

## DEVELOPMENT OF AN ESL CURRICULUM TO EDUCATE CHINESE IMMIGRANTS ABOUT PHYSICAL ACTIVITY

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## **ABSTRACT**

Regular physical activity reduces the risk of many chronic conditions. Multiple studies have shown that Asians in North America engage in less physical activity than the general population. One area for strategic development in the area of health education is the design and evaluation of English as a second language (ESL) curricula. The PRECEDE model and findings from focus groups were used to develop a physical activity ESL curriculum for Chinese immigrants. In general, focus group participants recognized that physical activity contributes to physical and mental wellbeing. However, the benefits of physical activity were most commonly described in terms of improved blood circulation, immune responses, digestion, and reflexes. The importance of peer pressure and the encouragement of friends in adhering to regular physical activity regimens were mentioned frequently. Reported barriers to regular physical activity included lack of time, weather conditions, and financial costs. The ESL curriculum aims to both promote physical activity and improve knowledge, and includes seven different ESL exercises. Our curriculum development methods could be replicated for other health education topics and in other limited English-speaking populations.

**Keywords:** Chinese immigrants, English as a second language (ESL), health education, physical activity

## **INTRODUCTION**

Over the last 25 years, North America has experienced one of the largest immigration waves in history. However, the health status and health needs of immigrants are poorly understood.

Further, studies have often grouped all immigrants together, despite marked differences between sub-groups with respect to culture (1). Asians are one of the fastest growing immigrant populations, and Chinese are the largest Asian sub-group in both Canada and the United States (US). Recent Census data indicate that 2,400,000 Americans and 1,100,000 Canadians are of Chinese descent. Nearly three-quarters of Chinese in North America are foreign-born and over two-thirds speak a Chinese language at home (2, 3).

Regular physical activity can help maintain the optimum functioning of many body structures, as well as having a beneficial effect on certain metabolic processes (4). Evidence exists that physical activity reduces the risk of morbidity and mortality from many chronic conditions including coronary heart disease, hypertension, diabetes, colon cancer, obesity, osteoporosis, and mental health disorders (5, 6). Increasing physical activity in the US is a specific goal of Healthy People 2010, and current guidelines specify that adults should engage in at least 30 minutes of physical activity most days of the week (7, 8). However, multiple studies have shown that Asians in North America engage in less physical activity than the general population (9).

Canadian data indicate that a significant proportion of immigrants participate in English as a second language (ESL) education, and ESL classes provide health educators with ready access to populations with limited English language proficiency (who are often not reached by English language health education materials and media-based health education campaigns) (10, 11). In addition, the ESL environment is considered to be an ideal avenue for health education since people in ESL classes are generally motivated to improve their knowledge (12). Finally, ESL classes allow participants to consider health information within the context of their daily life and a "culturally safe" environment (13).

There is very little literature addressing physical activity among Chinese immigrants to North America or the provision of health education within the context of ESL classes. In this report, we provide qualitative findings from focus groups of Chinese immigrants, and describe how these findings were used to guide the development of a physical activity ESL educational curriculum for Chinese. Our focus groups were conducted in two west coast cities with large Chinese immigrant communities: Seattle, Washington and Vancouver, British Columbia. We believe our approach to curriculum development could potentially be used for other health topics and in other limited English-speaking populations.

## **PHYSICAL ACTIVITY FOCUS GROUPS**

### **Data Collection**

We held four focus groups during 2005: One with Cantonese speaking men in Seattle, one with Mandarin speaking women in Seattle, one with Mandarin speaking men in Vancouver, and one with Cantonese speaking women in Vancouver. We chose four focus groups because the topic is reasonably complex, and approximately 10 participants per group because this size is large enough to get a variety of viewpoints and yet small enough for participants to have opportunities to express themselves (14, 15). It should be noted that Morse has suggested that 30 to 40 focus group participants provide sufficient breadth of input to explore a new area (16). We segmented the groups by gender to ensure that all participants felt comfortable giving their opinions (17). Eligibility criteria included being an immigrant of Chinese descent (regardless of country of origin), speaking Cantonese or Mandarin (the two most commonly spoken languages among Chinese immigrants to North America), and being aged 18 years or older.

