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**HISPANIC YOUTH PHYSICAL ACTIVITY  
PARTICIPATION: A STUDY OF  
PSYCHOLOGICAL AND SOCIAL INFLUENCE**

**A Thesis**

**by**

**MARY LOU TRINIDAD**

**Submitted to the Graduate School of the  
University of Texas-Pan American  
In partial fulfillment of the requirements for the degree of  
MASTER OF SCIENCE**

**May 2009**

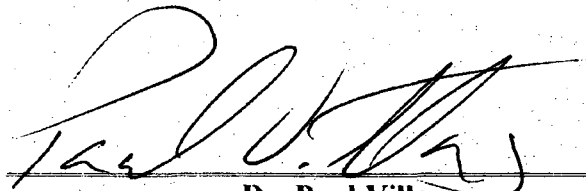
**Major Subject: Kinesiology**

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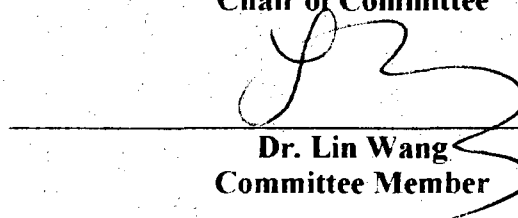
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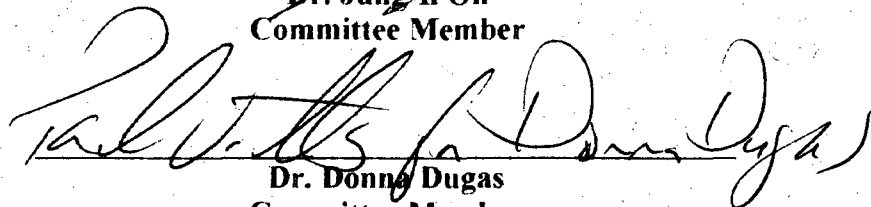
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## **ABSTRACT**

Trinidad, Mary Lou, Hispanic Youth Physical Activity Participation: A Study of Psychological and Social Influence. Master of Science (MS), May 2009, 53 pp., 18 references.

This study seeks to identify barriers that influenced middle school students from engaging in daily physical activity at least 60 minutes outside of their physical education classes in the Rio Grande Valley. Statistical significance of the study will be determined at the 95% level of confidence. The researcher offers the null hypothesis of no difference between the doers and non-doers. The participants of this study were 79 middle school students ages 12-15. The participants were given an open-ended questionnaire. Cross tabulation analyses was conducted to determine difference using the Mann-Whitney U Test. Data from the research questions was analyzed by a qualitative process.

## **DEDICATION**

The completion of my master studies would not have been possible without the encouragement, love, and support of my family. My mother, Guadalupe Z. Verduzco, my father, Antonio T. Verduzco (deceased), my sister, Dina Marie Verduzco, my spouse, Guillermo Trinidad, my son, Diego Trinidad, and my daughters Yesenia and Ytszel Trinidad, who motivated, encouraged, and supported me to accomplish this degree. Thank you for your love and patience.

## **ACKNOWLEDGMENTS**

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## **CHAPTER 1**

### **INTRODUCTION**

#### **Background**

Physical education as well as obesity continues to rise within the U. S. population. The mere fact that physical activity is on the rise may not be enough to make a positive impact. One-half of American youth ages 12–21 are not vigorously active on a regular basis and 14% of young people report no recent physical activity (Surgeon General, 2007). The inactivity is more common among females (14%) than males (seven percent) and among black females (21%) than white females (12%) (Surgeon General, 2007). While the general public should be aware of the health benefits one gets from physical activity, our youth and their parents must be reminded that physical activity can make the difference in whether they become overweight or obese. It is reported that 13% of children and adolescents and 61% of U. S. adults are overweight or obese (Surgeon General, 2001). It is logical to link the increasing obesity rates in developing countries with a progressive introduction of factors associated with obesity in developed societies such as sedentary lifestyle and consumption of high fat, and

high sugary fast foods (Zhang, Middlestadt, & Ji, 2007). As a result, today's youth are at high risk of becoming overweight or obese. Therefore, to prevent and control the epidemic of childhood obesity, effective prevention programs addressing physical activity are needed and middle school is a good place to start (Zhang, et al., 2007).

