

THESIS



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thesis entitled
INTERNATIONAL STUDENTS' KNOWLEDGE, ATTITUDES, BEHAVIORS AND
VALUES RELATED TO RECYCLING: INTERVIEWS WITH KOREAN &
MEXICAN INTERNATIONAL STUDENTS AT MICHIGAN STATE UNIVERSITY

presented by

Hyunsook Lee

has been accepted towards fulfillment
of the requirements for

M.S. degree in Resource Development

Major professor

Dr. Robert C. Anderson

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**INTERNATIONAL STUDENTS' KNOWLEDGE, ATTITUDES, BEHAVIORS AND
VALUES RELATED TO RECYCLING: INTERVIEWS WITH KOREAN &
MEXICAN INTERNATIONAL STUDENTS AT MICHIGAN STATE UNIVERSITY**

By

Hyunsook Lee

A THESIS

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

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ABSTRACT

INTERNATIONAL STUDENTS' KNOWLEDGE, ATTITUDES, BEHAVIORS AND VALUES RELATED TO RECYCLING: INTERVIEWS WITH KOREAN & MEXICAN INTERNATIONAL STUDENTS AT MICHIGAN STATE UNIVERSITY

By

Hyunsook Lee

This study was conducted to explore Korean and Mexican graduate international students' knowledge, attitudes, behaviors and values related to recycling and their attitude, behavior and value changes.

The main purpose of this study was to learn more about Korean and Mexican cultural influences regarding recycling by interviewing Korean and Mexican graduate international students about their recycling knowledge, attitudes, behaviors and values. It sought to explore each interviewee's changes regarding his/her recycling attitudes, behaviors and values when he/she experienced the U.S. culture in a university setting and more specifically in Michigan State University (MSU) and in its surrounding areas.

To fulfill this study, in-depth interviews were conducted with six Korean and six Mexican graduate international students at MSU to explore their knowledge, attitudes, behaviors and values related to recycling in their own countries and in the U.S. Each interview was audio-recorded to aid in accurate analysis.

The study's findings indicated that the majority of the Korean and Mexican international students seemed to possess more knowledge about recycling and

its relevant issues within the United States than in their own countries. The study's findings indicated that the majority of the Korean and Mexican students seemed to possess more positive attitudes, behaviors and values regarding recycling and its relevant issues in the U.S. than in their own countries. The study's findings indicated that the majority of the Korean and Mexican international students have changed their attitudes, behaviors and values regarding recycling in the U.S. Finally, the study's findings indicated that organized or institutionalized recycling in each country did not seem to be strongly influenced by its culture.

**This thesis is dedicated to my parents
who have supported me with all their hearts,
Junho Lee and Haeok Kwak.**

**이 논문을 그동안 저를 위하여
모든 정성과 사랑을 아끼지 않으신 나의 부모님
이준호 님과 곽해옥 님께 바칩니다.**

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"Gather the pieces that are left over. Let nothing be wasted." – John 6:12

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CHAPTER I

INTRODUCTION

This study explores international students' knowledge, attitudes, behaviors and values regarding recycling in their home countries and in the United States (U.S.) and seeks to learn about the extent of the cultural influences of their own countries and those of the U.S. in regards to recycling.

A large number of international students go through culture shock when they arrive in the U.S. to study. In the new culture of the U.S., they are exposed to different people, food, living styles, living environment as well as other social structure systems which the international students in the U.S. must adjust. The language barrier seems to be one of the major reasons preventing international students from become well adjusted in a short period of time. For example, one of the common things which happens to international students who buy things at food stores off campus, would be a question about the type of bag they want, 'plastic' or 'paper.' They also pay a ten cent deposit for each bottle or can bought in Michigan. During the beginning of their adjustment to a new culture, they feel overwhelmed and bothered by too many choices to select from. When they buy toilet paper, they need to choose between many different brand names and also compare the percentage recycled content of certain recycled materials. There are many of these detailed things which many international students have not usually experienced in their own countries.

The importance of recycling as well as environmental protection has been emphasized by many countries in the world by the late 1980's. European countries such as Germany, France, Netherlands, and others reported that more than 40 percent of their paper was recycled in 1989 (Environment Statistics, 1991). Japan reached a paper recycling rate of 49.6 percent which made her outstanding from among all other countries. But there are many international students from many countries and regions other than Europe and Japan who are not as familiar with recycling at Michigan State University (MSU) and throughout the U.S. as U.S. nationals would. This new recycling atmosphere in the U.S. may challenge the attitudes, behaviors, and values of these international students.

Michigan is one of the states which encourages people to participate in wide ranging recycling programs. The data on the recovery of materials for recycling and composting collected by the United States Environmental Protection Agency (EPA) indicated a 17 percent nationwide recycling rate in 1992 while Michigan attained a 26 percent rate (EPA, 1992). Michigan State University (MSU) has had a drop-off recycling program for on campus apartment housing complexes since 1990. It is implemented in cooperation with a local recycling group in East Lansing. The average participation rate in MSU drop-off recycling program from January to October 1994 was 22 percent as recorded by the MSU's campus apartment housing office (Office of Recycling and Waste reduction of MSU, 1994). The researcher of this study observed a large number

of international students who participated in recycling at the MSU drop-off recycling program.

Statement of the Problem

Recycling has become a more promising option, as the amount of solid waste has increased and the request for new strategies to replace landfills has caused many economic and environmental problems (Katzev and Mishima, 1992; De Young, 1986; Jacobs, et al., 1984). Recycling proposes the positive prospect of conserving natural resources and energy for future generations (Chiras, 1988).

Regarding the development of recycling, there is an adequate amount of research about recycling programs and participation (Katzev & Mishima, 1992; Cialdini et al, 1990; De Young, 1986; Jacobs et al., 1984; McGuire, 1984; McCaul and Kopp, 1982; Hamad, et al., 1977). There has been much previous research conducted regarding recycling and attitudinal change (Lai, 1991; Humphrey, et al., 1977; Paicheler, 1976; Steininger & Voegtlin, 1976; Ajzen & Fishbein, 1972). Extensive studies have reported about the relationship between attitude and behavior (Diamond & Loewy, 1991; Shepherd, 1985; McGuinness, et al., 1977; Arbuthnot, 1977; McGuinness, 1973; Ajzen & Fishbein, 1970). Many scholars have also focused on recycling behavior and behavior changes (Oskamp, et al., 1991; Burn, 1991; Hopper & Nielsen, 1991; Luyben & Bailey, 1979; Cole & Cole, 1977). Moreover many articles have

discussed cross-cultural attitudes, behaviors and values (Shockley-Zalabak & Morley, 1994; Bond, 1988; Gudykunst & Nishida, 1986; Rohner, 1984; Detweiler, 1980; Penner & Anh, 1977; Berry, 1969).

But few, if any, studies have been conducted regarding changes of attitudes, behaviors and values related to recycling of people who have lived in different cultures. It was difficult to find a comparison study of people's knowledge about recycling in different cultures. There has been some research regarding the attitudes and behaviors of college students regarding recycling (e.g., Katzev & Mishima, 1992; McCaul & Kopp, 1982). However, I found very little research regarding the attitudes, behaviors and values international students have toward recycling in the U.S.

This study will explore Michigan State University's (MSU) Korean and Mexican international students' knowledge, attitudes, behaviors and values regarding recycling in their own countries and in the U.S. This study will also analyze and compare the differences or the similarities of cultural influences regarding recycling in each respective country. Finally, it will seek to explore the individual student's changes of attitudes, behaviors and values regarding recycling.

Objectives of the Study

The general objectives of study are to learn more about Korean and Mexican's cultural influences regarding recycling by studying MSU's Korean and Mexican international students' recycling knowledge, attitudes, behaviors and values and also to explore individual's changes regarding recycling. More specifically, the objectives of this study are:

- (1) understanding Korean and Mexican international students' knowledge related to recycling in their own countries;**
- (2) exploring and comparing Korean and Mexican international students' attitudes, behaviors and values regarding recycling in their own countries;**
- (3) understanding Korean and Mexican international students' knowledge related to recycling in the U.S.;**
- (4) exploring and comparing Korean and Mexican international students' attitudes, behaviors and values regarding recycling in the U.S.; and**
- (5) understanding Korean and Mexican international students' recycling attitude, behavior and value changes.**

The study will be conducted by utilizing in-depth interviews with Korean and Mexican international students of MSU and a lengthy set of interview questions will be used to achieve objectives of the study. Please see the Appendices for a copy of the interview questions. The findings derived from the study are expected to provide a better understanding of recycling in different cultures and to explore an individual student's change in attitude, behavior and value regarding recycling. They should hopefully contribute to the community of scholars who are concerned about recycling programs, recycling attitude,

behavior and value changes, cultural influences on recycling and cross-cultural studies. They should help recycling program coordinators who are concerned about implementing recycling programs in areas with various international students or with a large numbers of foreign peoples. They should also help coordinators develop cost-effective recycling programs for foreign countries. It will also hopefully provide new information for the governments of Korea and Mexico to help them design and implement new educational programs of environmental awareness or new recycling programs within their own countries.

CHAPTER II

RESEARCH DESIGN AND METHODOLOGY

Purpose of Research

Most of the previous research concerning recycling knowledge, attitude, behavior and values were conducted based on a psychological viewpoint of defining how recycling attitudes, behaviors or values were related to one another and probing the relationships between recycling attitude and behavior (Rokeach, 1976; Fishbein & Azjen, 1972; Tittle & Hill, 1967). Also a large amount of research has been conducted on recycling programs looking at recycling attitudes and behaviors (Burn, 1991; Hopper & Nielsen, 1991; Luyben & Bailey, 1979; Cole & Cole, 1977, Humphrey et al., 1977; Steininger & Voegtlin, 1976; and McGuinness, 1973).

The purpose of this study is to learn more about Korean and Mexican cultural influences regarding recycling through interviews with Korean and Mexican international students' regarding their recycling attitudes, behaviors and values. It seeks to explore each interviewee's changes regarding his or her recycling attitudes, behaviors and values when he/she experienced the U.S. culture in a university more specifically in Michigan State University and in its surrounding areas.

Research Questions

To accomplish the research objectives, the following questions will be needed to be answered:

1. What knowledge did Korean and Mexican international students have about recycling in their own countries?
2. What kinds of attitudes, behaviors and values related to recycling did Korean and Mexican international students have in their own countries?
3. What knowledge do Korean and Mexican international students have about recycling in the U.S.(or at Michigan State University)?
4. What kinds of attitudes, behaviors and values related to recycling do Korean and Mexican international students have in the U.S. (or at Michigan State University) where recycling programs have been actively implemented?
5. Have Korean and Mexican international students changed their recycling attitudes, behaviors and values in the U.S. (or at Michigan State University)?

Methodology of the Study

The methodology for this study was the use of an in-depth interview which is one of the best known methods of qualitative research. In-depth interviews are also relatively unstructured or open-ended, or non-directive or flexible in structure (Bogdan and Biklen, 1982).

Bogdan and Biklen (1982) discussed five features of qualitative research which undergird this study. The five features are:

- 1) qualitative research is conducted in the natural setting as the direct source of data and the researcher is the key instrument in the research,

2) it is descriptive so that the collected data is in the forms of words or pictures. And data includes interview transcripts, field notes, memo etc.,

3) the researchers in qualitative research are concerned about process rather than about the outcomes or products,

4) the researchers in qualitative research incline to analyze their data inductively, and

5) the participant perspectives are concerned in the analysis or interpretation of data obtained (Bogdan and Biklen, 1982).

Because of the limited number of study subjects available and the exploratory nature of this study, the in-depth interview methodology as described by Bogdan and Biklen (1982) was chosen as appropriate for this study.

The reasons to design the comparison study of two different countries were that:

1) the comparison study of two countries may make it feasible to explore whether recycling is influenced by cultures by comparing one culture to the other;

2) the comparison study of two countries may provide the distinct differentiation of one culture from the other and the understanding of how people's recycling attitudes, behaviors and values in one culture are different or similar to those in the other culture.

Sampling Procedure

Two international student groups at Michigan State University (MSU) were selected for participation in this study. They were identified from the records of the Michigan State University (MSU) Registrar's office for Fall semester, 1994. The total population of potential international students was 2,454 from 111 countries.

Since the study is concerned with the international graduate students who live in on-campus MSU apartment housing, the number of international student groups to be selected was small. To satisfy the main two conditions of this study, many international student groups were evaluated, but in the end only two student groups, the Korean and Mexican groups, were selected.

Two control conditions limited the possible sample numbers. One of the conditions was people who are international graduate students, that meant they have had earned their undergraduate college degrees in their own countries. The other is among people who meet the first condition, and those who also live in on-campus apartment housing complexes where MSU has a drop-off recycling program.

The reasons that Korean and Mexican students were selected were they have similarities and differences. The researcher analyzed the similarities between Korea and Mexico as follows:

1) the development of the status of recycling is very dependent on the status of a country's economy. Both Korea and Mexico are developing countries and their economies seem to be similar to each other;

2) both Korea and Mexico have been very much influenced by the United States (U.S.). Since Mexico is geographically located next to the U.S., it has had a close relationship with the U.S. In Korea's case, the U.S. participated in the Korean War and ever since then, Korea and the U.S. have maintained strong relationships with each other on many levels. For example, at least 50% of Korea's exports are received by the U.S. and at least 50% of Korea's imports come from the U.S.

The researcher analyzed the differences between Korea and Mexico as follows:

1) Korea and Mexico are geographically located in very different regions of the world, Korea in Asia and Mexico in the southern section of North America;

2) they have very different customs such as food and heating systems.

The reasons for not choosing other international graduate students from other countries were:

1) since the researcher is Korean, the researcher wanted to study recycling matters as related to Korean students. Also, even though there were considerable numbers of international graduate students from Japan, Taiwan or China, they were not selected because like Korea have shared a similar culture

such as rice or their ways of thinking as influenced by Confucianism. Also, each of those countries have probably influenced Korea and each other during their long histories. Therefore, it would be difficult to differentiate and study the cultural differences regarding recycling among those countries;

2) there were too few international graduate students from each European country who lived in on-campus apartment housing. Therefore, there were not enough international graduate students from any European country to be selected for the study;

3) African graduate students were contacted and there seemed to be a sufficient number of international graduate students from several countries. However, African graduate students said that the economic situations in many African countries didn't allow them to generate a lot of solid waste which would contribute to recycling programs. Therefore, interviews with African graduate students regarding recycling seemed not suitable to be to accomplish the objectives of this study.

There were 421 Korean students who were registered in the Fall 1994 semester and 254 were graduate students. There were 175 Korean students who lived in on-campus apartment housing complexes at the time the study was conducted.

There were 14 Mexican students who were registered in the Fall 1994 semester, and 8 were graduate students. There were 6 Mexican students who

lived in on-campus apartment housing complexes at the time the study was conducted.

In order to select from among the 175 Korean students, only graduate students were numbered and selected according to a randomization table. First, 48 Korean graduate students were selected to be initially called. After calling all 48 people, only six (6) Korean people agreed to participate in the study. For the Koreans, the willingness rate to participate was only 8%.

Since only six (6) Mexican graduate students lived in on-campus apartment housing, they were all contacted and all six (6) Mexican students agreed to be interviewed.

The analysis of the differences in participation rates of Korean and Mexican international graduate students was because:

1) Korean people preferred to not want to talk to other people about themselves, while Mexican students seemed to like to talk to other people about themselves as well as about their own culture and country;

2) the low participation rate of Korean graduate students was mainly because they were asked during the interviews to speak in English with the Korean researcher. Korean students when meeting other Koreans tended to converse in Korean rather than speaking English. The Mexicans seemed to feel comfortable speaking English with Koreans. Since the researcher was a foreigner to Mexican students, they didn't seem to feel any discomfort or reluctance in speaking English with the researcher.

Data Collection Procedure

Interview Questions

Interview questions were designed to achieve the research objectives based on the research questions. Interview questions were classified into four sections.

The first section of interview questions consists of questions regarding interviewee's personal information such as age, home town area, economic status and the length of time living in the U.S. and his/her current MSU apartment housing complex.

The second section consists of questions to understand the interviewee's knowledge, attitudes, behaviors and values related to recycling in his or her own country before he or she came to the U.S. (or MSU) to study.

The third section consists of questions to understand the interviewee's knowledge, attitudes, behaviors and values related to recycling at MSU and its surrounding areas such as East Lansing after he or she came to the U.S. (or MSU) to study.

The fourth section consists of questions used to determine the interviewee's thoughts, opinions and feelings about recycling about the U.S. people at MSU and in their surrounding areas and the changes of the interviewee's attitudes, behaviors and values regarding recycling.

Interview Procedure and Data Collection

A total of twelve interviews were conducted from March 3 through March 14, 1995 by one researcher. Since the researcher could not speak Spanish, and to maintain consistency in the interviews, all the interviews were conducted in English. The average interview time was one hour and twenty-nine minutes. Most interviews were conducted in classrooms at Michigan State University (MSU), in the Natural Resources building and in the study lounge in Owen Graduate Hall.

At the beginning of each interview, the study objectives and the brief contents of the interview questions were addressed. Also the agreement and understanding of interviewee's confidentiality and rights were discussed before the interview started. Each interview was audio-recorded to help the researcher obtain and keep accurate data and to aid in the data analysis after the interview. The collected data consisted of audio-recorded tapes of each interview and also the researcher's notes during the interviews. In addition, some follow-up phone calls and meetings were needed to clarify the contents of some interviews.

Pre-interviews

Pre-interviews were designed for testing the interview questions and for enhancing the researcher's interview skills. Pre-interviews were conducted in the same manner as the interviews for the study.

Because of inadequate time for conducting interviews and the difficulty of obtaining enough volunteers for pre-interviews, only two pre-interviews with two Korean international students were conducted.

CHAPTER III

ANALYSIS AND FINDINGS WITH LITERATURE REVIEW

This chapter consists of four sections. Each section contains analyses of interviews as well as literature review. The first section explains the personal characteristics of each of the interviewees.

The second section is the comparison of Korean international graduate students and Mexican international graduate students' knowledge, attitudes, behaviors, and values regarding the Korean and Mexican environment and waste in general and then recycling in particular before they came to Michigan State University (MSU) to study. It consists of seven sub-sections regarding the countries of South Korea (hereby referred to as Korea) and Mexico: 1) the municipal solid waste disposal systems, 2) the word "recycling," 3) the recycling programs, 4) participation in recycling, 5) recycling and gender, 6) government and school education about recycling, and 7) the products containing recycled materials.

The third section is the comparison of Koreans and Mexicans' knowledge, attitudes, behaviors, and values regarding the same matters from the time they have lived in on-campus apartment housing at MSU. It consists of eight sub-sections regarding the living environment on the campus of MSU: 1) the municipal solid waste disposal systems, 2) the word "recycling," 3) the MSU recycling program, 4) participation in the MSU recycling program, 5) recycling

and gender, 6) government and school education about recycling, 7) the products containing recycled materials, and 8) the relationship between the length of time living in MSU on-campus apartments and participation in recycling.

Each sub-section in the second and third sections is organized into three parts: A) Korean responses, B) Mexican responses and C) Implications.

The fourth section summarizes each interviewee and his/her impressions and thoughts about American people regarding recycling and recycling programs in general. This section also discusses each interviewee's self-assessment as related to his/her recycling attitudes, behaviors and values. This section consists of thirteen sub-sections which are made up of each of the twelve interviewee's responses and also the implications.

The interview questions with all of the sections and sub-sections have been included in the Appendices as Appendix A. Please refer to it for further information and I hope it helps readers understand the organization of this chapter.

Research questions are divided into the second, third and fourth sub-sections. Therefore, the first and second research questions are analyzed in the second section with its respective seven sub-sections. The third and fourth research questions are analyzed in the third section with its respective eight sub-sections. The fifth research question is analyzed in the fourth section of this chapter.

Each Korean and Mexican interviewee are referred to by consecutive numbers for ease of analysis and quotation of his/her respective statements or comments (Korean #1 = K #1). Also each interviewee is referred to using a male pronoun to maintain confidentiality and consistency even if the interviewee is female. To indicate how each of the interviewees' reacted or responded to each of the interview questions, all of their words and sentences were not altered and all of their statements were quoted directly.

The Personal Characteristics of Interviewees

The interviews with Korean and Mexican international students were conducted during a span of 12 days, from March 3 through March 14, 1995. The average interviewing time was one hour and twenty-nine minutes. Most interviews were conducted in two locations on the MSU campus, a classroom in the Natural Resources building and a study lounge in Owen Graduate Hall. One interview was conducted in Baker Hall and another in the Food Science building at the request of the interviewees.

The interviewees were classified by gender, original home town area, age, marital status, economic status, current educational level, the length of time living in the U.S., the place they currently live and the length of time living in MSU on-campus housing.

The Korean interviewees consisted of three females and three males and the Mexican interviewees consisted of one female and five males. Five out of six

Korean interviewees were from urban areas and five out of six Mexican interviewees were also from urban areas. The average age of the Korean interviewees was 29.5 years old and their ages ranged from 25 to 34 years old. The average age of the Mexican interviewees was 33.5 years old and their ages ranged from 29 to 39 years old. Three male and two female Korean interviewees were single and only one was married. One male and one female Mexican interviewee were single and four were married.