Our research group has previously established Chinese Community Coalitions and identified Chinese community advisors in both our study cities to assist with other research projects. Coalition members and community advisors recruited the focus group participants (who all received an honorarium as a token of appreciation for their time). Focus group participants were

clients of community-based organizations (represented on the Coalitions) and members of our community advisors' social networks. A bilingual (Cantonese and English speaking) Chinese facilitator conducted the Cantonese focus groups. Similarly, a Chinese staff member who speaks both Mandarin and English conducted the Mandarin focus groups. Both these individuals are experienced in qualitative data collection. Each focus group session was taped in Cantonese or Mandarin, and lasted about two hours.

Our focus groups employed general principles of group facilitation such as active listening, being flexible when necessary, accepting all ideas and opinions as valid, being non-judgmental, and being sensitive to individuals who do not want to reveal information. An open topic schedule was used to guide the focus groups, leaving the facilitators freedom to explore issues that emerged in the discussion. Focus group questions included the following: Can you describe some things that you do to stay healthy? Can you describe the types of physical activities Chinese do? How often do you do physical activity? Do you usually do physical activity alone or with others? Can you describe some of the benefits of physical activity? Can you describe some factors that motivate you to do physical activity? and Can you describe some factors that make it difficult for you to do physical activity? Participants were also asked for their opinions about the information that should be included in physical activity educational materials for Chinese Americans and Canadians.

### **Data Analysis**

First, we transcribed the focus group sessions verbatim and translated the transcripts into English. (Members of the investigator group translated the transcripts.) Second, three members of the research team (two of these individuals are of Chinese descent) independently coded the transcripts for thematic content. Finally, the coders met to review and summarize the key themes that emerged from the focus groups (17). For intervention planning purposes, the focus group findings were classified within the context of the diagnostic component of the PRECEDE

framework. According to PRECEDE, factors affecting behavior can be broadly grouped as predisposing, reinforcing, and enabling. Predisposing factors include an individual's knowledge, beliefs, and values. Social support, for example, is considered reinforcing. Enabling factors include skills and resources that positively or negatively impact behavior change (18, 19).

### **Demographic Characteristics**

Twelve male immigrants and 11 female immigrants attended the Seattle focus groups. Similarly 11 men and 12 women participated in the Vancouver focus group sessions. The demographic characteristics of the study group are presented in Table I. About three-fifths (59%) were 45 years or older, and the participants' age ranged from 19 to 78 years. Approximately one-half had less than 13 years of formal education (51%) and had been in North America for less than 11 years (57%). Over three-quarters were currently married (76%) and had limited English proficiency (83%). Finally, the majority (52%) were born in mainland China. Other countries of origin included Hong Kong, Taiwan, Indonesia, Malaysia, and Vietnam.

### **General Findings**

All the focus group sessions included individuals who did and did not engage in regular physical activity. Focus group participants almost uniformly recognized that physical activity contributes to physical and mental well-being, as well as longevity. For example, one female Seattle participant said: "When you exercise, you will be in a happy mood. All your illnesses will disappear." Another female Seattle participant said: "Exercise is the best way to stay healthy. It's much better than taking lots of medicine." Finally, a male Vancouver participant said: "To keep healthy, there is no other way but to exercise and be careful about eating more fruit and vegetables." With respect to types of physical activity, walking was mentioned frequently. Individuals who were physically active engaged in common western activities such as cycling, golfing, jogging, running, playing soccer, swimming, skiing, and playing tennis, as well as traditional Chinese activities such as qi gong, kung fu, and tai chi.

### **Predisposing Factors**

While many focus group participants described their personal physical activity regimens, none referred to national physical activity guidelines. Table II provides some examples of participants' quotes about predisposing factors. In general, they recognized the relationship between lack of physical activity and obesity. However, only a few described the prevention of specific health problems such as diabetes, hypertension, and heart disease. Rather, the benefits of physical activity were more commonly described in terms of better blood circulation, immune responses, digestion, reflexes, and sleep patterns. Several participants believed that it is inappropriate for older people to engage in any physical activity, and most believed that older people should not engage in vigorous physical activity. Finally, some individuals noted that doing physical activity can lead to improved communication and greater harmony in familial relationships, and can help people stay healthy so they can take care of their families.

### **Reinforcing Factors**

A few of the individuals who reported being physically active preferred to walk or do other types of physical activity alone. However, the majority indicated they did physical activities with family or friends, or would prefer to do so. The importance of peer pressure, mutual support, and the encouragement of friends in adhering to regular physical activity regimens were mentioned frequently in all the focus group sessions. Receiving a physician recommendation to do more physical activity, particularly when people already have health problems such as diabetes, was also considered to be an important reinforcing factor by some participants (Table II).