Behavioral and social causes of overweight/obesity should be taken into account when designing physical activity programs for youth. Experience has shown that behavioral interventions based on empirical understanding of psychosocial factors underlying people's decisions are more likely to be effective (Zhang, et al., 2007). Therefore, all aspects of our youth's lifestyle should be taken into account when designing a physical activity program. Youth who are inactive and are not in the best physical condition can begin to participate in physical activity when the underlying reasons for inactivity are understood and research identifying the factors associated with the behavior among representatives of a targeted group is an important prerequisite to effective interventions (Zhang, et al., 2007). This study was undertaken to understand the social and psychological factors that underline physical activity.

### **Purpose of the Study**

The purpose of this study was to show what barriers exist that prevent youth in the Rio Grande Valley from engaging in physical activity outside physical education classes. Additionally, the investigator wanted to see if student responses to the survey were different to responses from Chinese students. The data generated provided suggestions for interventions and further research.

### **Statement of the Problem**

The problem this study addressed was to identify the effects of psychological and social aspects of engagement or lack of engagement in physical activity by middle school students in the Rio Grande Valley. The results suggest types of interventions as well as provide input to the design of close-ended items for larger scale theory-based quantitative studies.

Specific questions used in this study were developed, derived and utilized in previous investigations with different populations (Zhang, et al., 2007). The investigator's interest in wanting to find out what keeps students participating or not in physical activity out side of physical education class prompted this study. If the student's health was to be impacted, learning which barriers exist that might prevent them from participating in regular physical activity is important. The following research questions were formulated to guide the study:

1. What are the advantages or positive things students believe will occur if they participate in at least 60 minutes of physical activity each day?

2. What are the disadvantages or negative things students believe will occur if they do not participate in at least 60 minutes of physical activity each day?
3. Who do students believe agrees with them and approves of their participation in physical activity at least 60 minutes each day?
4. Who do students believe disagrees with them or disapproves of their participation in physical activity at least 60 minutes each day?
5. What favorable circumstances exist that makes it easier for students to participate in at least 60 minutes of physical activity per day?
6. What barriers exist that make it difficult or impossible for students to participate in at least 60 minutes of physical activity per day?

### **Need of the Study**

The need to understand the psychosocial determinants of regular physical activity behavior among Rio Grande Valley middle school students was vital considering the overweight and obesity rates (Villas, 2004). The investigator believes qualitative research was a necessary first step. The need to identify the salient beliefs underlying the decision to participate in physical activity held by middle school students also warrants a need for this investigation

### **Delimitations**

This study was designed to identify significant beliefs underlying the decision to participate in physical activity. The following delimitations were imposed upon this study:

1. The participants were students from two middle schools.
2. The participants were girls and boys between the ages of 10 and 16.
3. The participants did not have any pre-existing medical conditions.
4. The participants were enrolled in a physical education class.

### **Limitations**

The following limitations are noted in this study based on the selection of participants.

1. Participants selected from two middle schools were not representative of all middle school students in the Rio Grande Valley.
2. Some of the participants did not participate in physical activities because of school absences.

### **Assumptions**

The following assumptions were made in conducting this study:

1. The participants were willing to be part of this study.
2. The participants were physically and mentally able to participate in physical activity.
3. The participants responded to the open-ended questions truthfully.

4. The participants understood the directions for answering the questionnaire.

### **Definitions of Terms**

The following terms facilitated the understanding of this study and were used throughout the literature:

1. Physical activity: A physical activity that increases your heart rate and makes you get out of breathe some of the time.
2. Middle school students: Students in grades 7–8.
3. Sedentary lifestyles: Physical activities that do not increase your heart rate or gets you out of breathe.

### **Summary**

Lack of physical activity in an adolescent's life can cause youth to become overweight or obese adults. Reported literature on youth physical activity indicated an understanding of why they become active. However, it is important to understand the intensity of physical activity and whether middle school students understand its health relationship to physical engagement.