All six Korean interviewees were from the middle class and five of the Mexican interviewees were from the middle class and one Mexican interviewee was from the upper class. The education levels of all the interviewees was one control variable since both Korean and Mexican interviewees were all MSU graduate students. Therefore, the Korean graduate students were matched with the Mexican graduate students. Also all Korean and five of the Mexican interviewees attended undergraduate colleges in their home countries though one Mexican interviewee attended high school in Mexico and following high school, lived and continues to live in the U.S. and now has begun a doctoral program at MSU.

For the Korean interviewees, the average length of time living in the U.S. was two years and one month and the length of time ranged from 7 months to three and half years. As a side note, two male Korean interviewees visited the U.S. before they came to study at MSU. For the Mexican interviewees, the average length of time living in the U.S. was five years and one month and the

length of time ranged from two months to ten years. Three of the Mexican interviewees have visited the U.S. before studying at MSU.

The current living place of all of the interviewees was the other control variable. This control variable create the condition that the same MSU recycling program is available to everybody who live in on-campus apartment housing. Therefore, all interviewees have lived in MSU's on-campus apartment housing such as the Cherry Lane, Spartan Village, or University Village apartments. For the Korean interviewees, the average length of time living in MSU on-campus apartment housing was one year and four months and it ranged from seven months to two years and three months. For the Mexican interviewees, the average length of time living in MSU's on-campus apartment housing was two years and one month and it ranged from two months to three years.

To understand each interviewees' response, it is important that one remembers that each interviewee came to the U.S. at different times so that they each gave answers according to his/her experience and his/her knowledge of his/her country. Recent environmental issues as well as the recycling issue are becoming sensitive issues to many people. Therefore, there is a need to quickly revise national policies in both countries, Korea and Mexico, in order to cope with the growing international pressures from the world community.

One needs to distinguish when each interviewee came to America or to MSU because it becomes a very important factor in understanding why each

interviewee's experience or knowledge about recycling may perhaps be different from the others in some aspects.

Here is the list of interviewees' length of time living in the U.S. and in MSU on-campus housing apartments. Korean #1 = K #1 came to the U.S. in July, 1993, K #2 in August, 1992, K #3 in January, 1994, K #4 in January, 1992, K #5 in July, 1994 and K #6 in July, 1992, respectively. K #1 has lived in MSU's on-campus apartment housing for 1 year and 4 months, K #2 for 2 years and 2 months, K #3 for 7 months, K #4 for 1 year, K #5 for 7 months and K #6 for 2 years and 3 months, respectively, from the date of their interview in early March 1995.

Mexican #1 = M #1 came to the U.S. in July, 1993, M #2 in January ,1995, M #3 in January, 1989, M #4 in January, 1992, M #5 in January, 1992 and M #6 in 1975, respectively. M #1 has lived in MSU's campus apartment housing for 1 year and 7 months, M #2 for 2 months, M #3 for 4 years and 2 months, M #4 for 3 years 2 months, M #5 for 3 years and 2 month and M #6 for 5 months, respectively, from the interview date in early March 1995. Table 1 summarizes the above information.

Interviewee	Arrival in the U.S.	Length of Time Living in the U.S.	Length of Time Living in MSU Apt. Housing
K #1	July 1993	1 year and 8 months	1 year and 4 months
K #2	August 1991	3 years and 7 months	2 years and 2 months
K #3	January 1994	1 year and 2 months	7 months
K #4	January 1992	3 years and 2 months	1 year
K #5	July 1994	8 months	7 months
K #6	January 1992	3 years and 2 months	2 years and 3 months
M #1	July 1993	1 year and 8 months	1 year and 7 months
M #2	January 1995	2 months	2 months
M #3	January 1989	5 years and 2 months	4 years and 2 months
M #4	January 1992	3 years and 2 months	3 years and 2 months
M #5	January 1992	3 years and 2 months	3 years and 2 months
M #6	1975	20 years	5 months

Table 1: Interviewees' Length of time living in the U.S. and in MSU On-campus Apartment Housing from March 1995.

The Comparison of Knowledge, Attitudes, Behaviors and Values in Korean and in Mexico

According to Rokeach (1972) and Triandis (1971), an attitude was defined as an emotionally charged idea to respond in a particular way toward a specific object or social situations. Lewis (1938) defined an attitude as an interrelated set of opinions.

Rokeach (1972) explained an attitude as the representation of social and cultural influence and also noted that an attitude determines activity of the individual counterpart of social values. An attitude thereby becomes a positive or negative value (Fishbein, et al., 1967). Recycling attitude was studied by several researchers such as Lai (1991), Humphrey (1977), McGuinness, et al. (1977), Paicheler (1976) and Steininger & Voegtlin (1976).

Baron and Byrne (1987) and Wicker (1969) suggested that behavior was influenced by personal variables, situational variables and culturally shared standards and values. Shepherd (1985), Rokeach (1976), Fishbein & Ajzen (1972) and Tittle & Hill (1967) discussed the relationship between attitude and behavior. Many researchers have investigated recycling behavior in the past two decades (Burn, 1991; Hopper & Nielsen 1991; Luyben & Bailey, 1979; Cole & Cole, 1977; McGuinness, 1973).

Values are beliefs about desirability and direct behaviors. Values were revealed by "thoughts, emotion and behaviors" (Eisenberg, 1989; Dane, 1988; Rokeach, 1976; Mussen, 1972; Lindzey & Aronson, 1968; Fishbein, 1967).

Extensive cross-cultural research related to behaviors and values have been conducted (Shockleg-Zalabak & Morley, 1994; Bond, 1988; Jahoda, 1984; Rohner, 1984; Detweiler, 1980; Penner & Anh, 1977; Berry, 1969).

1) The Municipal Solid Waste Disposal Systems in Korea and in Mexico

Municipal solid waste as defined by the United States Office of Technology Assessment (OTA) is solid waste such as glass, paper, metals, plastics, yard wastes, food waste, miscellaneous inorganic waste, etc., which were generated at residents, institutes and commercial places, e.g., restaurants or offices (OTA, 1990).

Landfilling, incineration and recycling were the basic general management and the disposal systems of municipal solid waste (OTA, 1990). Landfilling and incineration were also defined by OTA respectively: landfilling was a way of disposing of solid waste on land in a series of compacted layers and covering it with soil or other materials and incineration meant "burning of fuel under controlled conditions, ideally converting all carbon to carbon dioxide and all hydrogen to water" (OTA, 1990).

A) The Korean Responses

Regarding the question, what kinds of municipal solid waste disposal systems were in Korea, Korean interviewees answered throwing away garbage,

landfilling and recycling. Landfilling which did not include reducing waste through incineration and recycling was mentioned as the major municipal solid waste disposal system in Korea.

Regarding throwing waste away, Korean #2 (K #2) said, "I don't know, but we throw everything into one big box and then garbage men came with truck. So everything is mixed up."

Even though most Korean interviewees were not sure how the landfilling disposal system worked and what problems landfill sites had, they knew the location of landfill sites near their home town and that most landfill sites had been filled above their capacity and finally covered. They noted that it has become harder to designate new landfill sites because of people's attitude such as the NIMBY ("not in my backyard") attitude. However, Korean interviewees mentioned that Korea was relatively smaller than many other countries so that they didn't have space for landfilling.

Regarding recycling in Korea, Korean #3 (K #3) mentioned that separating waste as "normal garbage, chuck coals and recyclable like carton milk packs." K #3 also doubted whether other Korean interviewees sorted and separated waste that eventually went through the recycling process to make recycled products. The reason was that when the governmental waste collectors picked up this (separated) waste, they only used one truck for dumping everything together .

There were differences between Korean interviewees according to the time when they came over the U.S. Koreans who came to MSU three years ago said that there was no recycling in Korea. On the other hand, Koreans who came to MSU two years ago or in the Fall 1994 semester experienced recycling programs or had heard about Korean recycling programs from the Korean mass media. The researcher observed that there were community level recycling programs in certain regions in Seoul in winter 1991. In particular, this type of community level recycling program was only observed in large residential apartment complexes.

Knowledge or experiences about the Korean recycling program varied. There was a general opinion that there were recycling programs in Korea but they were not effective. People separated recyclables from other waste but they thought that recyclables collected by governmental service was eventually mixed up with other waste. Therefore, their separation of waste was worthless, though some Koreans continued doing it. According to the interviewees, since the 1970's, schools throughout Korea have collected newspaper, paper and magazines for helping the industry make low quality paper.

Most Korean interviewees, K #2, 4, 5 and 6, were not concerned about municipal solid waste disposal systems when they were in Korea because it was not in their interest or they had never thought about those issues before. However, two Korean (K #1 and K #3) interviewees who very actively

participated in recycling at home mentioned that they were very concerned about Korea's overall waste disposal systems especially about landfill sites.

K #1 recalled his experience of working with a Korean environmental organization, called the Association of Environmental Movement, to protest against the increasing pollution problems in Korea.

K #2, 4, 5 and 6 answered that they had not made any efforts to improve the Korean municipal solid waste disposal system. On the other hand, K #1 and 3 answered yes and they pointed to recycling at home as their effort to improve disposal systems.

For the question about the importance of municipal solid waste disposal systems, five out of six interviewees, except K #6, answered that it was important. K #6 stated, "Because Korea people don't have any seriousness about [waste disposal]. I have not thought about it seriously, either. I have thought about [waste disposal], but it was not strong enough to make me think it's important."

B) The Mexican Responses

All Mexican interviewees mentioned their landfilling system and deposit system for certain types of glass bottles in Mexico. Mexican #1 (M #1) and Mexican #2 (M #2) described in detail the system of garbage pick-up in Mexico.

M #3 mentioned how garbage was treated. He said, " Garbage is picked up three time per week. What we do is we take big black plastic bags, just like here and put all garbage here and tie them up and put them outside during the night. Then early in the morning, trucks come and pick up garbage. It goes to landfilling." M #3 also explained that

"[people from] all the trucks didn't compact garbage when they are picking. Two people work together and they pick up big garbage containers from each house and dump garbage into the trucks. It is not automatic system like here [in the U.S.]. It is not that efficient [since] more people [are] involve[d] [in] just picking up garbage containers."

Also M #1 said, "All the major cities have municipal solid waste disposal systems. It varies from one state to another state. But cities wh[ere] population is around 30,000 or more have waste disposal systems. For example, trucks of local governments pick up waste through cities. The schedule is usually fixed but sometimes not. There is landfilling [in Mexico]... normally local governments designate non-use land for landfilling site called 'sanitary filling' near cities."

M #2 presumed that more than 80 percent of generated municipal solid waste goes to landfill sites. In addition to landfilling, M #2 also expressed his worries about open burning and its impact on the river and groundwater. M #2 also mentioned the composting system and added that a particular composting activity in his hometown such as "... organic fertilizer making systems using worms for their gardening..."

According to the Mexican interviewees, there are two kinds of glass bottles. One is for refilling so that the companies collect them throughout the stores and require money deposits on the bottles. The deposit on the bottles may be as much as the cost of liquid itself in the bottles. For example, if soft drinks such as Coke is 2 Peso, then the deposit on the bottle is 1 Peso. Therefore, people pay 1 Peso for liquid Coke and 1 Peso for the Coke bottle.

This is different from the American bottle deposit system. Mexican people first purchase a pack of soft drinks and then next time if they want to purchase soft drinks again, they bring their pack of empty glass bottles to the stores and

then pay for only the price of the liquid in exchange for a new pack of soft drinks. If people want to buy an individual bottle of drink, they have to finish drinking and leave the bottle in the store. According to a subsequent conversation with M #1 on the phone, if people want to get deposit money back, they can ask the stores for refund money, only if the bottles are not broken.

The other kinds of bottles are not recyclable or refillable glass bottles so that people just throw them away. According to M #1, 2, 3 and 4, those glass bottles are often collected by the poor or homeless people from landfill sites. And then are sold to the companies which melt glass bottles and they remake them into bottles or other products.

According to M #1, 2, 3, 4 and 6, Mexican people collect old newspapers at home in order to sell them and get small amounts of money. Mexican interviewees considered this activity as traditional and an old recycling activity.

Regarding recycling, M #1 and 2 mentioned their activities for environmental preservation and recycling experiences in their home town. M #4 also mentioned his knowledge about recycling programs in some parts of Mexico.

However, they all agreed that there were no institutionalized recycling programs in Mexico and the recycling programs they were involved with or knew about were all informal and small community programs.

Regarding the question, were they concerned about Mexican municipal solid waste disposal systems when they were in Mexico, M #1 and 2 answered they were very concerned about it. M #6 answered slightly concerned about it

because his high school class activity made him aware of the impacts of improper waste disposal systems. M #3, 4 and 5 said they didn't care about disposal systems at all when they were in Mexico.

Regarding the question, whether they put some effort to improve the municipal solid waste disposal systems, M #1 and #2 mentioned their private recycling activities working with their communities to place increasing political pressure on the local government to implement recycling programs in their communities. Other interviewees answered they did not make any efforts to improve the solid waste disposal systems.

Regarding the question about the importance of the municipal solid waste disposal issue, M #1, 2, 3, and 6 said that it was 'very important' to them and M #4 and 5 said it was 'not important' to them.

C) Implications

There are similarities between the two countries regarding municipal solid waste disposal systems such as landfilling, newspaper recycling and glass bottle recycling. According to the interviewees, many other countries such as the USA, Europe and Japan, landfilling seemed to be a predominant form of municipal solid waste disposal in Korea and Mexico (OTA, 1990). However, it is not clear what the percentage of generated municipal solid waste is landfilled in Korea and Mexico.

The differences between the countries were with other types of waste disposal. For example, Korean interviewees recognized source separated recycling as an important disposal method (OTA, 1990; De Young, 1986). Mexican interviewees reported open burning and bottle deposit system.

There have been studies which indicated that there is a relationship between knowledge and attitudes and a relationship between attitudes and behaviors (Sjöberg, 1989; Jacobs, et al., 1984; Arbuthnot, 1977). Interviewees who had a more broad knowledge about municipal solid waste disposal systems tended to have more positive attitudes. Interviewees who had little or less broad knowledge about the same matter tended to have negative attitudes. Interviewees who had more positive attitudes tended to have more positive behaviors and than those who had less positive attitudes tended to have less positive behaviors.

2) The Word “Recycling”

Recycling as defined by the OTA was “collecting components of municipal solid waste and processing them into forms in which they can be reused as raw materials for new products” (OTA, 1990).

On the other hand, reuse is differentiated from recycling because reuse doesn't include the process of producing new products using secondary materials as raw materials. The definition of reuse was “taking components of

municipal solid waste and slightly modifying and using it for its original purpose" (OTA, 1990).

Since the purpose of recycling is alleviating future resource shortages and reducing energy demand, pollution, and water use (Chiras, 1988; De Young 1986), recycling largely includes the activities of waste reduction as well as reuse.

A) The Korean Responses

The Korean word which is equivalent to recycling in English is "Jae hwal yong." According to the Minjungseorim's Essence Korean-English Dictionary (1981), "Pyae poom" means abandoned articles; useless (thrown away) things; junk; refuse in Korean. "Pyae hue ji" means paper waste and "Hwal yong" means practical use or making the most (best) of it (Minjungseorim's Essence Korean-English Dictionary, 1981).

Among interviewees, K #2, 4 and 6, who came to MSU approximately three years ago, K #2 answered the question whether Koreans have heard the word referring to the English word "recycling" as "Pyae poom hwal yong." K #4 answered "No, I don't think so." K #6 was confused and didn't recall the word immediately. Later K #6 finally answered the question saying "Pae hue ji hwal yong." Regarding "Jae hwal yong," K #6 commented "We have lots of solid waste. So we need to care about it. I think 'Jae hwal yong,' this word arose at that time, three years ago."

The other Koreans, K #1, 3, and 5, who have been at MSU less than three years clearly and promptly answered the question saying "Jae hwal yong." It seemed that as time goes on and people are used to living in a new environment, they tend to forget specific words. Except K #4, other interviewees answered that they were familiar with the Korean word for recycling and they often used "Jae hwal yong" and talked about waste matter and the recycling issue.

B) The Mexican Responses

The Spanish word which is equivalent to recycling in English is "Reciclaje" which is a noun and "Reciclar" which is a verb. Every Mexican interviewees, except M #5, knew this word in Spanish.

M #4 explained that the reason they felt familiar with recycling in Spanish was that they heard of this from TV news and other mass media. M #2 also commented, "it is a part of slogan on TV which means 'put our waste in the right place' by the Council of Environmental Affairs of the Mexican Government. Many non-governmental organizations participate in this campaign, too."

However M #3 said that "we didn't hear it often ... at home because we call glass deposit as 'deposito' in Spanish. The only time I heard about 'Reciclaje' [was] for newspaper. For example, we pile up newspaper and sell it, then we use the word, 'Reciclaje'. Basically for nothing else, but I don't remember saying recycling for cans or tins. We put everything into the garbage. We don't do lot of recycling."

Regarding the question, whether they used the Spanish word rather than English word for recycling in Mexico, M #1 and 2 answered yes to this question, other interviewees, M #3, 4, 5, and 6, answered "not really."

C) Implications

The researcher wanted to study whether within the interviewee's country, people used a word in their own language to refer to recycling, or whether the English word "recycling" was more popular and used by the interviewees. However, it seemed that the question regarding this issue was neither well addressed by the researcher or the interviewees did not understand the question. So it was not clear whether people use their own word or English word in their daily lives.

But in the case of the Mexican interviewees, those who had participated in more than newspaper and glass bottle recycling tended to use and preferred their own Spanish word, "Reciclaje." Interviewees who only had participated in newspaper and glass bottle recycling tended to use their own word for "Reciclaje."

3) The Recycling Programs

Many authors have done extensive research about recycling programs related to participation, communication and education (Katzev, et al., 1993; Katzev & Mishima, 1992; Hughes, 1984; McGuire, 1984).

Katzev and Mishima (1992) examined the effects of posted feedback on paper recycling on a college campus. They found that there was an immediate increase in the amount of collected paper while the posted feedback was exposed (Katzev & Mishima, 1992).

Regarding participation and education, for example, McGuire (1984) indicated in his research that there was a correlation between education and high rates of newspaper and aluminum recycling. Katzev, Blake and Messer (1993) presented that the level of participation was positively associated with education as well as income and recycling motivation.

A) The Korean Responses

K #1, 3 and 5 said that they had recycling programs in Korea when they left Korea. K #1, 3 and 5 had participated in recycling programs at home and they were very concerned about recycling. On the other hand, K #2 and 4 answered they didn't have recycling programs. But K #2 recalled that when he was a child, his family and other people collected bottles and newspaper to sell to scavengers. K #4 said that he had heard about other countries' recycling programs and how they worked from the mass media and so he wished that Korea had had one.

K #6 was confused for a while about either the question or his memory about recycling program. K #6 mentioned recycled napkins in Korea. But K #6 wasn't able to tell the researcher how waste paper was collected.

K #1 and 2 reported that in Korean schools, below the college level students were asked to bring newspapers, magazines or bottles to schools once a month. It seemed to be a well-organized collection system for paper and glass because schools became the centers for collecting recyclables.

Glass bottles collected at schools or home were sorted in two ways. Some bottles such as beer bottles could be returned or resold to the stores because the beer companies sponsored or encouraged beer bottle recycling. Then they were reused or refilled without breaking so that each bottles was sold for a price. The others were also collected to be sold by pound. They were used by glass companies to remake new glass bottles or other glass products.

The recycling programs K #1 and 3 participated in encouraged them to separate newspaper, heating charcoals, and wet garbage. On the other hand, the recycling program described by K #5 was more specific than the ones K #1 and 3 reported. K #5 said that for his recycling program, there were four bins for four recyclable items such as cans, paper, plastics and bottles.

An interesting thing was that every interviewee said that the current institutionalized recycling program enforced by central Korean Government was good and suitable.

B) The Mexican Responses

According to M #1, 2 and 4, there were recycling programs in some parts of Mexico. M #2 said, "we have recycling programs. About 10 to 20 percent of

all waste generated in cities is recycled. In the rural areas, almost 100 percent of waste goes to landfilling."

M #4 commented about recycling programs saying that "In some places, there is no federal policy. Just at the local governmental level, [the way the programs are] implemented [d]epend[s] on [each] cit[y]. In some cities, you have to recycle otherwise you have to pay [a] fine. We recycle four things—glass, plastics, paper and biodegradable [materials]..."

M #2 described the general governmental-involved recycling programs in some cities as follows: "In some cities waste pick-up trucks set the schedule for picking up plastics or metals on ... certain days during the week. For example, Monday and Tuesday for plastics and Wednesday for metals. Everyday is for different waste. But not [in] all the cities. Now more and more cities will do that" (M #2).

On the other hand, M #1 and 6 answered that there were no systematic, institutionalized, or socialized recycling programs. They considered newspaper or glass recycling as an informal recycling program. M #1 also commented, "Some people know this kind of informal recycling program such as metal recycling program which is very old. When I was a child, a five or six years old child, my father used to recycle metals. He collected metals from our home and then sold it. It might be the oldest recycling program. But all of this is informal."