### **Enabling Factors**

Lack of time was the most frequently cited barrier to regular physical activity in both study cities, as well as among men and women (Table III). In addition, Seattle focus group participants indicated that Chinese immigrants have work schedules that make it difficult to find a convenient time for group activities. Weather conditions and safety concerns were also described as factors

that can make it difficult to engage in regular physical activity. A few immigrants described a lack of familiarity with their new city (Seattle or Vancouver), and the location of facilities such as swimming pools. Others commented that there are few organized sports and leisure activities for Chinese immigrants. Additionally, several focus group participants reported they could not buy exercise equipment or play golf, for example, because of financial costs.

### **Recommendations about Educational Materials**

Our focus group participants made several recommendations about the information that should be included in physical activity educational materials for Chinese immigrants. They thought such materials should emphasize the benefits of physical activity and describe the negative consequences of not being physically active. In general, participants thought that educational materials should recognize traditional Chinese beliefs about the appropriateness of vigorous physical activity for older people, and provide information about physical activities for people of different ages. Participants also recommended addressing common barriers to regular physical activity, and providing suggestions for how to overcome these barriers. Finally, our focus group participants thought physical activity educational programs for Chinese should provide information about relevant community resources.

## **THE ESL CURRICULUM**

### **Overview**

ESL classes for adults are generally offered on a continuum across three levels: Beginner, intermediate, and advanced (20, 21). Before developing our ESL curriculum, we asked ESL program managers from several community-based organizations for their opinions about the appropriate English proficiency level for a physical activity ESL module. Based on their input, the curriculum was developed for intermediate level ESL students. We also conducted focus groups with ESL instructors. Participants were asked for their advice about appropriate ESL exercises for a physical activity educational curriculum. As a result of our ESL instructor focus

group findings, the physical activity curriculum emphasizes interactive class exercises, includes an audio-visual presentation, and uses visual aids.

It is recommended that educational programs address the three PRECEDE groupings (preceding, reinforcing, and enabling factors) simultaneously, and this principle was applied to our physical activity ESL curriculum (18). The content was based on our focus group findings with respect to PRECEDE factors and recommendations for the content of physical activity educational materials (Table IV). Members of the research group and a project consultant (with extensive experience in developing ESL lessons) developed the physical activity educational module. A draft curriculum was pre-tested with additional focus groups of ESL instructors. Input from the pre-testing focus group sessions was used to refine the individual ESL exercises. ESL managers from community-based organizations reviewed the final curriculum exercises to ensure the English level was appropriate for intermediate level students. The physical activity ESL curriculum is designed for a three-hour class and contains multiple commonly used types of ESL lesson exercises (22, 23). These exercises are described below.

### **Warm-up and Vocabulary Cards**

ESL classes usually start with a warm-up activity and a review of key vocabulary that will be included in the lesson. Our warm-up activity is designed to address social norms and support for physical activity (reinforcing). Each student receives a worksheet with nine boxes to fill in. Class members are asked to find other students who fit the description in each box. For example, students are asked to find someone who does physical activity at least five times a week, takes stairs instead of elevators, walks to ESL class, enjoys gardening, and does tai chi. For the vocabulary card exercise, small groups of students are given two sets of 24 cards. They work together matching words or phrases with meanings or pictures. For example, in this curriculum, the word “cholesterol” is matched with the meaning “fat in the blood” and the word “dancing” is matched with a photo of couples doing ballroom dancing.

### **Information–gap**

In the third exercise, students work in pairs to complete information–gap worksheets that both refer to the same story. One student in the pair receives worksheet A and the other receives worksheet B. Student A is missing some vocabulary from his/her story, and student B is missing other vocabulary. Students take turns reading, speaking, listening, and writing until they have filled in their stories. Then, they work on answering comprehension questions on the back of their worksheet. Finally, a review of the comprehension questions takes place as a whole class. As shown in Table V, the information–gap story describes a doctor giving advice about physical activity (reinforcing), provides information about physical activity guidelines and the health benefits of physical activity (predisposing), and suggests ways for busy people to do enough daily physical activity (enabling).

### **Video**

A short video clip shows two friends, Ben and Anna, who run into each other in the office cafeteria. Ben tells Anna that he went for a check-up and his doctor told him that he needed to be more physically active to stay healthy. However, Ben does not think he has enough time for physical activity. The video focuses on Anna showing Ben how to use a pedometer (at the end of the class, students are given a pedometer and pedometer instruction sheet). During the video, Anna tells Ben that adults need at least 30 minutes of physical activity a day, but the physical activity can be done in three 10 minute time blocks. She also suggests that Ben park his car in the far corner of the office garage rather than by the door so he has to walk, and use the office stairs rather than the elevator.