### **Organization of the Remainder of the Study**

The presentation of related literature relevant to this study follows in Chapter Two. This chapter acquaints the reader with psychosocial factors about reported research that influences physical activity. In the succeeding chapters, the investigator explains the methodology followed in this study, presents the findings, tests analysis, conclusions, and recommendations.



## **CHAPTER II**

### **REVIEW OF LITERATURE**

#### **Introduction**

Physically active individuals are known to be more alert, healthy, and outgoing. However this is not always the case. The Surgeon's General Report on physical activity states that half of American youth ages 12-21 are not vigorously active on a regular basis and 14% of young people report no recent physical activity ([www.education.com/reference/article/Ref\\_Report\\_Surgeon/](http://www.education.com/reference/article/Ref_Report_Surgeon/), 2007).

There are many constraints that keep middle school students from participating in physical activity. Studies have come up with different reasons that students do not participate in physical activity. Individual child characteristic, weight status may be a factor influencing the relationship between the social context and youth's physical activity (Salvy, Bowker, Roemmich, Romero, Kieffer, Paluch, and Epstein, 2007). Strategies to promote physical activity among adolescents should focus on increasing levels of family cohesion, parental engagement, parent-child communication, and adolescent self-esteem (Ornelas, Perreira, & Ayala, 2007). An understanding of these relationships is essential to the

development of family-focused interventions programs that promote adolescent physical activity, and ultimately prevent overweight and obesity (Ornelas, et al., 2007).

### **Psychosocial Factors**

Many factors will be identified to prevent middle school students to engage in physical activity, for instance environment, school, parents, friends, and many more. Programs to increase physical activity should address the social and environmental factors underlying these perceptions with the goal of strengthening student engagement in physical activity and improving learning potentials (Zhang, et al., 2007). Research indicates that the role of the parents as a social referent that students' perception of the connection between physical activity and academic performance, research is needed to understand the views of parents, teachers, and school administrators (Zhang, et al., 2007). Previous research has shown that the most promising psychosocial mediators of movement in stages of change in physical activity include self-efficacy beliefs, social support, attitude, perceived behavioral control, and identity (Lorentzen, Ommundesen, Jenum, & Holme, 2007).

Participating in physical activity has been approved to be a lifestyle to maintain health. Despite the benefits of regular physical activity, only 25% of adults in the United States report engaging in the recommended amounts of physical activity (i.e., 30 minutes of moderate-intensity activity on five or more

days per week, or 20 minutes of vigorous-intensity activity on three or more days per week); 29% report no leisure time of regular physical activity; and only 27% of students (grades 9 through 12) engage in moderate-intensity physical activity (30 minutes, five or more days per week)(Kahn, Ramsey, Brownson, Heath, Howze, Powell, Stone, Rajab, Corso, and the Task Force on Community Preventive Services, 2002). In Healthy People 2010, physical activity is ranked as a leading health indicator. Healthy People 2010 have developed goals to improve levels of physical activity among adults, adolescents, and children and to reduce sedentary behavior among adolescents (Kahn, et al 2002). Engaging in regular physical activity during childhood is hypothesized to reduce the health risks associated with inactivity and benefit health both during childhood and adulthood (Ridgers, Straton, Fairclough, & Twisk, 2007). Behavioral interventions based on an empirical understanding of psychosocial factors underlying people's decisions are more likely to be effective (Zhang, et al., 2007).

### **Physical Activity and Adolescents**

An alarming situation in youth physical activeness exists today.