M #6 asked that Mexican people used cans and bottles for water or grain storage. That was not for the country's environment but for their welfare and necessity. As long as those cans and glass containers or other containers were still usable, then they didn't throw them away but used them for other purposes.

On the other hand, M #3 and 5 did not consider the informal way of recycling in Mexico as recycling programs. M #3 said, "In Mexico, when we recycled, we used to get something, some money, such as glass deposit, or from selling newspaper or corrugated board boxes. This is not [a] voluntary [recycling] program..."

Regarding the question, whether Mexican interviewees were concerned about Mexican recycling programs when they were in Mexico, M #1, 2 and 6 answered they were 'very concerned' about them. The others answered they were not.

M #3 commented that the reason they were not very concerned about prior recycling programs in Mexico was because: "a main problem is that there [wa]s no recycling plants at th[at] time... People want[ed] to recycle metals, glass, paper or all those things, but there [wa]s no facility to recycle this material.... The act of separating garbage become useless. Governmental participation is needed... Facility is needed.... Mexican people are not much aware of the recycling" (M #3).

Regarding the question, whether Mexican interviewees had recycled, the four other interviewees, except M #4 and 5, answered they had recycled and the items were newspaper and glass. M #3, 4 and 6 emphasized their "informal way" of recycling or recycling but not in recycling programs.

M #1 and 2 explained how they organized recycling programs and participated in recycling in their home towns. M #1 said, "I worked for

establishing recycling programs as a member of the board of representatives [in my home town].... we separate recyclables—papers and glass from garbage according to the instruction. When the program started, we only recycled tortillas and newspaper though. When the program started, all the people [in my town] received flyers of instructions asking to clean the glass containers, dry [them] and put into the box [to] be collected Tuesday or Wednesday by pick-up trucks."

Even with all those flyers, M #1 as well as M #2 raised doubt about whether local governments really recycled the recyclables that they collected from residents.

C) Implications

In accordance with the OTA, recycling consisted of three activities:

1) collecting secondary materials, 2) preparing secondary materials for markets and 3) producing new products from recycled materials (OTA, 1990).

In terms of these three recycling activities, these activities seemed to reflect the developmental stages of recycling and recycling programs which in turn depends on the development of environmental protection in the areas where recycling take place.

For the first stage of recycling and recycling programs, the collection of secondary materials helped people's home economy so that they saved reusable things for the purpose of selling or just reusing items in their homes.

This activity has been an integral part of people's lives, especially in developing and under-developed countries. If the definition of recycling of OTA was the only one considered, the collection of secondary materials would only be considered partial recycling. Institutions are usually not involved with this type of recycling. At this stage, it seems that there are not enough secondary materials available and therefore not enough secondary materials to be marketed and used for the production of new recycled products. M #3 and M #6 indicated that in the past, Mexican recycling was this type of recycling.

The second stage, the collection of secondary materials, not only helps an individual's home economy, but gives them a rewarding feeling of self-satisfaction from recycling and a concern for the welfare of the environment. Institutions such as communities are either partially or fully involved in all aspects of recycling at this stage. Also at this stage, the collected materials are marketed and new products are produced from the collected recycled materials. The definition of recycling of OTA begins to apply to this type of recycling. However, at this stage, people consider their recycling as a voluntary activity. M #3 placed the MSU recycling program at this stage and his recycling as voluntary recycling.

The third stage of recycling is that recycling which is mandatory and enforced by communities and governments. Rewards and punishments related to recycling are written down in laws and regulations. The Korean interviewees

pointed out that this type of recycling is the current Korean kind of recycling program that has started in early 1995.

The three suggested stages of recycling programs were based on interviews from this study though they were difficult to separate from each other. Moreover, during the transition periods, these three stages of recycling often overlapped with each other.

This study considered all three stages of recycling as recycling so that recycling activities, especially related to collecting secondary materials, were noted and reported with the various ways of recycling.

Both Korean and Mexican interviewees recycled paper and glass bottles. While Mexican interviewees mentioned items such as metal or biodegradable items, Korean interviewees didn't mentioned other recyclable items. In particular, Korean interviewees explained the difficulty and contamination problems of recycling related to charcoal heating briquettes. These heating briquettes were traditionally used by Koreans as fuel for their hot water heaters. During a winter night, a family may burn up to nine (9) charcoal heating briquettes.

4) Participation in Recycling

Participation in recycling programs was related to attitudes toward recycling in particular and toward ecology in general (McGuinness, 1973; Maloney and Ward, 1973; Bibkman, 1972; Brislin and Olmstead, 1973; Bruvold, 1972). The attitudinal correlates from McGuinness, Jones and Cole (1977) proved that normative beliefs and alienation influences on recycling behavior and favorable attitudes were positively related to recycling participation (McGuinness, et al., 1977).

A) The Korean Responses

K #1, 3 and 5 who had participated in recycling programs in Korea believed that participating in recycling programs was important. K #1 and 3 answered they felt good about participating in recycling and commented about the importance of doing recycling. However, K #5 said, "I feel nothing. Automatically, just do it. I didn't have different meaning to recycle."

Even though other Koreans had recycled newspapers or bottles, they didn't consider that they were recycling. The Korean interviewees seemed to consider only participating in institutionalized recycling programs as recycling participation. Since the other Korean interviewees answered they had not participated in recycling, the subsequent questions within this category were not asked.

B) The Mexican Responses

M #1 and 2 had participated in institutionalized and local government involved recycling programs. M #3 and 6 had participated in the first stage type of recycling which was not institutionalized recycling. They responded to the question that they felt good about participating in recycling.

Regarding the question whether participating in recycling was important, M #1, 2 and 6 answered that it was 'very important' to them and M #3 answered that it was 'somewhat important' to him.

Even though other Mexican interviewees had recycled newspapers or bottles, they didn't consider that it was recycling. Mexican interviewees seemed to consider only participating in institutionalized recycling programs as recycling participation. Since the other Mexican interviewees answered they had not participated in recycling, the subsequent questions within the category were not asked.

C) Implications

It was hard to obtain detailed data on how and what each of the interviewees recycled in Korea and Mexico. Also, it was not easy to differentiate each interviewee's individual experience from other Korean and Mexican interviewees because often interviewees did not respond to questions using the "I" pronoun, but used phrases such as "we Koreans" and "we Mexicans."

Interviewees who had participated in recycling believed that recycling was important and had positive attitudes about participation in recycling.

The common aspect between most of the Korean and Mexican interviewees was that they did not assume that their newspaper and glass bottles recycling was a recycling program. As a matter of fact, Korean newspaper recycling was a well organized and institutionalized involved recycling program. The Korean interviewees did not recognize this kind of recycling as a recycling program. Regarding a similar matter, Mexican glass bottle recycling was organized by the stores and sponsored by the soft drink companies. However, Mexican interviewees also didn't realize this type of recycling as a recycling program.

5) Recycling and Gender

Sjöberg (1989) found that men and women differed in their understanding of risk and he seemed to think that the differences were due to the variables of gender and education. Lai (1991) reported a difference between gender and attitude regarding waste disposal. The results, Lai noted, were that more females believed waste disposal was an important matter and were more concerned about waste disposal issue than males.

Cialdini, Reno and Kallgren (1990) examined gender differences regarding littering. They reported that men had a more significant tendency to litter than women (Cialdini, et al., 1990).

A) The Korean Responses

Concerning the question, whether men or women were more concerned about recycling, most Korean interviewees' answered that Korean women seemed to be more concerned about recycling than men. The reasons mentioned were that Korean women generally had to deal with waste rather than Korean men.

K #1 said, "The life cycle of Korea men are like this. Before 6 or 7 a.m., they have to go their company and start to work. And then until 10 p.m. or so, they come back home. So they can't consider their home situations." This statement implied that Korean men didn't have time for waste since they hardly had time for family matters, maintaining their house, etc.

Regarding the women's lifestyles, K #3, 4 and 6 said that "it was usually women [who] took care of home and reusing or recycling [to] help reduc[e] expenses." However, K #2 said that "it depended on person not on gender" in the beginning of his talk. Also K #2 and 4 believed that women were more sensitive to everything.

Regarding their feeling about different gender roles regarding recycling, their answers varied. K #1 said, "it is a kind of national character." (This

character is explained below in the Implications section). K #3 felt problematic about this matter and pointed out the educational problems regarding gender roles in Korea. K #4 and 6 felt that it was natural that women took care of household chores and recycling.

K #5 showed uncomfortable feelings regarding this question thinking it was absurd. He thought this question shouldn't be asked because it was based on the assumption that there were no differences between men and women.

B) The Mexican Responses

Concerning the question, whether men or women were more concerned about recycling, unlike Korean interviewees, the Mexican interviewees' answers were very diverse. M #2, 5 and 6 answered there were no differences. M #1 and 4 said Mexican women were more concerned about recycling than men because of their culture.

M #1 said, "Basically because of time, men are not at home. Most of [the] time women run [the] home without any help [from] men. This means that problem of waste disposal is women's not men's."

M #2 and 4 mentioned Mexican mothers' concern about their environment because of their children's health. M #2 said, "In the men's case, it depends on age, social status, jobs, background and other factors. [It also] depends on what kinds of problems we are talking about. For example, paper or organic things, women were concerned more..." M #4 also added that " it is cultural because

women in Mexico ... take care of their waste. Also women always worry about their children more than children's fathers."

M #3 answered that Mexican men were more concerned about recycling because of his personal experience and because of culture.

M #3 commented that "concern for them (women) is nice house or clean not concern about recycling... In the heavier parts of work in Mexico, they (men) have more contacts with world to know what is going on because they travel to work here and there. But women just stay at home not likely [to do] business type of traveling. So their (women's) understanding about recycling issues or recognizing reusable materials is not like men."

Regarding their feeling about differences between gender roles regarding recycling, M #2, 4, 5 and 6 answered that they had no particular feelings about that. M #1, 2 and 3 commented that it was not a gender issue but the issue of the lack of proper educational information about recycling.

M #1 also stated, "I think in general, in Mexican society, there is no real concern about garbage. This situation produce [the necessity of] a lot of awareness among people... There is no difference between men and women concerning recycling. But I think it is the problem of who cares of garbage at home. For example, if women save hard and dry tortillas, then [they] can be recycled."

C) Implications

The sentence "women were more sensitive" referred to women's characteristics as observed by K #2 and 4. They meant that women tended to be more emotional than men so that women responded or reacted more quickly than men about recycling. Women also tended to care more about detailed things.

K #1 mentioned "national character" refers to the difference between men and women regarding waste. As Korean interviewees mentioned, many Korean women took care of their home which meant literally they took care of all waste from generation of waste until disposal. Traditionally, Korean society emphasized different roles for men and women at home. For example, men should not go to the kitchen to cook. The best women were those who served their husbands and children well at home and they should rarely go out. Korean society has been male chauvinistic. According to "Social Indicators in Korea (1993)," women who graduated college represented 8.3 percent of the total population while college educated men represented 20 percent of the total population. This different education rate between Korean women and men indicated that Korean people emphasize men's education more than women's education. Moreover, highly educated women are also strongly asked to stay and take care of homes rather than to use their knowledge and to develop their careers in society.

Korean and Mexican interviewees had the same notion about women roles at home. But the difference was that most Korean interviewees believed women were more concerned about recycling while Mexican interviewees believed there were no differences between men and women.

One thing the researcher noticed during the interviews was that interviewees were reluctant to say which gender was more concerned about

recycling. Interviewees in general commented that the gender issue was not relevant to the recycling issue.

Another observation was that it was difficult to obtain answers about their feelings. Interviewees usually gave me their opinions or their thoughts instead. Also some interviewees were reluctant to answer the questions from this category.

6) Government and School Education about Recycling

Oskamp, Harrington, et al. (1991), Vining and Ebreo (1990), Sjöberg (1989), Hamad, Cooper and Semb (1977), and Arbuthnot (1977) studied factors which encouraged or deterred recycling such as knowledge, motives, types of recycling programs as well as educational activities in recycling. They all found that structured and effective educational recycling programs encouraged participants to recycle. One of the findings of the studies was that recyclers seemed to be more knowledgeable about recyclables and about the methods of recycling than non-recyclers (Vining and Ebreo, 1990).

A) The Korean Responses

While K #4 and 6 said that Korean governments and schools didn't educate people about recycling three years ago, K #2 said:

"not specially recycling, but I guess in a sense, it will be almost same. In Korea we were educated to save things and use pencils as short as

possible. Use the paper including back side of paper. I guess Korea was poor then and we were short of supplies."

K #1 as well as K #3 and 5 mentioned governmental education through flyers, governmental newspaper, TV, etc.

According to K #1, the Korean Central Government has requested communities to meet together every month and to discuss general solid waste concerns. K #1 stated:

"we have community monthly meeting called 'Ban-sang-hoi.' Every month, in the Ban-sang-hoi, our local governments distribute Ban-sang-hoi newspaper which contained news about environment and policy of governments and recycling, etc. Every month, we have to attend this community meeting and talk about waste policy of governments as well as others. So governments use this community meeting to advertise and educate people about waste and recycling."

All Korean interviewees mentioned that they had not been educated specifically about recycling from elementary school through high school. However K #1, 2 and 4 pointed out the positive movement of Korean education regarding the environment in general as well as recycling.

In the case of K #1, he has been very enthusiastic about educating elementary students about the environment. He had an experience of implementing an environmental program for elementary students in Korea. The education program was titled "Saeng-myong-u-na-mu-gyu-shil," which can be translated as "The class for living trees."

Also K #3 addressed the importance of recycling education for elementary school students. Both K #1 and 3 argued that education for elementary school

students was more important than for older students because if they received good environmental education they would grow up to be environmentalists.

All Korean interviewees answered that they felt good about governmental and schools recycling education for future generations. They strongly insisted that more environmental education programs and activities were needed in the government and in the schools.

B) The Mexican Responses

Regarding the question whether Mexican governments and schools educated people about recycling, all interviewees answered that there was no education from the government about recycling.

M #1, 2 and 4 mentioned that elementary schools had programs to teach about the general environment or ecology. However, there was no education program in schools to teach specifically about recycling. M #2 said that kind of education was not taught in the public schools but only in some private schools.

M #6 added that Mexican schools in the past taught students to save materials not because they cared about environment but because raw materials were expensive.

Regarding their feelings about how governments and schools educated people about recycling, M #4 answered that he didn't feel good about schools' recycling education. M #2 said, "it [the recycling education] is not enough. I am upset all the time." M #6 also showed his frustration with the Mexican

government. However, the others didn't state their feelings but they gave their opinions and thoughts instead.

Regarding the question about their opinions about the same matter, all interviewees, except M #4, wanted governments and schools to be involved in recycling education. M #1 emphasized the importance of environmental education in elementary schools.

M #2 added, "Schools are the best places and time to explain and teach students then they can catch rapidly and also they understand more easily about the importance of recycling rather than other old adults..."

M #3 commented that, "The government should first be a little more aware of [waste problems] and a little more concerned about establishing programs. First of all, facility for recycling... They [schools] should teach how to recycl[e], etc. I have never taught about recycling programs."

M #2, 5 and 6 said that the government kept emphasizing this issue and they have laws and policies but there has been no action and they didn't feel any need for implementing recycling or education programs for general waste reduction. On the other hand, M #4 and 5 presumed that education regarding the general environment or recycling would not be a large concern for the Mexican government.

M #4 commented about this matter with his religious view as well as out of economic concern. M #4 said:

"...first thing... is we have to pray for the difficult problems and then deal with them. Economic problems are huge in Mexico... our foreign debts are huge... I think governments should solve economic problems prior to environmental problems. The economic situation should be high priority among our concern."

C) Implications

The Korean monthly community meeting has been very well organized by the government and it has been effective in informing communities about national and regional social and political issues as well as their current problems regarding recycling and other waste issues. This meeting is for a small number of residents so that they can find suitable solutions for their community and encourage each other to make effective decisions and workable solutions. For example, many large city areas have high population densities with their houses located very closely together. Therefore there is not adequate space to even allow a fire engine to pass between one piece of property and the others. Therefore, only small carts are the only feasible vehicles used to collect waste from each household. The Korean Central government has actively worked to educate Korean people about how to recycle and what to recycle since the new recycling program began on January 1, 1995.

School education about recycling was recognized as an important part of enhancing recycling by both the Korean and Mexican interviewees. They especially emphasized recycling education in elementary schools. Educating children about recycling seemed to promise a better future for recycling and the environment. The urgent request to ask governments to be more actively involved in recycling programs and environmental education were commonly raised by both Korean and Mexican interviewees.

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Unfortunately, it was difficult to obtain answers about interviewees' feelings because they assumed that their opinions or criticisms about governments and schools were the same as their feelings.

7) The Products Containing Recycled Materials

Lai (1991) explained consumers' attitudes about products containing recycled materials. For example, she pointed out that there was a significant relationship between environmental awareness and the acceptance of products containing recycled materials.

A) The Korean Interviewees

In general, Korean interviewees mentioned that recycled paper was used for products such as low quality paper for scratch paper or for food wrap, toilet paper, and notebooks. Only K #4 answered that there was no such a thing. K #6 especially pointed out several sizes and shapes of recycled buckets, which were used when people made the Korean food, Kimchee, or for water storage.

K #1 expressed college students' attitude about recycled notebooks on campus. They had choices to buy nice and good quality virgin pulp notebooks but most of them bought recycled notebooks because K #1 said, "they just consider environment."

While others liked or felt O.K. about these products, K #5 didn't like them because of the low quality of the products. K #2 commented that the present

technology to make recycled paper products was better now than in the past. In Korea, there didn't seem to be a systematic way of dealing with products which contained recycled materials. According to K #2, brown wrapping paper or corrugated boxes were not labeled as recycled paper. However, K #1 said that notebooks were labeled as recycled paper.

The differences seem to be related to the following two reasons. One is that unlike recycled notebooks, wrapping paper for food or corrugated boxes has not competed with other virgin paper products. Second, since most people have not been greatly concerned about distinguishing virgin products and recycled products in Korea, there was no need to label products as recycled.

B) The Mexican Responses

The Mexican interviewees answered the question about Mexican products containing recycled materials in many different ways. M #1, 2 and 4 mentioned to the researcher about more than one item which contained recycled materials.

On the other hand, M #3, 5 and 6 responded that they didn't know about products containing recycled materials. M #1 gave an example of paper products for office or schools, aluminum products, plastic bags or plastic containers for non-food or for waste baskets.

M #1 said, "people think that materials from recycling is dirty and because of that reason, there is no recycled products used for containing food... The recycling materials for remaking products are often from landfilling [sites] so that people think [they are] dirty."

M #2 especially mentioned newspaper which contained an estimated percentage of 25% recycled paper. **M #4** talked about glass bottles made from recycled glass and carton board boxes. However, **M #3** said that when he was in Mexico, at first, he was not concerned about recycling and there were no institutionalized recycling programs and also that he had never paid attention to the products containing recycled materials. **M #6** commented that he had not seen recycled products from recycled materials though he said that "doesn't mean it is not existent."

Regarding the question how they felt about the products containing recycled materials, **M #1, 2, and 4** answered that they felt good about them. **M #1** showed his positive attitude about the future of those products as follows: "It is one of the aspects [of increasing recycling awareness]. People should be aware of that [product]. If those products have labels to indicate the percentage of contain of recycled materials, people will recognize it and find the good aspect of recycling" (**M #1**).

Regarding the question whether they had bought those recycled products, **M #1 and 2** said yes. **M #4** said that he was not sure whether he bought a recycled one or not because there were no labels and the price of the products containing recycled materials was the same as the products made from virgin materials.

Regarding the question whether they preferred to buy those products, **M #1** said yes. **M #2** said he preferred them only if they were not expensive.

M #4 said no and he said that “recycled products are not [popular] things yet in Mexico” (M #4).

C) Implications

Korean interviewee #4 mentioned recycled plastic buckets but from the interviews, Korean interviewees didn't mentioned how they were recycled in Korea. However, a good aspect regarding the plastics recycling, is that there is an industry which uses recycled plastic to make products containing recycled plastics.

Since both Korea and Mexico recycled newspaper and other papers, the main similarity between the two countries was products made from recycled paper. Both countries do not have standardized and systematic labels indicating the recycled content of all products containing recycled materials. Both governments should establish a labeling system for products containing recycled materials so that it would help people notice what they bought and help them decide what they want to buy.

However, the interviewees' attitude about products containing recycled materials was moderately positive and it is predicted to be even more positive if technology improves the quality of recycled products. It was presumed that technology for making products containing recycled materials influenced people's attitude about such products.

One difference in attitude between Koreans and Mexicans was related to recycled products used for food containers. Lai (1991) indicated that almost 64 percent of people were concerned about food packaging made from recycled materials. In general, Mexicans didn't like to use recycled materials for food containers at all. However, Koreans did not seem to react negatively to using the plastic recycled buckets for holding food for a short period of time.

The Comparison of Knowledge, Attitudes, Behaviors and Values in the Living Environment of MSU's on-campus Apartments

1) The Municipal Solid Waste Disposal Systems

A) The Korean Responses

Regarding the question asking their knowledge about municipal solid waste disposal systems in East Lansing including MSU or generally around the U.S., most Korean interviewees, except K #2, answered the recycling system. K #1 and 3 mentioned landfill sites for non-recyclable items. K #6 guessed that landfill sites would be somewhere in or around East Lansing.