### **Jigsaw**

When completing jigsaw exercises, students form three equal sized groups and each group receives one of three reading passages about physical activity. They read their passage and then review it with others who have the same text. Then, students are reformed into new groups

of three with each student in the reformed group having a different text. The students take turns relaying the information in their text to their new partners who have comprehension questions for each section. Once all three students have taught their material, the students have covered all the texts. Finally, comprehension questions are reviewed as a class. As shown in Table VI, the three jigsaw passages address multiple predisposing factors.

### **Guided Discussion**

During the guided discussion exercise, the instructor answers any remaining questions the students may have about physical activity, and uses visual aids to emphasize several predisposing factors. For example, one visual aid lists specific diseases that can be prevented by physical activity along with definitions of these diseases (e.g., "diabetes" and "a disease caused by too much sugar in the blood"). The instructor also encourages students who do regular physical activity to share their experiences and provide social support to other students (reinforcing). Finally, the teacher leads a discussion on finding out about physical activity programs in the community. For example, he/she discusses using the yellow pages to find local community centers that offer physical activity classes, and downloading park maps that show walking and cycling trails (enabling).

### **Problem/Advice Cards**

Finally, small groups of students are given a set of six problem/advice cards. Each group of students discusses the problems or situations on the cards and offers advice. Then, the problems and advice are discussed as a class. The cards are designed to address predisposing and enabling factors, as well as provide reinforcement for physical activity (by encouraging students to discuss physical activity with one another). For example, two of the problem/advice cards address physical activity for older people (I am 60 years old now. I think I am too old to do physical activity. What physical activities do older people do?) and lack of time (I study English

four mornings a week and then pick up my children from school. I cook all the meals for my family. How can I find time for physical activity?).

## **DISCUSSION**

We have previously reported our results from a community-based survey of Chinese immigrants in Seattle (24). This survey demonstrated a need for programs to increase levels of physical activity. Only 31% of the survey respondents engaged in regular physical activity (did at least 30 minutes of physical activity five or more days per week) and 14% were physically inactive (did physical activity less than once a month). Our focus group findings show that there is also a need for health education programs addressing knowledge about physical activity among Chinese Americans and Canadians. For example, we found a lack of awareness about published guidelines for the frequency and duration of physical activity, and a lack of knowledge about the specific diseases that can be prevented by physical activity.

The US Surgeon General's report on physical activity and health summarized the influences on physical activity patterns among adults in the general US population. This report concluded that the main determinants of physical activity participation are enjoyment of physical activity, support from others, positive beliefs concerning the benefits of physical activity, and lack of perceived barriers to being physically active (25). We found that barriers to physical activity (e.g., weather conditions and safety issues) among Chinese immigrants were similar to those reported from research in other population sub-groups (26-28). However, our findings indicate that physical activity among Chinese immigrants is also influenced by culturally specific beliefs concerning the appropriateness of physical activity for elders and the importance of maintaining harmonious familial relationships.

Dietary Guidelines for Americans 2005 simply recommends that adults should do physical activity for at least 30 minutes most days of the week (7). However, some authorities

recommend that adults should engage in 30 or more minutes of moderate intensity physical activity at least five days a week, or 20 or more minutes of vigorous intensity physical activity at least three days a week (29). Because our focus group findings showed that many Chinese immigrants believe that vigorous physical activity is inappropriate for older people, we did not include physical activity guidelines that refer to moderate and vigorous physical activity in our ESL curriculum.

Qualitative methods such as focus groups are useful tools for investigating a new area of research and developing new intervention programs (30, 31). They are also appropriate when conducting research in communities about which little information exists (32). In focus groups, relatively homogeneous participants are brought together to discuss a specific topic. As such, the observations drawn from individuals are not independent nor are the individuals a probability sample from a known population (15, 33). However, we believe that our focus group methodology was useful in developing a physical activity ESL educational module for Chinese immigrants, and that the generalizability of our findings was enhanced by collecting data in two cities. Further, we believe that our approach could easily be replicated to develop ESL curricula focusing on other health topics and for other immigrant populations (e.g., Spanish speaking).

