.

Statistics Canada & OECD (2000). Literacy in the Information Age: Final Report of the International Adult Literacy Survey. Paris and Ottawa: Statistics Canada and OECD.

Statistics Canada & OECD (2005). Learning a Living: First Results of the Adult Literacy and Life Skills Survey. Ottawa and Paris.