Considerable evidence documents that nearly 35% of youth in the U.S. fail to meet the minimum physical activity guidelines and another 14% are completely inactive (Davison & Lawson, 2006). We all know that not being physically active can lead to health problems. Furthermore, children who are not physically active are denied the positive social and emotional benefits of physical activity

including higher self-esteem, lower anxiety, and lower stress (Davison, et al., 2006). To maintain healthy lifestyle children need to participate in physical activity. A study indicated that participation in after school physical activity has been associated with lower BMI in middle and high school students (Rushovich, Voorhees, Davis, Newumark-Sztainer, Pfeiffer, elder, Going, and Marino, 2006). Engaging in regular physical activity during childhood is hypothesized to reduce the health risks associated with inactivity and benefit health both during childhood and adulthood (Ridgers, Stratton, Fairclough, & Twisk, 2007). Regular physical activity can help mitigate the negative consequences of excess weight, by reducing the risk of cardiovascular disease, obesity, hypertension, and hyperlipidemia. Physical activity can also help increase lean body mass and aid in weight control (Rushovich, et al. 2006). Physical activity needs to be increased so that children do not become overweight or obese. Increasing physical activity is also beneficial because it is associated with multiple health benefits, including decreased risk of cardiovascular disease, stroke, hypertension, and diabetes and improved mental health (Ries, Voorhees, Gittelsohn, Roche, Astone, 2008). Adolescents that participate in physical activity gain psychological benefits as well as health benefits. Studies show that psychological benefits of participation in physical activity, such as increased self-confidence, feeling good about their physique, and greater self-discipline. Engaging in

physical activity to relieve stress, and to decrease tension and anger during physical activity (Allison, Boutiller, Dwyer, Fein, Goldenberg, & Yoshida, 2005).

### **Constraints**

There are so many things that get in the way of participating in physical activity. These constraints are just excuses that we use that prevent us from being active. Barriers to physical activity include both internal factors (individual characteristics, lower priority for physical activity, and involvement in technology-related activities) and external factors (the influence of peers and family, lack of time, and inaccessibility and cost of facilities) (Allison, et al., 2005). "Clearly the more time a person spends watching television, the less time they have to be physically active", said Gary Bennett, PhD, of Dana-Farber's Center for Community-Based Research and the Harvard School of Public Health ([www.sciencedaily.com](http://www.sciencedaily.com), 2006). Not being active is one of the reasons that obesity and overweight among children is growing. Sedentary behaviors, such as television viewing and computer games, may influence energy balance through displacement of physical activity, increased energy intake, or reduced metabolic rate (Boone, Gordon-Larsen, Adair, & Popkin, 2007). The need to find out what keeps children from being active in the way they live their lives. Sedentary behavior often originates in childhood and many common adult chronic diseases are related to inactivity. Adolescent physical activity patterns and health habits are important subjects to study because of the known association of physical

activity with other health habits and the evidence that these associations track into adulthood (Aarnio, Marja E., 2003).

### **Summary**

Relevant literature reported that participating in physical activity offers health and social benefits. The studies indicate that participating in physical activity during childhood years will continue in their adult years. The literature indicated that:

1. Physical activity decreases illness.
2. Physical activity helps with weight control.
3. Physical activity helps build and maintain healthy bones, muscles, and joints.
4. Physical activity helps prevent and/or delays the development of high blood pressure.

The review of research literature suggests that interventions to encourage physical activity among middle school students should address: perceived consequences of physical activity on academic achievement and other factors beyond physical health; barriers of not having enough time; and parental approval. More research on psychosocial factors determines the needs to be done. The need for such a study is important and prompted the researcher to do this study.

## **CHAPTER III**

### **METHODOLOGY**

#### **Introduction**

This chapter presents the procedures of the study in four sections. The first section discusses the participants. The second section presents the procedures and instrument used in the study and the third section discusses the content analysis. Finally, the fourth section includes a summary of the chapter.

#### **Participants**

The participants for this study were 79 middle school students. The students were selected from four different classes from two middle schools (eight classes in total) from two different school districts. All students from each of the eight classes were invited to participate in the study. Parental, school, and student permission were secured from those agreeing to participate in this study.

#### **Procedures and Instrumentation**

Before the study began, the researcher secured administrative permission, school campus consent and a cooperation agreement from the physical education instructor. Once consent was determined on all levels, a meeting schedule was

formulated. The over-arching student behavior selected for the study was the physical activity participation for at least 60 minutes every day outside physical education classes. Meetings were organized, information was collected and literature was distributed to participants. The forms were returned to the physical education instructor and the investigator collected them and determined the number of participants for the study (students who returned the parental consent form received a gift from the investigator).