Related to the question asking their concern about municipal solid waste disposal systems in East Lansing, only K #3 answered "very concerned." Other interviewees ranged from "not concerned" to "slightly concerned" about this matter.

K #1 was frustrated because there were no recycling programs in his apartment complex. He was concerned about recycling in Korea and he continued to be concerned about recycling while living on campus. But, as a matter of fact, MSU has a recycling program for residents living in on-campus apartment housing. However, he did not seem to get enough recycling information and the information he received about the MSU recycling program on-campus apartments was wrong. He didn't believe that he was as fluent in English as in Korean. He seemed to be less interested in reading materials in English. After all, he didn't get as much information about recycling as he used

to get in Korea. This language difficulty caused him to have negative attitudes about making special efforts to obtain information by himself.

Related to the question asking their potential efforts to improve recycling systems, K #1, 3 and 4 mentioned how they participated in on-campus paper recycling in their offices. K #6 mentioned collecting and refunding refundable cans and discarding non-refundable cans. K #6 said that he went to the store and redeemed refundable cans and bottles. It is for economic reasons and not necessarily for his concern about recycling because he threw away many non-refundable cans and bottles.

Related to the question about the importance of municipal solid waste disposal systems at MSU and in East Lansing for themselves, K #3 strongly said it was 'very important' and the others answered the question regarding recycling as 'important.' However, other interviewees seemed to force themselves to believe that it should be generally important for everybody anywhere they were. For example, K #2 said that "maybe in general, I guess it is important, but..." K #6 commented that "it is natural mind. It is less important here than in Korea."

B) The Mexican Responses

Regarding the question whether they knew about solid waste disposal systems either in East Lansing or in MSU, M #1 answered recycling of cans and plastics and also landfilling. M #2 answered recycling and he also commented about the waste disposal matter. "The U.S. have the problems of treatment of

gasoline, oil or hazardous waste. Even the U.S. have high technology but they have problems of waste." M #3 mentioned recycling and the processing of waste before landfilling it. M #4 spoke about a landfill site in East Lansing. He thought that general waste disposal systems in the U.S. are better than Mexican ones because Mexican people who wanted to solve their landfill problems visited the U.S. to learn from them.

However M #4 commented that in regards to the topic of biodegradability, Mexico does better than the U.S. M #4 commented that "we don't cover landfill sites [which helps] make garbage biodegrade. Here in the U.S., they cover landfill sites so that sunlight didn't help garbage to go through this biodegradable process."

M #5 responded that at least, he had not seen illegal dumping here in East Lansing but he didn't say any more about other waste disposal systems. M #6 also first mentioned the term recycling, but he commented that in terms of cost-benefit analysis, recycling was not always a desirable system everywhere.

Regarding the question whether they were concerned about the municipal solid waste disposal system in East Lansing and at MSU, M #1 and 2 answered that they were very concerned about this matter. M #3 and 6 answered that they were slightly concerned about this. M #4 and 5 answered no. Also M #4 commented that as long as it didn't affect Mexico, he wasn't concerned about it.

Regarding the question whether they had put some effort to make the municipal solid waste disposal system work better, M #1, 2, 3 and 6 answered

that they had and all of them made an effort to recycle. M #2 especially mentioned his voluntary work and that he was writing an educational paper on this subject for the Soil Conservation Service. However M #4 and 5 answered that they had not made any special efforts to improve the municipal solid waste disposal system.

Regarding the question whether they believed this matter was important to them while living in the U.S., M #1 and 2 answered it was important. M #3 answered that "Not in the waste disposal but recycling is important. I think waste disposal system is well established here... The recycling program [was] not well established but it is now and it will be[come] better and better." However, M #4, 5 and 6 didn't answer this question.

C) Implications

Both Korean and Mexican interviewees recognized the recycling program more than any other municipal solid waste disposal system in East Lansing. They seemed to pay less attention to the landfill system in East Lansing while both Korean and Mexican interviewees knew about and reacted to their own countries' landfill and their respective problems.

Interviews indicated that there might be a direct relationship between attitude and value about waste disposal. Korean and Mexican interviewees who were concerned about the waste disposal issue believed that it was also important to them.

The Korean interviewees, K #2 and 6, mentioned “natural mind”. In my analysis, Koreans are concerned about Korean waste problems because Korea is their country and Korea’s waste problems are their problems. Also they know more and have a better understanding about Korean problems. Therefore, it is easy for them to be concerned about the Korean waste problem. First of all, since it is not their country, so it is not easy for them to be concerned about America or other countries’ problems, secondly, Koreans assume that they don’t know about the problems of other countries. This natural mind may be interpreted as culturally related to nationalism. M #4 was the only Mexican who was strongly concerned about Mexico and less concerned about the U.S. thereby revealing his nationalism.

I noticed in general that Korean interviewees had a less positive attitude about municipal solid waste disposal issues in East Lansing than the same issue in Korea. It might be related to Korean nationalism. Interestingly, Korean interviewees showed stronger nationalistic feelings than Mexican interviewees.

2) The Word “Recycling”

A) The Korean Responses

Related to the question asking the familiarity of the word ‘recycling’ on campus, there were two very divergent answers. K #1, 4 and 5 answered that they were not familiar with the word ‘recycling.’ On the other hand, K #2, 3 and 6 answered yes.

Related to the question, whether they felt more familiar with the English word, 'recycling' rather than the Korean word, 'Jae hwal yong,' K #1 and 5 answered that they felt more familiar with the English word 'recycling' because they have lived here in the U.S. K #3 and 6 answered they were more familiar with the English word because they have heard, seen and participated in recycling at the office or at home in their on campus apartments. K #2 and 4 said that they had not used the word 'Jae hwal yong' in Korea because they felt more familiar with the English word 'recycling.'

B) The Mexican Responses

Related to the question asking the familiarity of the word 'recycling' on campus, all Mexican interviewees answered that they were familiar with it.

Related to the question, whether they felt more familiar with English word, 'recycling' than the Spanish word, 'Reciclaje,' M #1, 3, 4 and 6 answered that they felt more familiar with the English word. According to M #1 and 3, the reasons they felt familiar with 'recycling' were that they have heard more often and participated in the MSU on-campus apartment recycling programs. M #4 said that he also felt familiar with it because "it is much big deal [here in the U.S.] than in Mexico." However, M #2 and 5 answered there was no difference between the English word and the Spanish word. M #2 has lived in the U.S. for 2 months while M #5 has lived in the U.S. for almost three years. The other Mexican interviewees have lived in the U.S. for at least two years.

C) Implications

The word, 'recycling' was actually very easily understood by the interviewees. Advertisement for recycling in the school newspaper, community newspaper and flyers helped interviewees become familiar with the word 'recycling'. They also know what recycling is, how to recycle and what to recycle.

Interviewees who recycled seemed to be more positive and familiar with the word, 'recycling'. However, interviewees also commented that they also felt more familiar with the English word, 'recycling' because they lived in the U.S. and spoke English.

3) The MSU Recycling Program

[MSU has a paper recycling program for the whole campus and also has a recycling program for the on-campus apartments. Since 1990, the drop-off recycling program has been established in the MSU's on-campus apartment housing complexes. Since January, 1995, a curbside recycling program has been partially implemented in one section of the apartment housing section in the Cherry Lane apartments. However, this study does not distinguish or emphasize this new curbside recycling program from other programs.

The MSU recycling program for on-campus apartments asks residents to recycle several items such as paper, glass, tin, aluminum, steel, plastics, etc.

Paper is classified into white, mixed, magazine, newspaper, phone books, corrugated cardboard and brown paper bags. Glass is classified into clear, green and brown glass. Plastics is classified into clear plastic #1, translucent HDPE #2 and colored HDPE #2. The recycling truck visits the Cherry Lane and University Village apartments once a week and stays for three hours from 4 to 7 p.m. The drop-off recycling center is open twice a week from 10 a.m. to 3 p.m. and 10 a.m. to 1 p.m. in the Spartan Village Apartments.]

A) The Korean Responses

All interviewees answered that they knew about the MSU recycling program for on-campus apartments. K #2, 3, and 5 knew correctly that the MSU recycling program for on campus housing was a drop-off recycling program for recyclable items and that each apartment complex had a different weekly schedule for dropping off recyclable items. K #1 and 4 learned and knew about a recycling program for apartments through the university newspaper but they didn't know about all the recyclable items that were accepted nor the drop-off schedule.

K #2 knew about recycling and recycled at his office but he didn't recycle at home. He said "if I don't recycle [in the office], I will be embarrassed because everybody does." K #3 and 5 have participated in recycling so they knew how to recycle and what to recycle in their home apartments. However, K #6's response regarding recycling was somewhat inconsistent. He often didn't collect

non-refundable cans but he did sometimes and brought them to the drop-off recycling center at his apartment complex. Also he sometimes brought non-refundable cans and redeemable cans to the stores even though he said he was concerned whether the stores recycled them or not.

Related to the question asking their feeling about the MSU apartments recycling program, K #3, 4 and 6 said the programs were good. K #1 said that MSU recycling programs should be better advertised. He mentioned that since he didn't know how it worked, the items he could recycle and when he recycled, the program had problems. K #1 showed his frustration by saying, " I think it is not good enough because I ever don't know MSU recycling policy or program for apartment residents even though I am one of the MSU students and one of the residents."

K #2 said, "I think they are putting [in] lots of effort." K #5 complained that a drop-off recycling center at his apartment complex was too far from his apartment so that it was not easy to recycle compared to one in Korea in which there were drop-off recycling bins for several households in his apartment complex.

K #2 commented regarding recycling that:

"I think [recycling] is not the big picture... [Americans] are generating a lot of waste. Before they are thinking about collecting those materials (paper, milk jugs, plastics, bottles or old books), they have to think about how to package things and others. I think that's more important, not generating the waste. Also I notice that the more technology goes the best, we waste more. Like paper, when we don't have computer, we just write down on paper to make one page document. Now it's amazing.

You print something and then find out the errors. Then print again and again until your boss say it's O.K. In my experience, to print out one page document or so, I may have to print out 10 to 20 or even more pages. That's garbage. In a sense, technology makes our life better but we are making a lot of garbage, too."

Related to the question asking the importance of recycling programs in their life while living on MSU campus apartments, every interviewee except K #2 replied to this question as 'very important' or 'important.' K #2 answered, saying "I don't see any impact on me."

While K #4 thought that it was very inconvenient to bring and sort recyclable items, though the other Koreans said that it was not difficult to recycle things. Regarding this aspect, K #2 commented that "I guess you can say, 'you are lazy'. I don't want to spend time flattening milk jugs."

B) The Mexican Responses

All interviewees knew about the MSU recycling program for on-campus apartments. Regarding the question how they felt about the recycling program, all interviewees answered that they felt good about it. M #6 especially mentioned that he thought paper recycling program was very nice. M #5 commented that "I am doing my contribution to preserve environment and save it."

Regarding the question of participation in MSU recycling program, all interviewees answered that they have participated in the program. M #1 and 3 briefly explained how and what they recycled. M #5 mentioned that he started

recycling because of an American person he met at the Kellogg Biological Station in the summer of 1993. M #5 said, "I was aware of the importance of recycling but I didn't do it. But since I met a recycler at Kellogg Biological Station and talked with him about recycling, I have recycled and I felt good. It's easy to just throw away and I did. It takes a little time [to do recycling]..."

Regarding the question whether MSU recycling program was important for them, all interviewees answered that it was important. However M #4 said that recycling program was important but there were other things which were also important and people should have considered religion.

C) Implications

Implications of this sub-section are written and combined within the next sub-section, Participation in the MSU Recycling Program.

4) Participation in the MSU Recycling Program

A) The Korean Responses

Interviewees have participated in either paper recycling at the MSU campus or a drop-off recycling program in on-campus apartments.

Related to the question asking their feelings about their participation in recycling, K #2 and 5 said that they didn't have any special feeling. They said, "Just do it."

B) The Mexican Responses

M #1 explained his recycling as follows:

"I clean up containers. I separate and sort out and put recyclable into the three or four boxes [at home]. I pile up paper, too... I think that MSU or East Lansing should concern about fresh waste or food waste for recycling, too" (M #1).

M #2 said, "Separate plastics, glass, paper and milk jugs and bring them to the drop-off truck [near my apartment] once a week. I don't have newspaper so that I don't recycle it. Magazines are reused and then finally recycled."

M #3 also said, "Once a week, every Thursday. What we do is we use plastic bags from Meijer and we put cans after my wife washes them and I smash them to make them flat. For paper and newspaper, every Sunday, after we read it and then put it into the bags with other paper materials together. For glass, we separate clear and color bottles."

M #6 also named the items he has recycled. But M #6 stressed reduction of waste and unnecessary use so that he has tried to reuse things first as much as he could and then finally bring the items to the drop-off recycle center.

M #4 recycled paper and other plastic items because his roommate recycled these items. However, since his roommate has changed, he hasn't recycled anymore. M #4 also mentioned that he didn't recycle newspaper because he and his roommate didn't have newspapers to recycle.

Regarding the question about the comparison of MSU recycling program and Mexican recycling programs, M #2 said that he couldn't compare them because MSU has researchers, enough resources to implement program, and people who were concerned about recycling, but Mexico didn't have any of these things. M #4 said that he felt more familiar with the MSU recycling program than Mexican ones because he was more aware of the MSU recycling program and he could get more information about recycling from the news or newspaper in East Lansing and MSU than he could in Mexico. The other interviewees said that they were more familiar with the MSU recycling program.

Regarding the question asking their feelings when they participated in the recycling program, interviewees answered that they felt good about it and it was worthy and important to do.

Regarding the question of the importance of participation in the recycling program, they answered that it was important. However M #4 again commented about the importance of his religious attitude and life beyond participation in recycling.

Regarding the question why other people living in MSU on-campus apartments didn't recycle, M #2 said that people were lazy and said the MSU

recycling program was relatively easier than Mexican ones. M #3 said that many people lived by themselves so that they didn't have many things to recycle and they often ate out. M #3 mentioned another reason that it might be difficult for many people who live alone to make time to recycle because recycling hours were from 4:00 to 7:00 p.m., once a week in his apartment complex. M #5 mentioned three reasons: 1) the difficult process of initially preparing for recycling such as washing and flattening milk jugs or cans, 2) the problem of storage space in the apartment, and 3) the facility or containers for recyclable items.

M #4 observed that people didn't recycle because it was not enforced.

M #4 believed that if recycling was enforced, everybody would recycle, while

M #3 said that if recycling was mandatory, then it would be more stressful.

C) Implications

All interviewees knew about the MSU recycling program on campus apartment housing. All Mexican interviewees have participated in recycling through the drop-off recycling program. And so have three of the Korean interviewees. The other three Korean interviewees didn't participate in a drop-off recycling program at on-campus apartment housing but they have recycled paper in their respective academic department on campus. The interviewees' attitude regarding recycling on campus were positive and they believed that participating in recycling was important.

In the case of K #2, 3, and 6 and M #3 and #6, the MSU drop-off recycling program and paper recycling on campus influenced them to participated in recycling as well as encouragement from Americans who have recycled and asked them to recycle.

5) Recycling and Gender

A) The Korean Responses

Regarding the question whether they thought American women or men were more concerned about recycling, K #1 said he had no idea. K #2 said maybe women because "they are picky about everything." The other interviewees said there was no difference between women and men's concern about recycling. Simply stated, they thought American women and men seemed to recycle equally.

Regarding the question why they thought men and women were equally concerned about recycling, K #3 and 4 said that it was their impression from American people. K #5 said that "it is public notification. Public notification focuses on person who currently work for house chores. It is not a gender matter as well as a cultural matter."

In regards to their feelings about no differences between American women and men, they often expressed that all American people were educated

about recycling when they were young so that it seemed natural that there were no differences in recycling between American women and men.

B) The Mexican Responses

Regarding the question, whether they thought American women or men were more concerned about recycling, M #1 and 3 answered that American women were more concerned about recycling. M #1 said, "I saw common women have idea about recycling."

Then M #1 was asked which gender had he seen more often when he went to the drop-off recycling truck. He answered, "I saw more men than women. But women are in the charge of taking care of waste at home. But men come to recycling center to recycle..."

M #3 further said, "people who separate [garbage] are women basically... they prepare food...so they have options of either throw them away or recycle..." In addition, M #3 mentioned one of his other thoughts about gender and recycling, saying that "it is more than the gender. It depends on who cooks or who take care of whatever materials."

The other interviewees responded that they either didn't know or they didn't have any idea about it.

In regards to the question of their feelings about the above answer, M #3 said that the difference between Mexican women and American women regarding recycling was affected by education. He said that in the U.S.,

American women received better information and education regarding the environment and recycling than Mexican women received. It helped American women be more aware of recycling. Therefore, American women seemed to be more concerned about recycling than Mexican women.

C) Implications

Questions about gender and difference were one of the most difficult issues to discuss with interviewees. Many interviewees, especially, Mexican interviewees were reluctant to talk about this issue.

However, it was indicated that Korean interviewees had different attitudes and beliefs about gender difference in term of recycling activity in Korea than in East Lansing. Korean interviewees believed that Korean women were more concerned about recycling in Korea. But they believed that American women and men were equally concerned about recycling and there was no difference between American men and women regarding recycling.

The Korean interviewees' attitude about Korean women being more concerned with recycling, was accepted as the Korean national character and the reality of Korean society. On the other hand, Korean interviewees' attitude about American women and men being equally concerned about recycling, was accepted as American culture. They believed that because of equal education given to American women and men made Americans care equally about recycling.

6) Government and School Education about Recycling

A) The Korean Responses

Regarding the question asking about their knowledge about East Lansing and other American governments' education of people about recycling, K #4 said that he had never heard about it. The other interviewees assumed that American government has educated people because they could see television programs or other propaganda about recycling on public TV channels, in newspapers and also on recycling flyers.

Regarding school education about recycling, K #1 said, "most American elementary schools including pre-schools have environmental education programs as well as recycling education programs." However the other interviewees said that they were not sure about educational programs. However, they presumed that American schools must have some programs for recycling.

They all felt good about this kind of governmental education. Their common opinion about recycling education as well as environmental education from governments and schools was that they should keep educating people and improving education programs to meet people's needs and interests.

B) The Mexican Responses

Regarding the question asking about their knowledge of recycling education organized by East Lansing government and schools, M #2, 3, 5 and 6 answered that they knew there were recycling education programs from the government. They saw recycling education programs being advertised to the public in newspapers, community newspapers or on public TV. While the other interviewees said that they were not sure about recycling education from schools, M #5 mentioned recycling educational flyers or recycling information in the MSU school newspaper.

M #1 and 4 said that they were not sure whether governments and schools in East Lansing had recycling education programs. Nevertheless, M #1 assumed that there might be recycling educational programs from both government and schools.

M #6 commented that it was not the real problem whether educational programs existed or not. M #6 said, "[the problem was that] people here don't know why it is necessary... and the [educational] programs are not efficient [sufficient]."

However M #1 had a thought slightly different from M #6. M #1 also emphasized the importance of the role of government in his interview:

"The most of people at MSU or East Lansing know there are recycling programs even though they don't participate in recycling. But in Mexico, many people don't know the meaning of recycling and why recycling is important, what kinds of programs are good, etc.. It is different level of awareness between Mexicans and Americans... In Mexico, governmental participation is first and Mexican governments have the main role of leading recycling programs because of people's lack of knowledge. But in

the U.S., local organization or communities have main roles because people know what recycling programs are. I think it is because of the difference of development of this issue."

M #3 commented that:

"[recycling education] should start in the schools through governmental directions... I have never taught about recycling programs [in Mexico]. Now I've learned recycling programs and system after I came over here. It's kind of new to me. One of things I have learned is that recycling programs are basically kinds of willingness programs, which means if you want to do it, it is good so landfill sites are not filled with recyclable materials. And also all the garbage would be reduced... In Mexico it is not [a] voluntary program."

While other interviewees mentioned the positive aspect of recycling education from public TV, M #2 insisted that "technology and TV encourage people to buy more [than what they need] and then it causes more waste."

Regarding the question asking their feeling about recycling education from governments and schools, M #1, 2, 3 and 5 answered that they felt good. M #6 said that he was in favor of it.

C) Implications

Both Korean and Mexican interviewees believed that the U.S. and state governments and schools have fulfilled their roles of educating people about recycling. They reflected their expectations of their own governments and schools potential reactions to recycling when they were asked to comment about the role of the U.S. and state governments and schools regarding recycling.

However, it was observed that interviewees didn't have as many opinions and attitudes about the U.S. and state governments and schools in comparison to comments and opinions about their own governments and schools.

7) The Products Containing Recycled Materials

A) The Korean Responses

Regarding the question about products containing recycled materials, their common answers were recycled bottles, recycled plastic containers and paper products such as cards, printing paper, notebooks, envelopes, napkins and toilet paper.