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**TABLE I: CHARACTERISTICS OF FOCUS GROUP PARTICIPANTS (N = 46)**

<b>Characteristic</b>	<b>N</b>	<b>%</b>
City		
Seattle	23	50
Vancouver	23	50
Gender		
Male	23	50
Female	23	50
Age		
<45	19	41
≥45	27	59
Education in years		
≤12	23	51
>12	22	49
Currently married		
Yes	35	76
No	11	24
Years in North America		
≤10	26	57
>10	20	43
Spoke English fluently		
Yes	8	17
No	38	83
Country of birth		
China	24	52
Hong Kong	9	20
Taiwan	7	15
Other	6	13

**TABLE II: PREDISPOSING AND REINFORCING FACTORS**

<b>Factor</b>	<b>Examples of Quotes</b>
Knowledge and beliefs about the health benefits of exercise	<p>Cancer is common and so it is important to eat more vegetables and to exercise more. (Seattle man)</p> <p>Exercise helps keep our joints and bones flexible, and our digestion healthy. (Seattle man)</p> <p>My mother used to have arthritis. When she lived in Guang Zhou, she went to the park in the morning to learn tai chi. Her health is very good now. (Seattle woman)</p> <p>Exercise strengthens the immune system. You won't get flu with ample exercise. (Vancouver man)</p> <p>Tai chi helps with the internal circulation. (Vancouver man)</p>
Beliefs about the family benefits of exercise	<p>Being active sidetracks problems within the family and avoids arguments. (Vancouver man)</p> <p>I enjoy walking because I walk with my husband. During the walk, we can discuss many things. We found that we have better communication. (Vancouver woman)</p>
Beliefs about exercise for older people	<p>I don't do lots of exercise or need to now that I am getting older. (Seattle man)</p> <p>Younger people lift weights, but how can elders lift weights? (Seattle man)</p> <p>You can't ask older people to go biking and swimming. We like something "soft" such as tai chi. (Vancouver woman)</p>
Physician recommendation	<p>I had wheezing and the doctor advised me to change myself. Under the doctor's instruction, I did certain forms of exercise. (Seattle man)</p> <p>After getting diabetes, I felt like it was the end of the world. My doctor said you have to exercise. I followed the doctor's recommendation to walk every day. (Seattle woman)</p> <p>I think the main reason to exercise is when your doctor says you are too fat or have high cholesterol. (Vancouver woman)</p>
Support of friends	<p>If you want to reduce your potbelly or work on your chest, it's good to have a partner so you can encourage each other. You can motivate each other that way. (Seattle man)</p> <p>I like to play basketball but it's hard to find friends to play with. So I don't exercise a lot. (Seattle woman)</p> <p>One person can do tai chi. But if there's only one person, you would lose interest. But as a group, you see each other every day. (Vancouver woman)</p>

**TABLE III: ENABLING FACTORS**

<b>Factor</b>	<b>Examples of Quotes</b>
Lack of time	<p>Life in America is different from Hong Kong or China. It's hard to find a time that works for everyone. We have people working all the different shifts. (Seattle man)</p> <p>I need to leave home at 5.30 in the morning. I also need to prepare dinner and mop the floor. I am usually busy non-stop. (Seattle woman)</p> <p>People who need to work and study have no time to exercise. We need something like "instant noodle" that can burn energy quickly. (Vancouver woman)</p>
Financial concerns	<p>Exercise machines cost too much money. (Seattle woman)</p> <p>Golfing is too costly for me. (Vancouver man)</p>
Weather conditions	<p>When it rains or snows, you can't exercise in the park. Now, all the leaves have fallen from the trees and the northern wind is blowing. (Seattle man)</p> <p>It really depends on the weather. In summer, we go out in the morning as well as in the evening. However, in the winter, I'm not willing to go out. (Vancouver woman)</p>
Safety issues	<p>The safety issue has become a barrier. Even if I wanted to jog, I wouldn't dare to jog early in the morning. (Seattle man)</p> <p>You need to think about safety. (Vancouver woman)</p>
Lack of information about physical activity facilities	<p>I want to play tennis but don't know where the tennis court is. (Seattle man)</p> <p>I still don't know where the swimming pool is. I went to the swimming pool where I lived before, but I don't know where it is here. (Seattle woman)</p> <p>Moving from one place to another is a barrier. You have to get familiar with the resources in your new setting. (Vancouver man)</p>
Availability of organized activities for Chinese	<p>At my neighborhood park, there are many Hispanic men playing soccer. We don't have a Chinese group that organizes this kind of exercise activity. (Seattle man)</p> <p>My parents' English is not good. They need a place where Chinese people can exercise. (Seattle woman)</p> <p>There is no place for dancing here. If only there could only be a place in Chinatown for dancing like there was in China. (Seattle woman)</p>