Study variables were barriers that impeded students from participating in at least 60 minutes of physical activity every day outside of physical education class. Positive factors that contributed to active physical activity were studied.

A collection of specified measurements establishing differences between the students was conducted.

These measurements included:

1. School Grade
2. Age (as of today)
3. Gender
4. Height (in inches)
5. Weight (in pounds)
6. Waist circumference
7. Number of days per weeks a student exercises



The selected physiological measurements chosen for this study were derived from the Global School-based Health Survey

([www.who.int/chp/gshs/methodology/en/index.html](http://www.who.int/chp/gshs/methodology/en/index.html)).

The instrument included questions about demographical information, six open-ended questions to identify salient consequences, social referents, and circumstances relating to participation in physical activity and four Likert-type questions that determined beliefs about engaging in physical activity (Zhang, et al., 2007). The questionnaire was administered during physical education class by the investigator. Class instructors were not present during data collection. The investigator introduced the purpose and value of the study, emphasizing that data collection was anonymous. Students were informed that there were no right or wrong answers and school grades were not affected. A simple probing question was used, such as “who would care that you always do physical activity every day,” “who would disagree with you participating in physical activity every day,” and “what are the benefits you get by doing physical activity.” A group discussion was conducted at the end of the session to get feedback from students and identify key words. The questionnaires were completed within the allotted 30 minutes.

### **Content Analysis**

Experts in the field were used to categorize participant responses from the open-ended questions (Fischer, 2005; Taylor & Bogdan, 1998). Content analysis

identified categories of positive and negative outcomes or consequences of participating in physical activity. Individuals or social groups who serve as social referents and of easy and difficult circumstances to exercise were identified. Similar responses were grouped together to form major categories of responses for each question. The data were coded into these categories for evaluation. Additionally, a four question Likert survey with five possible options from “very likely” to “very unlikely” responses to physical activity was administered. Null hypothesis of no difference between Doers and Non-doers were offered. The following Null hypotheses were formulated for this study:

H<sub>0</sub>—There is no difference in results between Doers and Non-doers for the four Likert scaled questions.

H<sub>0</sub>—There is no difference in results between Female Doers and Female Non-doers for the four Likert scaled questions.

H<sub>0</sub>—There is no difference in results between Male Doers and Male Non-doers for the four Likert scaled questions.

H<sub>0</sub>—There is no difference in results between Males and Females for the four Likert scaled questions.

H<sub>0</sub>—There is no difference in responses to psychological and social influence as they affect physical activity engagement between Chinese youth and RGV youth.

A Mann-Whitney test was used to analyze the responses to the Likert scaled questions and a Z-test for proportions was used to determine differences between Chinese youth to RGV youth. The level of significance was set at .05.

Students who participated for at least 60 minutes of physical activity for four or more days a week were classified as doers and those who reported three or few days of physical activity were classified as non-doers. Cross tabulation analyses was done to compare the percentage mentioning each category of salient consequences, social referents, and circumstances separately among doers and non-doers. Analysis to determine differences between doers and non-doers and Chinese youth to RGV youth were performed.

### **Summary**

This chapter outlined the study of qualitative procedures for the eight middle school physical education classes. Administrative, parental, and student permission along with a school campus consent and a cooperation agreement from the physical education instructor were acquired; the participants were informed that their dedicated and honest answers determined the outcome of the research. At the beginning of the study, physical and physiological measurements were collected from the participants. Variable results were acquired through the survey questions. Data were transferred into tables from “doers” and “non-doers” categories. Data from Zhang, et al. (2007) study about Chinese youth were

compared to the data from the current study for differences. Tests were run on the data to determine variation.

## **CHAPTER IV**

### **DATA RESULTS**

#### **Introduction**

This chapter presents the results of the investigation in three sections. The first section discusses the investigation as applied to a group of middle-school students enrolled in physical education classes. The second section presents the results of the data and the third section presents a summary.