K #3 mentioned recycled coffee filters and K #4 pointed out a specific brand which used recycled containers for their products. All interviewees said that they felt good about the products containing recycled materials and they have bought some of those products. However, they seemed to prefer good quality recycled products. So, even though they all felt good about the fact there were recycled products available, they didn't prefer to buy it if the quality of recycled products is not as good as the quality of virgin products.

B) The Mexican Responses

Regarding the question about products containing recycled materials, M #1 said plastic containers, plastic products, paper products such as cards and toilet paper. M #2 said paper products. M #3 answered, "those products are boxes for cereal, all detergent or plastic bottles, some school items like folders, paper, and napkins and toilet paper." M #4 said only notebooks, and he said that "I go shopping to only buy food so that I don't know about it." M #5 also mentioned notebooks, other paper products and glass bottles. M #6 said some plastics, glass and cheap wood board contained recycled materials.

Regarding the question asking their feeling about those products, all interviewees answered that they felt good. M #5 said that before he became a recycler, he didn't care about the products containing recycled materials. But, after he became a recycler, he cared much about the products containing recycled materials and their qualities.

M #3 made some suggestions regarding the conditions of the recycled products he would buy: products should meet their needs such as good strength and inexpensiveness. M #4 said that he bought recycled notebooks because they were cheap, however M #6 said that he didn't buy recycled products because they were expensive. In addition, M #6 commented, "they are selling me the idea of moral righteousness not the quality of products."

Regarding the preference of buying recycled products, M #1, 2 and 3 answered they preferred to buy recycled products and M #5 said that it

depended on purpose of using recycled products. M #4 said that he preferred to buy only recycled notebooks because they were cheaper. M #6 said that he didn't prefer to buy recycled products.

C) Implications

Interviewees named many more diverse U.S. items and products containing recycled materials in comparing with their knowledge about Korean and Mexican products containing recycled materials. Paper products containing recycled materials were more broadly accepted and purchased than any other products.

Unlike the Korean interviewees' complaint about the low quality of Korean products containing recycled materials, both Korean and Mexican interviewees seemed to be satisfied with the quality of products containing recycled materials.

8) The Relationship between the Length of Time Living in MSU On-Campus Apartments and Participation in Recycling

A) The Korean Responses

Regarding the question whether they thought there was some relationship between the length of time living in the MSU on-campus apartment housing and becoming recyclers in campus apartments, K #1 said, "if MSU doesn't educate,

non-recyclers will not be recyclers." K #2 and 5 were not sure about that. K #4 answered that a recycling program itself didn't influence people to recycle.

In contrast, K #3 said that because of social acceptance, if people lived longer in university apartments, they had more chances to learn about recycling programs and it would be accepted as a part of their lives. K #6 said, "a living environment which has recycling programs and [environmental] concern can make people become recyclers. People can be recyclers step by step."

B) The Mexican Responses

Regarding the above mentioned question, M #1 answered that he was not sure about that. M #2 mentioned something similar to Korean interviewee #1's answer. M #2 said, "if knowledge is informed to people, they can be recyclers. But it might depends on how much their original countries care about recycling and environment." He said that if students come from the countries where recycling is not encouraged, but if they are well informed about recycling in the U.S., then they might become recyclers in the U.S.

M #3 had a similar opinion to K #3 and K #6. M #3 said, "if you live here two years, then you have high possibility to become a recycler." He also commented about how long the length of time one might need and how people might react about recycling programs as their experience at MSU lengthens (see Appendix C).

M #4 exemplified his ex-roommate as a person who became a recycler in the U.S. and said that it was because of social acceptance just as K #3 said. M #4 also added, "if you want to be socially accepted, then you don't smoke in this society and that is the U.S. culture. People are convinced by society and by goodness of society."

M #5 said that the possibility of becoming recyclers was high for people who came from countries where recycling programs were not there. He also said that if he lived in other place, he would be not sure whether he would become a recycler. He said also the facility and recycling programs encouraged him to recycle and to change his habit of throwing away garbage. M #6 agreed with M #4 and he mentioned that first, recycling programs were available in many places in the U.S. as well as at MSU and secondly, people were convinced to think that recycling was the right thing to do in the U.S.

C) Implications

To study recycling behavior changes when recycling programs were available, interview questions were asked about their thoughts or observations about other people's recycling behavior changes instead of their own behavior changes.

K #3, K #6 and M #4 stated a similar opinion. They believed that people do change and start to recycle because of social acceptance (Smith & Bell,

1992; Lucia, 1990; Sjöberg, 1989; Kiesler, 1971). K #2 and K #6's recycling behavior changes would be examples of showing social acceptance.

K #1, K #4, K #6, M #2 and M #5 believed that not only recycling programs but also other efforts from recyclers or consistent recycling education influenced people to change their recycling behaviors. K #1 and M #2 emphasized the importance of good information and knowledge to help or influence people's recycling behavior changes (Arbuthnot, 1977).

The Comparison of Interviewees' Discussion and Self-Assessment of Their Attitudes, Behaviors and Values about Recycling

There have been many studies done regarding attitude changes and behavior changes (Shepherd, 1985; Rokeach, 1976; Paicheler, 1976; Mussen, 1972; Ajzen & Fishbein, 1972; Ajzen & Fishbein, 1970; Lindzey & Aronson, 1969; Fishbein, 1967).

Recycling attitude changes and behavior changes of values were extensively studied in the last two decades (Katzev, et al., 1993; Katzev & Mishima, 1992; Diamond & Loewy, 1991; Oskamp, et al., 1991; Lucia, 1990; Vining & Ebreo, 1990; Cialdini, et al., 1990; De Young, 1986; and Hamad, et al., 1977).

[[Diamond and Loewy (1991) studied recycling attitude change by setting up a reward system for those people who participated in recycling. They tested people's recycling attitude change on the condition of probabilistic rewards. They reported that people who won the lottery and received a reward had the most attitude change (Diamond & Loewy, 1991).

Oskamp, et al. (1991) investigated the factors which encouraged or prevented recycling. They found that in general, environmentally responsible behavior was strongly predicted by conservation knowledge and recycling for cash was strongly related to environmentally responsible behaviors.] Also, they

implied that social influence could be a good stimulus to encourage people to participate in recycling (Oskamp, et al., 1991).

Vining and Ebreo (1990) studied the differences in knowledge, motives and demographic characteristics of people who recycled voluntarily in order to study their recycling behaviors. Also De Young (1986) studied people's satisfaction derived from the recycling of household solid waste materials. He discussed satisfaction from different scales in recycling, such as frugality, self-sufficiency and participation. He found that recycling behaviors were positively associated with satisfaction from frugality (De Young, 1986).

A) Korean Interviewee #1's Responses

He mentioned his negative impression about American people regarding recycling. He said:

"In the U.S., there are good environmental programs but people don't care about it...say yes but no action to recycle... But in Korea, there is no environmental programs, but people care about environment. Also the governments and people are different between two countries."

However, K #1 had a more positive viewpoint about the U.S.'s recycling education for children. He was impressed and mentioned that "they (environmental educators) focus on the coke cans to educate recycling in the programs and talk about how to recycle, what material of can is composed of, etc. So it seemed to be very useful..."

Regarding his recycling attitude, he said that his recycling attitude became worse. He mentioned three reasons which caused him to become less favorable of recycling:

“First, in Korea, I could get information about recycling easily. But in the USA, it’s difficult to get information about recycling or environment. Second, because of language problem. Reading newspaper in Korean is easier than in English. Third, I usually talk about this issue with my friends but here I don’t have relationships with other people to talk about recycling or environment.”

Regarding his recycling behavior, he said, “[In Korea] I can find easily the way, how to recycle so that it’s easy to involve in recycling. But in the U.S., it’s a little bit difficult to find how I can recycle or etc.. That’s the biggest reason to change my recycling behavior.. So my behavior is changed toward less recycling than before.”

Regarding his value regarding recycling, he mentioned a positive change. He said, “My value is more increased than before... I also have read many newspapers or articles about environmental issues so my value about recycling is improved.” He commented that he wanted to recycle in Korea after going back to Korea as he used to do and he wanted to retain his improved value toward recycling and expected his recycling behavior to be enhanced in the future.

B) Korean Interviewee #2’s Responses

He commented about American people’s attitude and behavior regarding recycling. He said, “They [Americans] are aware of the concept of recycling. And even though they generate lots of waste... I am not very positive when I see

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the big picture. I think they are looking at very minor things right now. But I said before, they have to see a big picture, how to reduce the waste."

Regarding the desirable recycling programs from the U.S., he implied that since people in Korea and the U.S. had different living styles, eating habits, heating and culture, the problems of waste would be different and the system Korea needed might be different from what the U.S. has. He also mentioned that Korea didn't need other recycling programs because other recycling programs might not be suitable to Korean situations. He said that Korea had a new recycling program implemented this year and it seemed to work very well..

Regarding his recycling attitudes, he answered that he has become more positive about recycling. Regarding his recycling behaviors, he answered that "maybe a little bit, because I put garbage paper into the recycling bins which I didn't do at all in Korea." Regarding his value toward recycling, he also insisted that "living in America didn't make any contribution to change my values and attitudes," even though he mentioned his new values about recycling within the interview. He also said he would keep his recycling behavior because Korea started to have mandatory recycling programs. He agreed that the enforcement of recycling was necessary to make recycling effective.

C) Korean Interviewee #3's Responses

He had a very positive impression of the U.S. people's recycling behaviors. He said, "They do participate in recycling very well. They always

check out waste before they dump it.” He thought that the U.S. people were more familiar with recycling than Koreans. He also mentioned the bottle or can deposit system and drop-off recycling center were desirable recycling systems.

Regarding his recycling attitudes, behaviors and values, he said that his recycling attitudes, behavior and values were all improved.

He agreed that was very much influenced by the MSU recycling program and other people who recycle. He wanted to continue to participate in recycling back in Korea because he said, “it’s good to do and we need it.”

D) Korean Interviewee #4’s Responses

He said his impression about the U.S. people’s recycling attitudes as follows: “they are very concerned about [recycling].” Actually my office-mate brought the box for recycling. I just collected some white paper and I brought it to my office. Sometimes it was very inconvenient. But after he made a box for himself and me in our office. It is quite convenient so [now] I recycle...” He also agreed that the U.S. people at MSU and East Lansing were more familiar with recycling than Koreans. He also suggested that the bottle and can deposit system in Michigan was a desirable recycling system.

Regarding his attitude, he said that his attitude toward recycling has improved. He felt good about this improvement. He spoke about his change in recycling behavior. He said, “I do recycle paper. Sometimes I collected bottles to get refund. Yes, I think my behaviors are changed.” He seemed not to have

~~any chances to recycle in an organized system.~~ Therefore, he said he didn't recycle anything in Korea.

Regarding his value toward recycling, he said, "a little, just a little changed, a little improved. But I think if I go to Korea, I will probably improve it more because Korea is my country. I know it is not good but... Of course, if I don't follow the rule which is enacted in Korea about recycling, I [will] have to pay [a] fine so I [will] recycle, anyway."

He also agreed with K #3 about the positive influence the U.S. people's recycling attitude and recycling programs have had on him.

E) Korean Interviewee #5's Responses

He felt positive about the U.S. people's recycling attitudes and behaviors and agreed that they were more familiar with recycling than Korean people. He commented that "the U.S. people have concept of recycling so they understand it better." However, he said that most U.S. recycling programs were not desirable because Korea's current recycling program was sufficient. Later in the interview, he conceded that the U.S. bottles and can deposit system was a desirable recycling program.

Since he had recycled in Korea before coming over the U.S., he answered that his attitude, behavior and value toward recycling were about the same.

F) Korean Interviewee #6's Responses

K #6 said:

"I am impressed by the [recycling] systems. Always they have different bins or boxes for different recyclables. I think system is very important. Whenever I go to Meijer to return cans and bottles, I can easily get refund money. I don't have any problem from refusing my cans or bottles unlike in Korea. It's easy to do it."

Many stores in Korea have refused returnable glass bottles because they have problems of bottle storage in their stores until the sponsoring companies take them.

"Also it's very easy for me to find separated boxes for recycling... I think [the U.S. people's] behavior of recycling is better than Koreans. For example, whenever I throw out newspaper, they came to me and told me, 'don't do that' in my office." He liked the bottles and can deposit system and well-organized recycling bin distribution and maintenance."

Regarding his attitudes, behaviors and values on recycling, he said that his attitude and behavior about recycling have changed and his value toward recycling improved in some ways. He also said that he would keep recycling after returning to Korea because of mandatory recycling in Korea and because of the desire to keep the environment clean. At last, he commented that "the U.S. [people] are good influence[s] [for] me in [regards to] recycling. [They] make me think more about environment deeply and seriously."

G) Mexican Interviewee #1's Responses

He first mentioned his negative impression about the U.S. people and recycling system. He said:

"There is a contradiction in some aspects. There are increasing awareness of recycling program. It is important. There is the lack of awareness why they, Americans should recycle and they should reduce to

generate municipal waste. They usually buy, for example, frozen vegetable instead of fresh vegetable. Maybe because of easiness... They think recycling can reduce garbage or waste but they don't think they should reduce waste from unnecessary consumption. This is the contradiction of system and people's behaviors. I think the problem of waste will be caused by the problems of consumption. American people over-consume."

However he agreed that the U.S. people were more familiar with recycling than Mexicans. The desirable recycling systems he said were recycling centers and products using recycled materials. But he emphasized that the Mexican deposit system was better than the U.S. one.

Regarding his recycling attitudes, behaviors and values, he said that his attitude and value toward recycling improved and his recycling behavior has improved because of the availability of recycling facilities here at MSU.

Regarding the future recycling activity, he said he would recycle if there were recycling programs in Mexico. He also said, "Even though there is no recycling program [in Mexico], I am willing to organize recycling programs in my home town."

H) Mexican Interviewee #2's Responses

He spoke about his impressions of the U.S. people's recycling attitudes and behaviors as follows: "I think Costa Rica people have more concern about recycling than even American people. But American people are concerned about recycling, always talking about it and they know well." He also agreed that the U.S. people were more familiar with recycling than Mexicans. The desirable

- recycling systems he mentioned was recycling incentives such as deposit or redemption. Technology related with recycling and the skill of implementing recycling programs were desirable, too.

Since he was a recycler and actively involved in implementing recycling programs, he expected that his recycling attitudes, behaviors and values would be improved if he stayed and continued to study in the U.S.

I) Mexican Interviewee #3's Responses

His impression about the U.S. people's recycling attitudes and behaviors was that:

"most of people who recycle are really good and know that it is good for their environment. And general people who don't recycle and wish they could recycle, but they maybe still, maybe it is real.... I think people are willing to do this thing, just people say that they are concerned about environment. On the other hand, others are those who don't really care about environment. There is always people who are good and who are not good, just like governments. Some people like Democratic and some like Republican."

He also strongly agreed that the U.S. people were much more familiar with recycling than Mexicans. He implied that many aspects of the U.S. recycling programs were desirable but because of serious Mexican economic problems, they can not implement recycling programs very soon.

According to him, when he was in Mexico, there were no institutionalized recycling programs in Mexico and he never experienced recycling activities except collecting newspaper and returning bottles for helping with home finances.

He suggested the following idea for a feasible recycling method for Mexico:

"the same people who serve for collect waste now and if the same trucks are designated for different material collectors such as one for paper, one for glass and one for general garbage to landfill. People dump their waste and recyclable materials as usual. Trucks pick them up. That will work and it will be the best economically to do."

Regarding his recycling attitudes, behaviors and values, he said that all these aspects regarding recycling have changed and improved while living in the U.S. He also said, "Actually I appreciate that I have been changed. Basically through information I got through my participation of bringing all these recyclables to a recycling truck. I am changed and it is important."

J) Mexican Interviewee #4's Responses

His impression about the U.S. people's recycling attitude and behaviors was that:

"I don't think I can judge them because I don't know much about American people and their recycling. Maybe I know the U.S. people seem to talk about recycling. But I haven't had conversation to talk about recycling with American people. I have never seen them recycle. Whenever they talked to me, I assume that they do. I have never thought about their recycling attitude or their behavior about recycling... I don't know. They seem to... they can't see their country's problems and they think... They really talk about recycling but they don't care about this issue."

Regarding the desirability of U.S. recycling systems, he answered that "maybe if it costs less, the cost of equipment is not expensive, then yes [those are desirable]... also their technology for recycling"

Regarding his attitudes and values on recycling, he said that his values and attitudes have changed and said, "because MSU recycling program gives me much information about recycling. After I came here, I felt that recycling is one of the most important issue to people." However, he said that his recycling behavior has not changed. He said that not changing his behavior was because of moral issue. He seemed not to consider his previous and temporary recycling behavior as change when he discussed this question. Similar to K #2 and K #4's feelings, he commented that "I will participate in recycling in Mexico because it is something for my country."

K) Mexican Interviewee #5' Responses

He said, "[the U.S.] people are better educated about recycling and they so care about recycling and they don't mind going through the process of recycling." He also agreed that the U.S. people were more familiar with recycling than Mexicans. He said that "implementing recycling and coordinating recycling equipment such as the truck and recycling bins in communities and the bottle and can deposit systems were very desirable."

Regarding his recycling attitudes and behaviors, he said that he developed a new attitude and changed his behavior regarding recycling. He didn't recycle before and since he met a recycler who impressed him very much, he began to recycle. He said that his values toward recycling has changed and improved and the MSU recycling program has helped him consider recycling,

too. He commented, "I am convinced recycling is necessary. We have to convince other people about the importance of environment... I am an example. People can be changed."

L) Mexican Interviewee #6's Responses

He answered that the U.S. people were more familiar with recycling than Mexicans. He didn't want to answer questions about his impression of U.S. people's recycling. He had a difficult time determining whether there was a change regarding recycling his attitude, behaviors or values. He has lived in the U.S. since 1975 so that it was not easy to say what were his old values or attitudes in Mexico or his values from the U.S.

Besides, recollecting his 20 years of living in the U.S., it was difficult to summarize his attitudes, behaviors, and values regarding recycling. Sometimes he recycled or reused because of economic reasons and sometimes he didn't because there was no space for recyclables, etc.

M) Implications

Korean interviewee #1 had recycled in the community recycling program in Korea and participated in the Korean environmental movement. His recycling attitudes and behaviors were negatively changed. As he mentioned, it seemed difficult for him to communicate in the U.S. because of his English ability and the lack of friends who could share his interest in the environment. However his

value regarding recycling has been positively changed and improved due to his study of the environment .

Korean interviewee #2 had not recycled because there were no institutionalized recycling programs in Korea. He has participated in paper recycling on campus. He has positively changed his recycling attitudes and behaviors. His recycling value seemed to be improved but he denied it.

Korean interviewee #3 had recycled in the community recycling program in Korea. He has participated in recycling in the MSU on-campus apartment housing recycling program. His recycling attitude, behavior and value have all improved.

Korean interviewee #4 had not recycled because there were no institutionalized recycling programs in Korea. He has participated in paper recycling on campus. He has positively changed his recycling attitudes, behaviors and value.

Korean interviewee #5 had recycled in the community recycling program in Korea. He said that his recycling attitude, behavior and value have not been changed because of his being in the U.S. He has recycled at MSU and he said that he recycled as much as he had recycled in Korea.

Korean interviewee #6 had not recycled in Korea because there were no institutionalized recycling programs. He has participated in recycling in the MSU on-campus apartment housing recycling program. He has positively changed his recycling attitudes, behaviors and value.

Mexican interviewee #1 had recycled in the community recycling program in Mexico. He has participated in recycling in the MSU on-campus apartment housing recycling program. He has positively changed his recycling attitudes, behaviors and value.

Mexican interviewee #2 had recycled in the community recycling program in Mexico. He has participated in recycling in the MSU on-campus apartment housing recycling program. He has been at MSU for just two months so that changes in recycling attitude, behavior and value have yet to be recognized. But he was positive about his potential future changes in attitude, behaviors and values regarding recycling.

Mexican interviewee #3 had not recycled in Mexico because there were no institutionalized recycling programs. He has participated in recycling in the MSU on-campus apartment housing recycling program. He has positively changed his recycling attitudes, behaviors and value.

Mexican interviewee #4 had not recycled in institutionalized recycling programs in Mexico because it was not available in his home town. He has recycled at MSU before and now he doesn't recycle. It seemed that his value on recycling has been positively changed. He insisted that his recycling attitude and behavior haven't been changed. However, he stated that he would recycle in Mexico. He didn't recycle because the U.S. was not his country.

Mexican interviewee #5 had not recycled in community recycling programs in Mexico. He has participated in recycling in the MSU on-campus

apartment housing recycling program. He has positively changed his recycling attitudes, behaviors and value. He was influenced by an American recycler and from then on he seemed to have a positive attitude about recycling.

Mexican interviewee #6 emphasized reusing things in Mexico before he came to the U.S. and there was no institutionalized recycling program. He has participated in recycling in the MSU on-campus apartment housing recycling program. He seemed to improve his attitudes, behaviors and values about recycling since 1975 when he came to the U.S.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Summary

The purpose of this study was to learn more about Korean and Mexican cultural influences regarding recycling through Korean and Mexican international students' recycling attitudes, behaviors and values. It also intended to explore each interviewee's changes regarding his/her recycling attitudes, behaviors and values as he/she has experienced the U.S. culture in a university setting, more specifically in Michigan State University (MSU) and in its surrounding areas.