**TABLE IV: EXAMPLES OF APPLICATION OF FOCUS GROUP FINDINGS TO CURRICULUM DEVELOPMENT**

Finding	Application
<b>Predisposing</b>	
<ul style="list-style-type: none"> <li>▪ Participants were unfamiliar with physical activity guidelines.</li>   <li>▪ Few individuals described specific diseases that can be prevented by physical activity.</li> <li>▪ Participants thought that educational materials should address the negative consequences of being physically inactive.</li>   <li>▪ Some participants believed that it is inappropriate for older people to engage in physical activity, and most believed that older people should not engage in vigorous physical activity.</li> <li>▪ Participants thought that educational materials should recognize traditional Chinese beliefs about vigorous physical activity for older people.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Physical activity guidelines are given in the information–gap, jigsaw, and guided discussion exercises.</li>   <li>▪ Information about the specific diseases that can be prevented by physical activity is provided in three of the exercises.</li>   <li>▪ The jigsaw exercise emphasizes that everyone can benefit from physical activity and provides information about physical activities that are enjoyed by people of different ages.</li> <li>▪ A problem/advice card addresses physical activity for older people.</li> </ul>
<b>Reinforcing</b>	
<ul style="list-style-type: none"> <li>▪ Social support of physical activity was considered an important reinforcing factor.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The warm-up, video, guided discussion, and problem/advice card exercises address social support for physical activity.</li> </ul>
<b>Enabling</b>	
<ul style="list-style-type: none"> <li>▪ Cited barriers to physical activity included lack of time, financial concerns, weather conditions, and lack of information about physical activity facilities.</li> <li>▪ Participants thought educational materials should address barriers to physical activity.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lack of time is addressed in the information–gap, video, and problem/advice card exercises.</li> <li>▪ Financial costs and weather conditions are addressed in the problem/advice card exercise</li> <li>▪ The guided discussion exercise teaches students how to find out about community resources for physical activity.</li> </ul>

## TABLE V: INFORMATION-GAP EXERCISE \*

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Jenny feels tired. She is new to Canada and is very busy helping her family in their new home. Her children need help with homework, her husband needs help with his business, and she wants to keep a good home for her family. Jenny is trying to learn English and thinks she does not have enough time for physical activity.

Jenny sees her doctor for a check-up. The doctor asks Jenny about her lifestyle. The doctor also asks Jenny about her parents' health. Jenny tells the doctor her mother had diabetes and heart disease, and died at an early age. Jenny's lifestyle is similar to her mother's, and Jenny is worried she may die young too. The doctor tells Jenny that regular physical activity will keep her healthy. It will prevent diabetes and heart disease. The doctor tells Jenny that adults need at least 30 minutes of physical activity and children need one hour of physical activity a day to stay healthy.

Jenny does not think she has enough time for physical activity. The doctor recommends several small changes in her daily life that will give her more physical activity. The doctor suggests going for a walk with her family after dinner. The doctor suggests Jenny walk to her English class with some classmates. The doctor tells Jenny she can take stairs in big buildings instead of the elevator.

Jenny's doctor knows that a little physical activity will give Jenny a lot more energy. The doctor reminds Jenny that she needs to take care of herself so she is healthy enough to take care of her family.

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\* Words in the first and third paragraphs are missing from student worksheet A, and words in the second and fourth paragraphs are missing from student worksheet B.

**TABLE VI: JIGSAW EXERCISE PASSAGES**

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**Passage A – Physical Activity Amount**

Adults should do physical activity for at least 30 minutes every day. Ten minutes of physical activity three times every day is almost as good as 30 minutes of continuous physical activity. Children and teenagers need about twice as much physical activity as adults. They need at least 60 minutes of daily physical activity. People can easily do enough physical activity by regularly walking, gardening, and doing housework.

**Passage B – Common Physical Activities**

Physical activity includes anything that gets people moving. Everyone can benefit from regular physical activity, even if they are older or have health problems. Activities that older people enjoy include dancing, golfing, and tai chi. Activities that younger people enjoy include rollerblading, snowboarding, and soccer. Activities that families enjoy together include bicycling, swimming, and walking.

**Passage C – Physical Activity Benefits**

Many immigrants do less physical activity than they did in their home country. It is important for everyone to find a physical activity that is convenient and fun. There are many benefits of physical activity. It can give people more energy and less stress. Physical activity also allows families to spend more time together. Health problems that regular physical activity can prevent include hypertension, high cholesterol, heart disease, diabetes, colon cancer, and obesity.

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