The objectives of this study included: (1) understanding Korean and Mexican international students' knowledge related to recycling in their own countries; (2) exploring and comparing Korean and Mexican international students' attitudes, behaviors and values regarding recycling in their own countries; (3) understanding Korean and Mexican international students' knowledge related to recycling in the U.S.; (4) exploring and comparing Korean and Mexican international students' attitudes, behaviors and values regarding recycling in the U.S.; and (5) understanding Korean and Mexican international students' recycling attitude, behavior and value changes.

The method of this study was in-depth interviews. All six Mexican graduate international students who lived in MSU's on-campus apartment housing were willing to be interviewed. The researcher contacted 48 Korean

graduate international students but only six Korean students who lived in MSU's on-campus apartment housing were willing to be interviewed. Interviews were conducted from March 3 through March 14, 1995.

The interview questions were designed to reflect the research questions. They were arranged into four sections. The first section of interview questions was related to the personal characteristics of interviewees. The second section of interview questions was related to the first and second research questions. The third section of interview questions was related to the third and fourth research questions. The fourth section was related to the fifth research question.

The distinct similarity between the Korean and Mexican cultures was the gender differences in recycling. In both countries, the interviewees recognized that women were much more familiar with solid waste concerns and recycling than men. Traditionally, in both cultures, women were considered as the ones who had to take care of the home and who were also supposed to spend most of their time at home. Therefore, women, being at home, had more opportunities to familiarize themselves with recycling than men.

Besides the similarity in gender differences, the findings demonstrated that there were no other distinct differences between the Korean and Mexican cultures regarding recycling.

According to the findings of the various sub-sections such as the recycling programs, participation in recycling, government and school education about recycling and the products containing recycled materials, recycling

seemed to depend on the extent that people were aware of its importance and how much people were concerned about it. Also recycling seemed to depend on whether the recycling program was close by and also whether it was convenient to each person's daily schedule. Sometimes people were concerned and aware of recycling, but they didn't recycle because they were busy with other matters during the scheduled times for the drop-off recycling programs.

Recycling, especially organized or institutionalized recycling, also depended on the economic situations of the communities and countries where there were recycling programs. The economic status of the community or country might have been a large constraint to recycling because implementing organized recycling programs required a lot of human and economic resources. Because of a lack of resources and organized recycling programs, even though people were concerned about recycling, they were not able to recycle as much as they would have liked.

Therefore, the study's findings indicated that especially organized or institutionalized recycling did not seem to be strongly influenced by culture. It seemed that other factors such as convenience and economics mentioned above influenced people's recycling attitudes, behaviors and values rather than their culture.

However, the findings demonstrated that it was important to recognize the differences of each culture such as their customs, languages, and religions in

order to overcome any difficulties of implementing any recycling programs among foreign people or international students.

Summary of results of research questions

1. What knowledge related to recycling did Korean and Mexican international students have in their own countries?

: Each interviewed Korean and Mexican international student seemed to possess diverse knowledge about general waste disposal and its problems in their own countries. However, the interviewees seemed to possess relatively little knowledge related to recycling and its relevant issues in their own countries. One of the reasons of possessing relatively little knowledge about organized or institutionalized recycling was that the majority of the interviewees have recycled in the informal and unorganized recycling activities but haven't had chances to be involved in organized and institutionalized recycling programs in their countries.

2. What kinds of attitudes, behaviors and values related to recycling did Korean and Mexican international students have in their own countries?

: In terms of recycling attitudes and behaviors, the Korean and Mexican students who had participated in community recycling programs in their own countries seemed to possess more positive attitudes and behaviors than the others who had not. Regarding recycling values, the interviewees seemed to

value recycling or its relevant issues either strongly or moderately. The Korean and Mexican students seemed to have very few negative attitudes, behaviors and values about recycling and its relevant issues in their countries.

3. What knowledge related to recycling do Korean and Mexican international students have in the U.S. (or at Michigan State University)?

: The Korean and Mexican students seemed to possess, in general, more knowledge related to recycling and its relevant issues in the U.S. or at Michigan State University than in their own countries. The large amount of information about recycling and its relevant issues and also their participation in recycling in the U.S. or at Michigan State University seemed to have influenced how Korean and Mexican students obtained more knowledge related to recycling and its relevant issues in the U.S. or at Michigan State University.

4. What kinds of attitudes, behaviors and values related to recycling do Korean and Mexican international students have in the U.S. (or at Michigan State University) where recycling programs have been actively implemented?

: In terms of recycling attitudes, behaviors and values, the Korean and Mexican students seemed to possess more positive attitudes, behaviors and values in the U.S. at Michigan State University than in their countries.

5. Have Korean and Mexican international students changed their recycling attitudes, behaviors and values in the U.S.?

: The majority of the Korean and Mexican students have positively changed or improved their attitudes, behaviors and values related recycling and its relevant issues in the U.S. and at Michigan State University.

Discussions

This study was conducted with many limitations. One major limitation was the low percentage of students willing to be interviewed. For example, 48 Korean graduate international students and their families were asked to be interviewed. However, only six Korean graduate students were willing to be interviewed. The willingness to participate rate for Korean graduate international students was only 8 percent. Interviews were initially planned to include the families of Korean international students in addition to the international students. However, all of the Korean students' families refused to be interviewed. For example, Korean parents or spouses of the international students refused interviews for the students. One of the reasons for the refusal was that they were informed that the interviews would be conducted in English.

Because of the number of samples in this study was small, this study could not provide sufficient results to make generalizations of the Korean and Mexican international students' recycling attitudes, behaviors and values nor

generalizations about cultural influence of the U.S. on all Korean and Mexican international students.

Another limitation was that there were too many interview questions so that interviewees became tired of answering all the interview questions. Therefore this was a constraint from producing a high quality interview.

The third and final limitation of the study was related to the researcher's lack of interviewing experience.

However, the researcher does detect a richness to the contents of each interview. This may be a positive result for using the in-depth interview methodology.

Recommendations

Recommendations for the Korean and Mexican Governments

The study's findings indicate that the Korean and Mexican governments should be involved in implementing recycling programs and also to encourage people to participate in recycling programs in their respective countries.

The second recommendation is that they should help and encourage elementary schools to educate students about recycling as well as about the environment.

The third recommendation is that they should establish labeling systems on the products containing recycled materials so that it will help people

recognize the recycled products they purchase and how their recycling efforts are being truly used in the marketplace.

The fourth recommendation is that they should encourage industries to produce recycled products and to develop technologies for producing better products containing recycled materials.

Recommendations for Recycling Program Coordinators

This study indicates that the recycling program coordinators who are concerned with foreign people should understand the differences of a foreign person's language. Therefore, one recommendation from this study is that they should consistently educate people about recycling when they implement recycling programs among a foreign population.

The other recommendation from this study is that, in particular, when foreign people have serious language barriers, recycling program coordinators should develop diverse ways of informing foreign people about recycling programs such as writing flyers about recycling in foreign languages, as well as holding community meetings, and recycling open-houses in a foreign language rather than just in the foreign language or using other information methods rather than just writing in English.

Recommendations for Future Research

This study has demonstrated how the U.S. culture has influenced Korean and Mexican graduate international students regarding recycling. Even though the sample population of this study was very small and not sufficient to make generalizations, the study indicated that Korean and Mexican students have positively changed their recycling attitudes, behaviors and values.

Therefore, this study recommends that further research be conducted regarding the international students' recycling attitude and behavior changes with a larger sample population so that more generalizations can be made and also to test this study's findings regarding international student's recycling attitude, behavior and value changes.

This study concluded that Michigan State University's Korean and Mexican graduate international students' recycling attitude, behavior and value changes seemed to be influenced by the MSU recycling program and recycling atmosphere in the regions near the university. But this study did not test the proposed influential factors which caused the changes in international students' recycling attitudes, behaviors and values.

Therefore, this study also recommends further research to determine the specific factors which influenced changes in international students' recycling attitudes, behaviors and values.

Conclusions

The main objectives of this study were understanding Korean and Mexican graduate international students' recycling knowledge, attitudes, behaviors and values in their own countries and in the U.S. and exploring their recycling attitude, behavior and value changes.

The results of the study demonstrated that the majority of the interviewed Korean and Mexican international students have changed their recycling attitudes, behaviors and values. The results also indicated that the MSU recycling program and the recycling atmosphere in the areas near the university seemed to influence their recycling attitude, behavior and value changes in the U.S. However, there seemed to be other influential factors which this study didn't deal with, which may have influenced the changes of their recycling attitudes, behaviors and values. Finally, the results of the study indicated that organized or institutionalized recycling in each country did not seem to be strongly influenced by its culture.

Hopefully, this study's findings have provided some insights for understanding international students' recycling attitudes, behaviors and values as well as their changes. I hope that these findings may be helpful for the Korean and Mexican governments, recycling program coordinators and also the community of scholars.

APPENDICES

APPENDIX A: A SAMPLE OF THE INTERVIEW QUESTIONS

Section 1. General interview background

- Q-1. Interview data : _____
 Q-2. Location of interview : _____
 Q-3. Original Country : _____
 Q-4. Gender : Male Female
 Q-5. Home town area : Urban Rural
 Q-6. Age : _____
 Q-7. Marital status : Single Married Married with children
 Q-8. Economic status : Upper class Middle class Low class
 Q-9. Position : Under graduate Graduate
 Q-10. The length of living in the U.S.: _____
 Q-11. Which apartment complex do you live now? : _____
 Q-12. The length of living at MSU apartment housing : _____

Section 2. Korea

1. Let's think about your experience and perspective in Korea and please answer the questions according to Korean situation before you came to MSU
2. If you don't understand some words I refer to, please feel free to ask what I mean by those words before you start to answer.

Q-13. The municipal solid waste disposal systems in Korea

A. Did Korea have municipal solid waste disposal systems when you were in Korea?

Yes No I don't know

Please describe the municipal solid waste disposal systems.

If no or I don't know, go to next question

B. How much were you concerned about Korean the municipal solid waste disposal systems?

- a. very concerned
- b. slightly concerned
- c. no concerned
- d. neither concerned nor not concerned (I don't know)

C. Have you put some effort to make the municipal solid waste disposal systems better?

Yes No

Please tell me about your effort.

D. How important was this issue to yourself?

- a. very important
- b. somewhat important
- c. not important
- d. neither important nor not important

Q-14. The word, "recycling"

A. Do Koreans have the word referring to recycling in Korean?

If yes, please tell me.

Yes No I don't know

If no, go to next number question

B. Were you familiar with Korean word for recycling?

C. Did you use a Korean word referring to recycling in Korean?

Q-15. Recycling programs

A. Did Korea have (institutionalized) recycling programs?

Yes No I don't know

Please tell me about them.

If no, go to next number question

B. Were you concerned about Korean (institutionalized) recycling programs?

- a. very concerned
- b. slightly concerned
- c. no concerned
- d. neither concerned nor not concerned (I don't know)

C. Did you recycle, then?

If no, go to Q-16-E question

Q-16. Recycling participation

A. Could you tell me how you recycled and what you recycled in Korea?

----paper, newspaper, magazines, plastics, aluminum, tins.

If no, go to next number question

B. How did you feel about participation of (institutionalized) recycling programs?

- a. good**
- b. bad**
- c. nothing**

C. Was participating in recycling programs important to yourself?

- a. very important**
- b. somewhat important**
- c. not important**
- d. neither important nor not important**

D. Please tell me the common reasons to make yourself (or common Koreans) recycle difficult?

Q-17. Recycling and gender

A. Who do you think is more concerned with recycling, Korean men or Korean women?

B. Why do you think so?

C. How do you feel about that?

Q-18. Government and school education about recycling programs.

A. Did Korean Governments and schools educate people about recycling? please, tell me about it more?

B. Did education of governments and schools work?

C. How did you feel about Korean Governmental or school education about recycling?

D. What is your opinion about Korean Governmental or school education about recycling?

Q-19. The products contained recycled materials.

A. Does Korea have products contained recycled materials?
Please tell me the types of products you remember.---paper, plastics, aluminum, glass, tins.

B. How did you feel about those products?

- a. good
- b. bad
- c. nothing

C. Did you buy those products?

D. Did you prefer to buy products contained recycled materials?

Q-20. Please tell me what Korean people think about recycling and how they do about recycling in Korea, in general?**Section 3. MSU campus and East Lansing (E.L.) in the U.S.**

1. Let's think about your experience and perspective at MSU and in E.L. and please answer the questions.

2. If you don't understand some words I refer to, please feel free to ask what I mean by those words before you start to answer.

Q-21. The municipal solid waste disposal systems in E.L.

A. Do you think E.L. has municipal solid waste disposal systems?

Yes No I don't know

Please tell me what you know about the municipal solid waste disposal systems of E.L. as much as you know.

B. Are you concerned about the municipal solid waste disposal systems of E.L.?

- a. very concerned
- b. slightly concerned
- c. no concerned
- d. neither concerned nor not concerned (I don't know)

C. Have you put some effort to make the municipal solid waste disposal systems of E.L. better?

Yes No

Please tell me about your effort.

D. How important is this issue to yourself?

- a. very important
- b. somewhat important
- c. not important
- d. neither important nor not important

Q-22. The word, "recycling"

A. Are you familiar with the word, recycling at MSU campus?

B. Do you feel more familiar with the word recycling in English than the word in Korean?

If yes, please tell me why you feel more familiar with English one?

C. Do you often use the word recycling at MSU campus?

Q-23. The MSU recycling program for campus housing.

A. Do you know MSU has its own recycling program at on campus apartments?

Yes No

Could you tell me about it as much as you know?

If no, go to question 24-E

B. How do you feel about MSU recycling program?

C. Do you participate in MSU recycling program at home?

D. Is this recycling program important to you since living on campus apartments?

Q-24. Recycling participation at apartment housing on campus

- A. If you participate in MSU recycling at home on campus, could you tell me how you recycle and what you recycle? ---paper, newspaper, magazines, glass, aluminum, tins.**
- B. How do you feel about participating in MSU recycling program?**
- C. Is participating in the recycling program important to you at MSU?**
- D. What are the common reasons to make yourself (or other people) participate in recycling difficult here on campus apartments?**

Q-25. The comparison familiarity between Korean recycling programs and the MSU one.

- A. Do you feel more familiar with MSU recycling program than ones in Korea? Please tell why you feel that way?**

Q-26. Recycling and gender

- A. Who do you think is more concerned about recycling, American men or American women?**
- B. Why do you think so?**
- C. How do you feel about it?**

Q-27. Government and school education in recycling programs.

- A. Do E.L. local government or schools educate people about recycling? please, tell me about it more, if you know?**
- B. How do you feel about governmental or school education about recycling in E.L.?**
- C. What do you think about governmental or school education about recycling in E.L.?**

Q-28. The products contained recycled materials.

A. Do you know there are products contained recycled materials in E.L.? Please tell me the types of products you remember.---paper, plastics, glass, aluminum, tins.

B. How do you feel about those products?

C. Do you buy those products?

D. Do you prefer to buy products contained recycled materials?

Section 4 Comparison

Thank you for being patient, cooperative and sincere about each question so far. Now we have final section. I am going to ask your impression about American people at MSU and in E.L. about recycling programs in this section. Also I am going to ask your opinions about attitudes, behaviors and values regarding recycling.

Q-29. Recycling and American people at MSU and in E.L..

A. Please tell me your impression and thought about American people's attitudes and behaviors at MSU and in E.L. about recycling?

B. How do you feel about their attitudes and behaviors?

C. Do you think American people at MSU and In E.L. are more familiar with recycling than Koreans in Korea?

D. Are the MSU and E.L. recycling programs desirable to Korea?

E. Please tell me what kinds of recycling programs are desirable to Korea?
-----recycling incentives (deposit, redemption, etc.)

Q-30. The length of time living on MSU apartment housing

A. Have you seen foreign non-recyclers become recyclers at MSU?
Can you tell me what make them recyclers?

B. Do you think there is relationships between how long people live on campus apartments at MSU and they become recyclers?

Q-31. Individual change of attitudes, behaviors and values regarding recycling

**A. Do you think your attitudes about recycling have been changed (or improved) since living on campus apartment at MSU?
please tell me why and how it happened?**

B. How about your recycling behaviors? Has it been changed/ improved?

C. Has your value on recycling changed/ improved?

D. Can you say that recycling atmosphere of MSU or E.L. makes you have changed attitudes, behaviors or values regarding recycling?

Q-32. Assumptions about own recycling attitudes, behaviors and values in the future

A. If you have changed your values, attitudes or behaviors about recycling, are you going to keep your changed value, attitude and behavior in your country after you go back home?

B. please tell me why you want to keep it?

C. Is keeping your changed values, attitude and behavior about recycling important?

APPENDIX B:
THE TRANSCRIPT OF A KOREAN INTERVIEWEE

Section 1. General interview background

- Q-1. Interview data : 03/07/95 (1 hour and 20 minutes)
- Q-2. Location of interview: Owen hall study lounge
- Q-3. Original Country : Korea
- Q-4. Gender : Male
- Q-5. Home town area : Rural
- Q-6. Age : 34
- Q-7. Marital status : Single
- Q-8. Economic status : Middle class
- Q-9. Position: Graduate ---- Electric Engineering, Ph.D..
- Q-10. The length of living in the U.S.: 3 years and 6 months
- Q-11. Which apartment complex do you live now?: Spartan Village Apartment
- Q-12. The length of living at MSU apartment housing: 2 years and 2 months.

Section 2. Korea

- 1. Let's think about your experience and perspective in Korea and please answer the questions according to Korean situation when you were there before you came to MSU
- 2. If you don't understand some words I refer to, please feel free to ask what I mean by those words before you start to answer.

Q-13. The municipal solid waste disposal systems in Korea

A. Did Korea have municipal solid waste disposal systems when you were in Korea?

Yes No I don't know

Please describe the municipal solid waste disposal systems.

I: You mean, regarding recycling or general waste?

R: Yes. Just general waste.

I: Yes.

R: Then can you tell me what kinds of waste disposal systems were in Korea?

I: I don't know but at home we throw everything into one big box and then garbage men came in with truck. So everything is mixed up.

R: Where did waste go?

I: I don't know.

R: What else do you have except throwing away? How about recycling?

I: I guess now they have some recycling programs. At that time they don't have any. But I remember something when I was a kid. We asked to collect bottles and newspaper at home to sell. After selling it, we could get snacks.

R: Was that happened at home?

I: Yes. AT home. We collected newspaper and bottles and the guy with a cart came into the village. And then we traded in some candies or snacks with them. It's a kind of recycling. Also, as you may know, schools once a month ask students to bring something just like newspaper or bottles so schools also collect them.

R: Do you think this is a kind of recycling?

I: At that time, I didn't know the terminology of recycling. But when I think about it now, that was a kind of recycling.

R: Have you ever heard about incinerator system in Korea?

I: I think so. Because when garbage men came to collect all the garbage, they have some central collection place. They collected all garbage there and then do a kind of sorting and the burn something.

R: When you say the burning, do you mean open burning?

I: Probably. But I don't know.

R: How about incinerator system to purpose using energy from waste? Have you heard about that kind of thing in Korea?

I: No, I don't know.

If no or I don't know, go to next question

B. How much were you concerned about Korean the municipal solid waste disposal systems?

- a. very concerned
- b. slightly concerned
- c. no concerned
- d. neither concerned nor not concerned (I don't know)

I: No, I don't think so.

C. Have you put some effort to make the municipal solid waste disposal systems better?

Yes No

Please tell me about your effort.

I: No.

D. How important was this issue to yourself?

- a. very important
- b. somewhat important
- c. not important
- d. neither important nor not important

I: I think it is important but at that moment, we were not aware of that. I'm still thinking that it is very important but it's very hard to practice that.

R: What do you mean it's hard to practice?

I: I know there is a recycling program in Spartan Village at MSU. There is some collection point. When I also get flyers from them, it is telling me that if you want to

recycle for milk jugs, you have to flatten them, no caps, etc.. For example, for the bottles should be removed the labels. But I don't do that.

R: But you seem to have a lot of information about recycling?

I: Yah. I got information from them. But basically I don't practice.

R: So, you do understand MSU recycling program then?

I: Yes. I do understand there is a program.

Q-14. The word, "recycling"

A. Do Koreans have the word referring to recycling in Korean?

If yes, please tell me. Yes No I don't know

I: I think so. In Korea, it is Pyae-Poom-Hwal- Oyong or Jae-Hwal-Oyong.

If no, go to next number question

B. Were you familiar with Korean word for recycling?

I: Yes. I think so.

R: Why do you think you were familiar with this Korean word?

I: Because we used that one.

R: What do you mean by we?

I: generally, I.

C. Did you use a Korean word referring to recycling in Korean?

I: Not many times.

Q-15. Recycling programs

A. Did Korea have (institutionalized) recycling programs?

Yes No I don't know

Please tell me about them.

I: It was 1991. As far as I know, at that time, we didn't have anything like that.

R: But have you ever thought about that it might be nice to have recycling programs in Korea, when you were there?

I: Hmm. maybe a little bit.

R: So you didn't recycle at all because there was no recycling program?

I: No. Except that collecting bottles and newspaper.

If no, go to next number question

B. Were you concerned about Korean (institutionalized) recycling programs?

a. very concerned

b. slightly concerned

c. no concerned

d. neither concerned nor not concerned (I don't know)

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Q-16. Re

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I: slightly concerned.

C. Did you recycle, then?

If no, go to Q-16-E question

Q-16. Recycling participation

A. Could you tell me how you recycled and what you recycled in Korea?
----paper, newspaper, magazines, plastics, aluminum, tins.

If no, go to next number question

B. How did you feel about participation of (institutionalized) recycling programs?

- a. good
- b. bad
- c. nothing

C. Was participating in recycling programs important to yourself?

- a. very important
- b. somewhat important
- c. not important
- d. neither important nor not important

D. Please tell me the common reasons to make yourself (or common Koreans) recycle difficult?

Q-17. Recycling and gender

A. Who do you think is more concerned with recycling, Korean men or Korean women?

I: Hard to tell this. I think it depends on person not on gender. Maybe women. They are more sensitive. That's just my perception.

B. Why do you think so?

I: Women are more sensitive about everything.

C. How do you feel about that?

I: Also that is the fact because women are dealing with that kind of things such as milk jugs or bottles or some waste from food. When they throw away maybe they also can do this such as sorting out, etc.. I don't know.

Q-18. Government and school education about recycling programs.

A. Did Korean Governments and schools educate people about recycling? please, tell me about it more?

I: Not specially recycling. But I guess in a sense, it will be almost same. In Korea we were educated to save things and using pencils as short as possible. Use the paper including back side of paper. I guess Korea was poor then and we were in short of supplies. I guess it makes more sense. Look at Americans. They are talking about recycling. But I don't know whether it is correct or not. But what I heard is almost half of world waste is from the U.S. Look at the all the package. You buy pork which is already individually packaged with plastics. So we have here lots of regeneration of waste. But in Korea, if you go to the butcher, then you buy meat. They give meat wrapped by newspaper or cheap paper to you. So they don't generate any other those waste. I think it's maybe better.

R: So, you said that Korea has general education about saving things. Do you think then governmental education worked?

I: I think it used to work. But now Korea is growing very fast. I don't see that is working.

R: What do you mean by growing very fast?

I: Economically growing fast. And the value of saving is not anymore appreciated in Korean society.

B. Did education of governments and schools work?

C. How did you feel about Korean Governmental or school education about recycling?

I: I feel good about that.

R: Do you want Korean governments to keep educating this matter?

I: Yes.

R: Do you want Korean governments to expand general education about waste to recycling education, too?

I: Yes. recycling, too. I think we are putting some effort to recycling these days. I went to Korea this summer. I see that they don't use wooden chopsticks anymore in the restaurants. They don't use wooden toothpicks. They try not to use wrapping paper at the stores. I think it's better idea.

D: What is your opinion about Korean Governmental or school education about

Q-19. The products contained recycled materials.

A. Does Korea have products contained recycled materials?

Please tell me the types of products you remember.---paper, plastics, aluminum, glass, tins.

I: I think so. Very very cheap wrapping paper. I know that those paper was made of recycled paper which is yellow color of paper just like American brown bags or paper for wrapping parcels. I know that is made of recycled paper. I think also on Korea they imported lots of paper such as old magazines like high quality of magazines from America. Then they recycle that and make paper.

R: What kinds of paper do they make of those imported magazines?

I: I think newspaper or some kinds of paper. I guess what they did was they brought Time or News Week magazines and then they get rid of the inks and then they recycled it for paper or newspaper. I have seen it in the paper factory.

R: You mean some Korean company buy high quality magazines such as Times for recycling not for reading?

I: Yes. Just for making second grade paper. I think what I heard from that paper factory was that they don't make second grade paper from 100 % first grade paper. What they do is they mix first grade paper and virgin paper pulp together and then make second grade paper. As you know in Korea, we don't have lots of wood for paper. So we import paper pulp.

B. How did you feel about those products?

- a. good
- b. bad
- c. nothing

I: It's O.K.. But not very good. Because maybe I don't know but at that time production technology was bad so paper was really bad.

C. Did you buy those products?

I: I think I didn't buy. I guess when I usually go shopping, they usually use those kind of yellow paper for wrapping. So usually you don't buy it. They also make boxes, hard boards. Hard boards are also made of recycled paper. I might go to buy some those boxes.

D. Did you prefer to buy products contained recycled materials?

I: At that time, I didn't have any idea about that, whether it is good or not. We didn't see the marks, saying this is recycled. They didn't specialize that. I know now it was a recycled products. But at that time, I didn't have any idea about recycled products.

Q-20. Please tell me what Korean people think about recycling and how they do about recycling in Korea, in general?

I: I think these days, they try not to use wooden toothpicks and chopsticks and plastic bags etc.. They try to collect batteries, too. I think collecting batteries is not the topic of recycling. it was because of environmental thing.

Now Korean governments launched some institutionalized recycling programs. People have separated their waste into 3 different categories. I can not exactly remember that now. But I think some like metal, some glass, or just other house waste such as food or left over. And also, this is what I heard from newspaper, they have also a quota system for waste. So you throw away for example, 2 Kg of waste a day or something like that. The number is not correct, just I am giving you example. And if you throw away over limit, you have to pay lots of money for fine. So that's the one Korean governments trying to reduce the waste.

R: Do you think that's a good program to Korea?

I: Yes. in a sense. But I heard also some negative sides of that programs, too. Very stupid. It's very stupid. people try to throw their own garbage to other people's garbage bins not to pay fine for over-garbage. It's very stupid. But anyway, it will affect people's mind. I guess they almost try not to throw away a lot. Overall I think it's a good thing to do. There is a negative side but more positive sides in that program.

Section 3. MSU campus and East Lansing (E.L.) in the U.S.

1. Let's think about your experience and perspective at MSU and in E.L. and please answer the questions.

2. If you don't understand some words I refer to, please feel free to ask what I mean by those words before you start to answer.

Q-21. The municipal solid waste disposal systems in E.L.

A. Do you think E.L. has municipal solid waste disposal systems?

Yes No I don't know

Please tell me what you know about the municipal solid waste disposal systems of E.L. as much as you know.

I: I don't know. I just put my waste into the dumpsters.

B. Are you concerned about the municipal solid waste disposal systems of E.L.?

- a. very concerned
- b. slightly concerned
- c. no concerned
- d. neither concerned nor not concerned (I don't know)

I: Not really.

C. Have you put some effort to make the municipal solid waste disposal systems of E.L. better?

Yes No

Please tell me about your effort.

I: No.

D. How important is this issue to yourself?

- a. very important
- b. somewhat important
- c. not important
- d. neither important nor not important

I: I didn't think that way. Maybe in general, I guess it's important, but...

Q-22. The word, "recycling"

A. Are you familiar with the word, recycling at MSU campus?

I: Yes. Because I have heard of it many times. And I have seen it many times. Also I participate in recycling sometimes. I know about recycling.

B. Do you feel more familiar with the word recycling in English than the word in Korean? If yes, please tell me why you feel more familiar with English one?

I: Maybe, yes. Because we didn't use the word, Jae-Hwal-Oyong too much in Korea. But I see the word recycling almost everyday here.

C. Do you often use the word recycling at MSU campus?

I: Yes.

Q-23. The MSU recycling program for campus housing.

A. Do you know MSU has its own recycling program at on campus apartments?

Yes No

Could you tell me about it as much as you know?

I: Yes, in Spartan Village.

If no, go to question 24-E

B. How do you feel about MSU recycling program?

I: I think they are putting lots of effort. That's I'm sure. But I guess they are only collecting. I don't know, as far as I know, they are only collecting paper, milk jugs, or plastics or old books or bottles. But I think that's not the big picture.

R: What do you mean?

I: As I said before, they are generating a lot of waste. Before they are thinking about collecting those materials, they have to think about how to packaging things and others. I think that's more important, not generating the waste. Also I notice that the more technology goes the best, we waste more. Like paper, when we don't have computers, we just write down on paper to make one page of document. Now it's amazing. You print something and then find out the error. Then print again and again until your boss say it's O.K. In my experience, to print out one page of document or so, I may have to print out 10 or 20 or even more pages. That's garbage. In a sense, technology makes our life better but we are making a lot of garbage, too.

C. Do you participate in MSU recycling program at home?

R: You said before you sometimes participate in recycling. So do you participate in Spartan village recycling ?

I: Not at home. Only at work which is on campus.

D. Is this recycling program important to you since living on campus apartments?

I: I don't see any impact on me.

R: What about at office?

I: At office, if I don't do that, I will be embarrassed because everybody does. Actually we just collect the papers. That's it. So, whenever I have some garbage paper for recycling, I put it into the paper recycling bins. That's all I do.

Q-24. Recycling participation at apartment housing on campus

A. If you participate in MSU recycling at home on campus, could you tell me how you recycle and what you recycle? ---paper, newspaper, magazines, glass, aluminum, tins.

B. How do you feel about participating in MSU recycling program?

R: When you do recycle at office, how do you feel about that?

I: I don't have any special feeling. Just do it.

C. Is participating in the recycling program important to you at MSU?

I: No.

D. What are the common reasons to make yourself (or other people) participate in recycling difficult here on campus apartments?

I: It's not difficult. It's like, I guess, you can say, "you are lazy". I don't want to spend time flattening milk jugs. Actually I don't have much. Maybe I'll have three milk jugs a month. Really nothing.

R: So you mean you don't have many things to recycle?

I: No. I don't. If you live in Spartan Village, they supply you with a hundred garbage bags for using three months. So they're expecting me to throw one bag per day. But if I got a box of hundred garbage bags, I use them for more than a year. So I don't actually throw away much.

Q-25. The comparison familiarity between Korean recycling programs and the MSU one.

A. Do you feel more familiar with MSU recycling program than ones in Korea? Please tell why you feel that way?

I: I think so. Because I hear and see recycling programs often here but I didn't see that in Korea often. Maybe it is different now. But...

Q-26. Recycling and gender

A. Who do you think is more concerned about recycling, American men or American women?

I: Uh. Almost same answer like before. I have no idea. But probably it depends on person to person. And might be women more.

B. Why do you think so?

I: Because generally, they are picky about everything.

C. How do you feel about it?

I: I don't know.

Q-27. Government and school education in recycling programs.

A. Do E.L. local government or schools educate people about recycling? please, tell me about it more, if you know?

I: I think so. I don't know exactly but I see recycling thing on TV, especially on public channel. They show something like, if you save a sheet of paper, then you save trees somewhere and then energy, too.

R: Have you ever heard children learn something about recycling at schools in the U.S.?

I: No. I don't know. But I'm sure they have some kind of educational program for recycling. But...

R: Why do you say you are sure about that?

I: Because they are talking about recycling everywhere. So it must be done by also schools. That's my guess.

B. How do you feel about governmental or school education about recycling in E.L.?

I: I think it's good.

C. What do you think about governmental or school education about recycling in E.L.?

I: they should keep educating people and kids about recycling as well as environment. Because in that way, we can save materials like saving some trees, things like that.

Q-28. The products contained recycled materials.

A. Do you know there are products contained recycled materials in E.L.? Please tell me the types of products you remember.---paper, plastics, glass, aluminum, tins.

I: Yes. like cards. When I see the card's back sides, they usually say that printed in 100 % recycled paper. And many papers actually. Also they collect cans, plastic bottles, etc..

R: Can you tell me more about recycling products?

I: I don't know but yes, most paper products are recycled. I can't think more than that now.

B. How do you feel about those products?

I: I think it's very good. Quality is good. Almost 99 % is close to normal products.

C. Do you buy those products?

I: Yes. I don't mind buying them.

D. Do you prefer to buy products contained recycled materials?

I: Not prefer to buy. But I really don't care whether it is recycled or not.

Section 4 Comparison

Thank you for being patient, cooperative and sincere about each question so far. Now we have final section. I am going to ask your impression about American people at MSU and in E.L. about recycling programs in this section. Also I am going to ask your opinions about attitudes, behaviors and values regarding recycling.

Q-29. Recycling and American people at MSU and in E.L..

A. Please tell me your impression and thought about American people's attitudes and behaviors at MSU and in E.L. about recycling?

I: I can't think about it more right now.

B. How do you feel about their attitudes and behaviors?

I: Uh. I think they are aware of the concept of recycling. And even though they generate lots of waste, they... I guess, recycling program itself goes very well. Even though I am not participated in that. I am not very positive when I see the big picture. I think they are looking at very specific and very minor things right now. But as I said before, they have to see a big picture, how to reduce the waste.

C. Do you think American people at MSU and In E.L. are more familiar with recycling than Koreans in Korea?

I: I don't know.

D. Are the MSU and E.L. recycling programs desirable to Korea?

I: Yes. I think is in some ways. I think in Korea, we still use chuck coals for heating. I think that is a still minor problem in Korea. If that is still true, then the system of waste will be different from American's. Maybe papers and bottles could be treated by the same system. But we still have chuck coals, so it is difficult. However these days we increase using oil or gas instead. So it might be different from the problems of chuck coals and required different systems.

R: So you think Korea and the U.S. have different waste problems?

I: Yes. A lot different. It's different types of problems.

E. Please tell me what kinds of recycling programs are desirable to Korea?
 -----recycling incentives (deposit, redemption, etc.)

I: I think we have our own system.

Q-30. The length of time living on MSU apartment housing

A. Have you seen foreign non-recyclers become recyclers at MSU?
 Can you tell me what make them recyclers?

I: I don't know.

B. Do you think there is relationships between how long people live on campus

I: I don't know. But when I read the flyers from recycling program office, they insisted that more and more people recycle at apartments. The percentage of recyclers are increasing. That is why. But I don't know but length of living and recycling programs have some relationship.

Q-31. Individual change of values, attitudes and behaviors regarding recycling

A. Do you think your attitudes about recycling have been changed (or improved) since living on campus apartment at MSU?
 please tell me why and how it happened?

I: maybe more positive.

B. How about your recycling behaviors? Has it been changed/ improved?

I: Maybe a little bit, because I put garbage paper into the recycling bins which I didn't do at all in Korea.

C. Has your value on recycling changed/ improved?

R: Do you think your value about recycling is improved?

I: I don't think so.

R: Is it changed then?

I: Not much . Umm, I can say not changed.

D. Can you say that recycling atmosphere of MSU or E.L. makes you have changed values, attitudes or behaviors regarding recycling?

I: I think that s not true. Even though you have lived in Korea, I have heard about recycling. So I don't think living in America didn't make any contribution to change my values and attitudes.

Q-32. Assumptions about own recycling attitudes, behaviors and values in the future

A. If you have changed your values, attitudes or behaviors about recycling, are you going to keep your changed value, attitude and behavior in your country after you go back home?

I: I think I have kept it in Korea.

B. please tell me why you want to keep it?

I: Because recycling is enforced now in Korea. I guess if you enforce people to recycle, people do recycle and involve it better. I know in E. Lansing, if you live off-campus, you have to buy garbage bags like one dollar for a package of garbage bags. So it dramatically reduce waste. That kind of program will really work better to people like me. Because if they just encourage me to do that, I probably not do it. But if you have to buy garbage bags and if you want to save money, then I'll probably try not to throw away much.

R: So you mean enforcement is good to improve recycling participation?

I: In a sense. Maybe I don't know. Maybe American people are different. But there are people like me a lot.

R: Do you mean you like to be enforced to recycle?

I: I guess, in general, human being are... if nobody is watching you, you will not do it. Maybe small numbers of people will do it by their will. But many of them will not do it. So that kind of enforcement will be better.

R: You said, the U.S. people are aware of environment. How about Korean people then?

I: So far, I don't think they are aware of it. But these days, their water, mountains, rivers and etc.. are polluted. So now they will recognize importance of environment. But still it's hard to practice. I know that couple of years ago, factories near the river in Korea dumped toxic, chemical materials into the river. They just polluted the source of tap water. I think that'll happen anytime, if governments don't watch over them. I don't know whether they can train them or educate them not to do it. But I believe that people are evil. If nobody is watching around them, they do whatever they want to do.

R: Do you think governments should participated in recycling ?

I: Yes. Recycling and environmental matters.

C. Is keeping your changed values, attitude and behavior about recycling important?

I: Yes.

APPENDIX C:
THE TRANSCRIPT OF A MEXICAN INTERVIEWEE

Section 1. General interview background

- Q-1. Interview data : 03/06/95 (1 hr and 30 minutes)
- Q-2. Location of interview : Food science Building room 30
- Q-3. Original Country : Mexico
- Q-4. Gender : Male
- Q-5. Home town area : Urban---Queretaro city (800,000 pop.), Queretaro State.
- Q-6. Age : 30
- Q-7. Marital Status : Married with 3 children
- Q-8. Economic status : upper class
- Q-9. Position : Graduate (Ph.D.)--food science
- Q-10. The length of living in the U.S. : since 1989---5 years and 2 months.
- Q-11. Where do you live now? : University Apartment
- Q-12. The length of living at MSU apartment housing : since summer 1990 --4 years and 2 months

Section 2. Mexico

- 1. Let's think about your experience and perspective in Mexico and please answer the questions according to Mexican situation before you came to the U.S.
- 2. If you don't understand some words I refer to, please feel free to ask what I mean by those words before you start to answer.

Q-13. The municipal solid waste disposal systems in Mexico

A. Did Mexico have municipal solid waste disposal systems when you were Mexico?

Please tell me about waste disposal systems as much as you know.

I: Yes, but, not really. not for many products but for newspaper, we have one. Old newspaper is thrown away and sold per weight (pound, Kg) of the pile of paper. In that way, you got some money for old newspaper and they would present.

I: Garbage is picked up three times per week. Basically picked all the baskets that I put in front of my houses and every house in my area. What we do is we take big black plastic bags , just like here and put all garbage here and tie them up and put them outside during the night. Then early in the morning, trucks come and pick up garbage. It goes to landfilling.

R: Did you separate recyclable from non-recyclable during the process? food waste from kitchen?

I : No. Nowadays, some people, we have system. In the sink, if you flow all organics into it, turn it on, it will filtered food waste and you should run water at the same time. We have one of those. Most of organic waste wouldn't go to the garbage, but all plastics and all the other materials go there in my home town Queretaro.

R: Where is garbage going? landfilling?

I: They have landfilling. They used to have one , but that was filled out completely. Then we had to have new one. So 10 years age, they covered this filled landfilling site.

R: do you think there are some problems of waste disposal?

I: at least in Queretaro, as I know , I remember trucks picking up garbage. Hundreds of them lined up and go everywhere in my home town. They pick up pretty much of all garbage in town. Actually, even in , especially downtown, they have small containers hanging on the posts on the streets. You can walk and dispose garbage there. then they pick it up later. So that is public waste containers for garbage. I don't think there is big program.

R: Do you think there is needs to change waste disposal systems? especially separating useful waste for reducing waste?

I: definitely. Yes. There is no programs for separating garbage, even into organics or inorganics or whatever. Even though it goes to landfill, there is no situation for separation . Everything goes to a bag. They definitely need for instructing people for separating from garbage. But the problem is I think for that. The reason is there is no actually recycling system.

R: what kind of system are you talking about when you say recycling system.

I: I have experience here. you separate cans. and we can go stores and can get deposit money. We do separate cans from soup, soup cans and put into the bags. MSU truck comes every week . We in Mexico don't have any that system. Only thing we have is for glasses. Soft drinks or al those things have deposit system so you can take them back and they can be reuse or recycled, I don't know.

R: how much is that deposit fee.

I: I think maybe 10 % of total cost.

R: do you get money back?

I: yes.

R: Is that common over the country?

I: yes. even in the small towns.

If no or I don't know, go to next question

B. How concerned were you about Mexican the municipal solid waste disposal systems, when you were in Mexico?

b. slightly concerned.

I: I didn't care it much because it worked in their ways.

I: All the trucks, they didn't compact garbage when they are picking. Two people work together and they pick up big garbage containers from each house and dump garbage into trucks. It is not automatic system like here. it is not that much efficient. More people involve just picking up garbage containers. At least 2 or 3 people pick up garbage bags and dump it into the trucks. I think it is important but I think also didn't concerned about waste disposal system very much . I would maybe more concerned if the problem is recycling system. Disposal? since we don't have problem, you know, accumulation of garbage, or whatever, I didn't concerned about that. But I think it is important because you know, it keeps that still continue going all the time cleaning well, they are doing it not to deteriorate.

C. Have you put some effort to make the municipal solid waste disposal systems better?

No

Please tell me about your effort.

D. How important was this issue to you, when you were in Mexico?

b. somewhat important

Q-14. The word, "recycling"

A. Does Mexicans have the word referring to recycling in Spanish?

If yes, please tell me.

I: Yes , reciclaje.

R: does everybody knows this word, reciclaje?

I: yes.

If no, go to next number question

B. Were you familiar with the Spanish word for recycling?

I: we didn't hear it often at home. because we call glass deposit as deposito in Spanish. The only time I heard about reciclaje for newspaper. For ex, we pile up newspaper and sell it, then we use word, reciclaje. Basically for nothing else, but I don't remember saying recycling for cans or tins. We put everything into the garbage. we don't do lot of recycling.

R: you said Mexico didn't have recycling program, right?

I: Not that I know from the past when I was there. I have been here 6 years and I have been there just couple of time. I haven't seen any change there. I didn't see formal recycling programs in my home town as well as other areas.

R: were you concerned about even informal way of recycling?

I: yes.

R: did you try to recycle some things?

I: no. except glass or newspaper, I don't remember anything.

R: how did you feel about separating newspaper from garbage?

I: I think it is nice. I wish more people , not everybody even separate newspaper. some people throw newspaper into the garbage can with any other garbage. I like people do that and little more concerned about this recycling program. The main problem is that there is no recycling plants at those time. So it made difficult to recycle. Okay, people want to recycle--metal or glass, paper or all those things. Once you separate all those things, but there is no facility to recycle this materials. I mean we are gonna throw this into the landfilling finally and the acting separating garbage becomes useless. Governmental participation is needed. Facility is needed. basically we need new industry for that. Mexican people are not much aware of the recycling.

C. Did you use the Spanish word for recycling in Mexico rather than English one?

I: not really.

Q-15. Recycling programs

A. Did Mexico have recycling programs? No
Please tell me about them.

If no, go to next number question

B. Were you concerned about Mexican recycling programs?

a. very concerned

I: we have informal recycling.

C. Did you recycle in Mexico?

I: glass and newspaper in informal way of recycling.

If no, go to Q-16-E question

Q-16. Recycling participation

A. Could you tell me how you recycled and what you recycled in Mexico?
----paper, newspaper, magazines, plastics, aluminum, tins, glass, newspaper

If no, go to next number question

B. How did you feel about participation of recycling programs?

a. good

C. Was participating in recycling important to you?

b. somewhat important

D. Please tell me the common reasons to make yourself participate in recycling difficult?

I: previous page. No facility to recycle.

Q-17. Recycling and gender

A. Who do you think more concerned with recycling, Mexican men or Mexican women?

R: at least when you think about glass or newspaper recycling?

I: in general? I think Mexican men.

B. Why do you think so?

I: Because of my dad influence. when we buy whatever came in glass containers, I remembered, my dad told me to take them back with him. For newspaper, after we have big pile of newspaper, my father said to bring it to sell and get some money from that and recycled it. that is in my home . I don't know about other homes.

R: How about general view about this?

I: yes, I would say men as I remember from my friends' talks.

R: Do you usually bring newspaper or glass by yourself?

I: Yes. there is no programs for newspaper recycling. We have to go directly the place and they take newspaper. Also they have corrugate box, hard box and others. We don't get any corrugate boxes, almost none. That is not institutionalized recycling program. This recycling is for money.

C. How do you feel about that?

I: I think it is different because of culture. Also because there is no information for recycling, importance of recycling. There is no concern and no input from governments or agencies. It is important here to recycle or reuse. So there is no concern and in general, women are much more into their household. Men are not work for that. There is much less than here. So concern for them (women) is nice house or clean not concern about recycling or some other issues beside that. It's more home basis issues. In the heavier parts of work in Mexico, they (men) have more contacts with world to know what is going on because they travel to work here and there. But women are just stay at home and travel locally, going to stores near home not likely business type of traveling. So their understanding about recycling issues or recognizing reusable materials is not like men.

Q-18. Government and school education about recycling programs.

A. Do Mexican Government or schools educate people about recycling?
please, tell me about it more?

I: No, there is no programs to say the importance of recycling or how to recycling. They do teach some materials can be reused. But they don't mention actually the programs of recycling. The reason is there is no programs. So people know that this is reused, if I put it into the facility. Since we don't have facility, people just know that it can be reused. But they just can not so they just throw and pit them into the garbage.

R: How do you feel about that?

I: I think the governments first should be a little more aware that waste is going on and a little more concerned about establishing programs. First of all, facility for recycling, because even with programs, advertising recycling, recycling, even if I go, O.K. I am going to try to recycle my cans, tins. Who's going to buy them or where can I dump that? There is no place where I can put them so that they can not be recycled. So, even if I try to recycle now, I wouldn't be able to do, because nobody would take them. There is no facility saying "O.K. , I am going to accept these cans for recycling".

R: How about schools?

I: They should teach how to recycling, etc.. I have never thought about recycling programs. Now I've learned recycling programs and system after I got here. It's kind of new to me. People are recycling here. One of the things I have learned is that recycling

programs are basically kinds of "willing programs", which means if you want to do it, it is good so landfilling sites are not filled with recyclable materials. And also all the garbage would be reduced. So it is voluntary. In Mexico, when we recycled, we used to get something, some money, such as glass deposit, or from selling newspaper or corrugated boxes. This is not voluntary program. If it is voluntary, I do not know, but probably even 10 ~20 % people would not go to recycle materials compared with the situation they can sell and get some money. Because their interesting is getting something. So I think education is necessary about recycling and general environment. It's going to improve environment and everything, and brings well activities.

B. Did it work?

C. How do you feel about Mexican Governmental or school education about recycling?

D. What is your opinion about Mexican Governmental or school education about

Q-19. The products contained recycled materials.

A. Does Mexico have products contained recycled materials?

Please tell me the types of products you remember.---paper, plastics, aluminum, glass, tins.

I: Putting old corrugated into the manufactures of new corrugated or another is very little because most of these still doesn't go to recycling but goes to landfill. For example, I am not sure but let's say every 100 ton corrugated comes out and maybe 1 ton comes back so 99 tons goes to landfill again. So 1 ton is put to recycling. But you know, it is almost nothing compared with what is produced or will be produced again. I don't know the numbers but guessing. But it is very little.

R: Have you ever seen certain products contained recycled materials at store in Mexico?

I: When I was there before coming here, I was not even concerned about recycling. We didn't have programs. And I've never paid attention to the boxes or other things. Here all most everything, cereal boxes, corrugated boxes or paper are recycled and they have labels on them. But I don't remember seeing that kinds of recycled products in Mexico. I don't know whether it is there now. I just didn't concern at all about recycling back then. But now I'm thinking that I am much more aware of that. (Q-24) I would check here when we buy recycled napkins and papers. (Q-31) Before, I wouldn't even consider that. I think that my awareness has been growing up. So we started recycling.

B. How did you feel about those products?

- a. good
- b. bad
- c. nothing

C. Did you buy those products?

D. Did you prefer to buy products contained recycled materials?

Q-20. Please tell me what Mexican people think about recycling and how they do about recycling in Mexico?

R: What do you think about Mexican people regarding general environment issues?

I: I think people now in Mexico would be a little more aware of that. But still many people, if it is voluntary, voluntary recycling, like trying to separate your glasses, your stuff from different containers, I think people would not do it. Very few people would do it.

R: Why?

I: The reason is, if they don't know why it's going to be done or they maybe thinking, in general, many people would think governments would try to get profits by selling people's recyclable. I don't think they would separate recyclables for governments anyway because they know, I mean, they are not going to get anything from recycling.

If it is going to be voluntary, people think " I don't need to have 2 or 3 containers for separating recyclables. I can use one garbage container and put all my garbage as usual. let's forget about that." I think people would be reluctant to do it and change it at that aspect. So, if a change would be willingness to happen, they are not thinking that education would start in someplace like school.

In the other word, I don't think that it would be changed in just a couple of years of 5 years. I think the change would come in a generation time, I mean, 10 or 20 years at least. Now just within 5 years, recycling system needs to be established in Mexico. But it would take generation time to work.

It would be important that the governments through schools work for the primary recycling from schools. They would reach people and children to teach that recycling is important, nature goes bad, so you don't do things hurting environment so that awareness should be put into their minds, especially children's minds. So, when they grow up, if the programs are already working, they actually well do it because it is important for them to keep what they are taught. But now people are reluctant to it, why I have to do this extra, etc.

The other reason of this reluctance is that governments take lots of money in taxes. Very high taxes. In every peso, I think governments take more than half as taxes. So more than half you earn goes to governments. So you see, the governments don't do very much. Streets are not paved. Streets are in really bad situations and very stink. All the garbage collection is done properly but many other issues and even primary concern such as electricity, sewage problems, drainage or other are not properly done now.

So we say that governments don't do anything. So I would do this extra thing for them? no. I think that is what people would think. But here as you see all the time they are fixing, repairing all these things. But there Mexico is different. So that's the way of people's thought, "why I have to do that if they (governments) don't do this for me." But it shouldn't be like that. even if governments don't do anything, I think it is important that they should think that it is not for that governments but for our environment. They are reluctant because they think it is for only governments and governments related things.

Section 3. MSU campus and East Lansing (E.L.) in the U.S.

1. Let's think about your experience and perspective in the U.S. and please answer the questions according to the U.S. situation after you came to the U.S.
2. If you don't understand some words I refer to, please feel free to ask what I mean by those words before you start to answer.

Q-21. The municipal solid waste disposal systems in E.L.

- A. Does you think E.L. has municipal solid waste disposal systems?**
Yes

Please tell me what you know about the municipal solid waste disposal systems of E.L. as much as you know.

I: There is a container for garbage and we dump garbage there. And trucks come and compact garbage in them. Then go to landfill. We also have recycling program, too.

- B. Are you concerned about the municipal solid waste disposal systems of E.L.?**
- a. very concerned**
 - b. slightly concerned**
 - c. no concerned**
 - d. neither concerned nor not concerned (I don't know)**

I: Yes.

- C. Have you put some effort to make the municipal solid waste disposal systems better in E.L.?**

Yes
Please tell me about your effort.

I: We are doing recycling.

- D. How important is this issue to yourself?**
- a. very important**
 - b. somewhat important**
 - c. not important**
 - d. neither important nor not important**

I: Not in the waste disposal but recycling is important. I think waste disposal system is well established here. If it is not so I can see garbage in front of my house more than weeks, then I would think about it (general waste disposal system). The recycling program is not well established but it is here now and it will be better little by little.

Q-22. The word, "recycling"

- A. Are you familiar with recycling at MSU campus.?**

I: Yes. I have heard it many times.

B. Do you feel more familiar with recycling in English than the word in Spanish? If yes, please tell me why you feel more familiar with English one?

I: I heard it many many more time here and we have experience recycling. We are a part of recycling program.

C. Do you often use the word recycling in the US? Yes.

Q-23. The MSU recycling program for campus housing.

A. Do you know MSU has its own recycling programs? Could you tell me about it as much as you know?

I: Yes. Once a week. Every Thursday. what we do is we use plastic bags from Meijer and we put cans after my wife washes them and I smash them to make them flat. For paper and newspaper, every Sunday, after we read it and then put it into the bags with other paper materials together. For glass, we separate clear, color bottles.

R: Do you think it takes lots of effort to separate recyclable?

I: No. This is basically every day's a little task. Basically we consume two cans of soup. It is easy to clean and smash cans right after we use cans. If it is done one day all of materials at the same time, then it needs more effort and lots of time. But since it is everyday work, it is easy.

R: How about space for keep recyclable at home?

I: We have problems of that. Now you're using the closet facing the door. We use half of the lower part of closet for putting recyclables. It is a problem because we need space for our coats, too.

If no, go to question 25

B. How did you feel about MSU recycling programs?

I: Actually, it is very good. Actually when I started to live there. We didn't have recycling program. It started 1991. It is nice to start it for MSU. If we didn't have it. We would throw away everything just like in Mexico.

C. Do you participate in MSU recycling programs at home?

I: Yes. I think it improves. I think my life-style is getting a little more concerned about these materials. First, in terms of trees, trees shouldn't cut down as many as they should have to be if I recycle paper. Also plastic materials, if I don't recycle plastics, they still need more oil for producing new plastics than reusing plastics. So it is important.

D. Is recycling program important to you living on campus apartments?

I: Yes.

Q-24. Recycling participation at apartment housing on campus

A. If you participated in recycling at home on campus, could you tell me how you recycled and what you recycled? ---paper, newspaper, magazines, glass, aluminum, tins.

B. How do you feel about participating in recycling programs?

I: Good

C. Is participating in recycling important to you in the U.S.?

I: Yes

D. What are the common reasons to make yourself (Mexicans) participate in recycling difficult here?

I: Probably one main issue for that is some of them in Apts. live alone. Or both husbands and wives are studying, so most of time they are not at home when it is time to take out recycled materials to the truck. Many of them are not home then. It is a little difficult for them to meet time to recycle. Also they are eating out. Since they don't spend much time in their houses, they don't consume materials as much as they would if they were at home.

R: How about recycling in Mexico about this matter?

I: I think the main reason for Mexicans is not because of this reason but because of the lack of knowledge. Also there is only one place in city for this materials taken for reuse or recycle. So if somebody live 20 minutes from that spot, it is difficult for them to just go there for only recycling. In the MSU, if we know the truck doesn't come to the Apt, it will be more difficult to recycle, too.

Q-25. The comparison familiarity between Mexican recycling programs and the MSU one.

A. Do you feel more familiar with MSU recycling programs than one in Mexico? Please tell why you feel that way?

I: Right.

Q-26. Recycling and gender

A. Who do you think more concern about recycling, American men or American women?

I: I think American women.

B. Why do you think so?

I: The reason is that I can see people who do recycle, people who separate are women basically. I know they prepare food or whatever and they open cans, they have their hands the things they use. So they have options of either throw them away or recycle. They do clean the stuff. My wife does clean and separate and I basically smash them and put them into the bags and bring them to the recycling truck. But if she would just throw it into the garbage cans, I would not do anyway. I would do it when I am cooking. I think it is more than gender. It depends on who cooks or who takes care of whatever materials.

C. How do you feel about it?

R: Also you said American women are more concerned about this issue or related to recycle. But in Mexico, you said that men are more concerned about recycling.

I: I think it is all parts of education that has been brought our home. Here now we can get the brochures about recycling, why recycle, etc. So I am more aware of that.

Q-27. Government and school education in recycling programs.

A. Do the U.S. Governments or schools educate people about recycling? please, tell me about it more, if you know?

I: I think it should start in the schools through government directions. So both, combination of schools and governments.

R: Have you ever seen educational materials from schools or governments in the U.S.?

I: I've seen those in community newspaper such as recycling hours are changed or we recycle new materials, etc.. We cut that advertisement from newspaper at home and we follow that information to separate materials.

R: Do you think this kind of recycling education is good or help people recycle?

I: Yes. It will be very helpful.

R: Are you satisfied with recycling education from American government, community or schools in the U.S.?

I: Now as far as I know, it is voluntary. But if you make this recycling as mandatory, So we have to recycle, then I think it will be more stressful for more people to do. I think it is a good start to do recycling as voluntary. They make change to mandatory or necessary like NYC. They (NYC) were voluntary but now it is mandatory. If they have to do it, it's fine because they're big city but we are in the small city and we don't have as much as waste like NYC. It's good that the recycling program is existent.

B. How do you feel about the U.S. governmental or school education about recycling?

C. What do you think about the U.S. governmental or school education about recycling?

Q-28. The products contained recycled materials.

A. Do you know there are products contained recycled materials in the U.S.?

Please tell me the types of products you remember. ---paper, plastics, glass, aluminum and tins.

I: Boxes for cereal, all detergent or plastic bottles, some school items like folders, paper are recycled. and Napkins and toilet paper, all these materials are recycled.

R: I remember you said that you usually buy recycled products. What are those?

I: O.K. Napkins and toilet paper. That is it. That is what I buy specifically for recycled paper. Sometimes kitchen towels. Big green pine tree is on the cover of it.

B. How do you feel about those products?

I: If they are good, if they have good strength, if they meet what we needs, we are going to continue to buy them. They are also inexpensive in general. Comparing napkins, I compared prices, it is more inexpensive. I think it is good. As long as the products satisfied what we need, we buy.

C. Do you buy those products? YES.

D. Do you prefer to buy products contained recycled materials? YES.

Section 4 Comparison

Thank you for being patient, cooperative and sincere about each question so far. This is a final section. In this section, I am going to ask your impression about American people at MSU and in E.L. about recycling programs in this section. Also I am going to ask your opinions about values, attitudes and behavior changes regarding recycling.

Q-29. Recycling and American people at MSU and in E.L.

A. Please tell me your impression and thought about the American people's attitudes and behaviors at MSU and in E.L. about recycling?

I: I think most of people who recycle are really good and know that it is good for their environment. And general people who don't recycle and wish they could recycle, but they maybe still, maybe this is real. Maybe they cannot recycle because they have to work at the recycling time. Or maybe they wish, "I wish I could". So it's kind of both basis. One saying it is really good, one like it, but whatever reason, some say, "I won't".

B. How do you feel about their attitudes and behaviors?

I: I think that people who are willing to do this thing, just people say that they are concerned about environment. On the other hand, others are those who don't really care about environment. It's also like, it's always, there is always people who are good and who are not good, just like governments. Some people like Democratic and some people like Republicans. I think people are always like that.

C. Do you think American people at MSU and in E.L. are more familiar with

recycling than Mexicans in Mexico?

I: Yes, much more. Because here you get information about recycling and you see that on TV sometimes. There in Mexico, we never see that. There is no information about recycling, basically. That is different. In Mexico, there is no information, here is more information. **R:** So you are saying that because of information, the U.S. become more familiar with recycling? **I:** Right.

D. Are the MSU and E.L. recycling programs desirable to Mexico?

I: I think they would. But they would probably cost a lot of money. And it seems that they are in economical problems in Mexico. Because of problems of Mexico, they cannot implement that soon. I don't think governments buy trucks and park them at the certain place and collect recycled materials. Because it costs lots of money. I mean they could do that. But the problem is there is no money to buy equipment to recycle.

E. Please tell me what kinds of recycling programs are desirable to Mexico?
-----recycling incentives (deposit, redemption, pick amount, etc.)

I: This is my idea. The same people who serve for collect waste now and if the same trucks are designated for different material collectors such as one for paper, one for glass and one for general garbage to landfill. People dump their waste and recycled materials as usual. Trucks pick them up. That will work and it will be the best economically to do. Anyway it is going to be collected and people who work for garbage bring waste to the final places for garbage and recyclables. it might be economic way to Mexico.

Q-30. The length of time living on MSU apartment housing

A. Do you think foreign non-recyclers become recyclers is related to the length of time living in the U.S.? please tell me the reasons?

I: Yes. It became a part of life. If you are used to recycle and once we are out of here and then if you throw away recyclables, then you would feel bad. If I go there in Mexico, there is no recycling programs, then I am forced to throw garbage away. But we will feel bad about that.

B. Does length of time living on the MSU apartment change you to become a recycler?

I: I think if you live here 2 years, then you have high possibility to become a recycler. First, I think if you live in apartment, you contact a recycling truck and recycling program around apartments. I think just find out where recycling program is. It'll probably take 2 or 3 months. Maybe one time you see truck once a week. The other time you can get community newsletter advertising recycling. If you read that part, and if you are aware of it , next time you will say "oh, there is a recycling program."

Second, they may still throw away garbage but they will remember that recycling program is available. So they will think " I would recycle things" after they throw away materials. So after a year, doing this type of thinking, they are going to think that they want to start recycling and want to find place for recycling materials and instruction. After they find the place to bring recyclables, they will start to recycle. it will take a quite of time , maybe a

month or two to make people feel that that's their part of life and think that they should do this everyday. It'll take lots of time to make habits to recycle. It'll take about 1 year to make it part of their life. You know basically you can recycle all the seasons. I can do it every season of year, with snow, with heat or with leaves. here we do all the time to do it.

R: So you think people can be changed to recyclers even though they were not recyclers in their own country. after they came over here and have a recycling program?

I: Yes. they could be. Especially, they could be indicators of recycling programs. If I go back to Mexico and if I don't see systems, I think I would try to recycle and contact people who have power to establish recycling programs and start to evaluate current waste systems and try to find possibility there. So we would be first indicators for that stage.

Q-31. Individual change of values, attitudes and behaviors regarding recycling

A. Do you think your attitudes about recycling has been changed (or improved) since living on MSU campus or in the U.S.? please tell me why and how it happened?

I: Yes.

B. How about recycling behaviors? Has it been changed/improved?

I: Yes

C. Has your values on recycling changed/improved?

I: Yes

D. Can you say that recycling atmosphere at MSU or E.L. makes you have new or changed values, attitudes and behaviors regarding recycling? Or at least change of one of values, attitude and behaviors?

I: I think it is a matter of universal, universal type of model. It is not cultural because recycling is not culturally born in the U.S. Maybe in the idea of recycling was born in Europe or somewhere else. But the fact of recycling, I think, is more universal. Because you know information given by why recycling is important for environment and for environment of your living, living in Mexico, living in Korea and Living in Africa. It's good for all the environment where you are going to live. Not cultural but universal.

R: How do you like your changes of value, attitude and behavior regarding recycling?

I: I like it. Actually I appreciate that I have been changed. Basically through information I got through my participation of bringing all these recyclables to a recycling truck. I changed and it is important.

Q-32. Assumptions about own recycling attitudes, behaviors and values in the future

A. If you have changed your values, attitude or behaviors about recycling, are you going to keep your changed values, attitude and behavior regarding recycling in your country after you are back home?

B. please tell why you want to keep it?

C. Is keeping your changed values, attitude and behavior about recycling important?

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