#### **The Study**

The purpose of this study was two-fold: (1) to determine the existence of barriers that prevent youth from engaging in physical activity outside of their physical education class, and (2) to replicate an investigation using a similar instruments used previously with Chinese youth. The investigator wanted to compare results from the Chinese youth study with Hispanic youth from the Rio Grande Valley. A questionnaire included closed- ended, open-ended and scaled queries that were used to identify psychological and social determinants that either hinder or promote the engagement in physical activity. The investigator's interest in learning about what thwarts or encourages students from participating

in physical activity outside of physical education class prompted this study. It was assumed that middle school students were not participating in enough physical activity outside their physical education classes and that they spend a portion of their free-time engaged in sedentary endeavors outside the classroom environment. Six physical education classes of middle school students were assessed. Data analysis provided basic suggestions for interventions and further research.

### **Demographics Results**

The study participants consisted of 79 middle school students who had parental and school permission to participate in the investigation. Table 1 presents demographical data about the students.

**Table 1: Demographic Description of the Study Participants**

<b>Descriptive Information</b>	<b>Percent</b>
<b>Grade</b>	
Grade 7	84%
Grade 8	16%
<b>Age</b>	
12 years old	38%
13 years old	47%
14 years old	13%
15 years old	2%
<b>Gender</b>	
Female	43%
Male	57%
<b>Race/Ethnicity</b>	
Hispanic	94%
Other	6%

Eighty-four percent of the participants were seventh graders and 16% were eighth graders. The ages of the participants were 12 (38%), 13 (47%), 14 (13%) and 15 (2%). Fifty-seven percent were males and the participants were mostly Hispanic (94%). The average height for males was five feet five inches and, four feet for females. The average weight for males was 103 pounds and, 96 pounds for females. Indications are that the participants are overweight. Students were also identified as “doers” and “non-doers.” Doers were identified as participating in physical activity at least four days or more a week and non-doers participated in physical activity three or less days per week. Fifty- four percent of students were identified as doers and 46% were identified as non-doers.

### **Qualitative Results**

Data for analysis were obtained from the two groups from two different school districts. Content analysis was used to identify categories of positive and negative outcomes from the open-ended questions. Experts in health and kinesiology were used to define categories and code student responses (Fischer, 2005; Taylor & Bogdan, 1998).

Tables 2 and 3 show the relevant consequences of participating in physical activity for at least 30 minutes twice a week. These data reflect the current study data and data from Zhang, et al. (2007) study about Chinese youth. The data provided by the participants indicate more frequent positive responses than negative ones resulting from participating in physical activity. Perceived

advantages were “improved health, strength/conditioning and weight loss.”

Perceived disadvantages were not mentioned as frequently, but “getting tired” and “getting injured” were concerns for not exercising. The Z-test for proportion comparison was used to determine significant differences.

**Table 2: Salient Advantages participating in Physical Activity**

<b>Salient Advantages</b>	<b>RGV</b>	<b>Chinese</b>
<b>Will help strengthen my body</b>	<b>23%</b>	<b>59% *</b>
<b>Will improve health</b>	<b>41%</b>	<b>28% *</b>
<b>Will improve my grades in physical education</b>	<b>8%</b>	<b>12%</b>
<b>Will help me lose weight</b>	<b>29%</b>	<b>10% *</b>
<b>Will keep me in good shape</b>	<b>14%</b>	<b>3% *</b>

**\*indicates significance at the 95% level**

**Table 3: Salient Disadvantages participating in Physical Activity**

<b>Salient Disadvantages</b>	<b>RGV</b>	<b>Chinese</b>
<b>Will make me tired</b>	<b>16%</b>	<b>37% *</b>
<b>Will take too much time</b>	<b>4%</b>	<b>41% *</b>
<b>Will lead to me getting hurt or injured</b>	<b>15%</b>	<b>12%</b>
<b>Will mean having to wash up</b>	<b>4%</b>	<b>3%</b>

**\*indicates significance at the 95% level**



Table 4 presents the individuals or groups who the participants indicated either approved or disapproved of them engaging in physical activity. Undoubtedly, the most mentioned group was family members, identified as either “family,” “dad” or “mom.” “Family, friends, and coaches” were mentioned as approving physical activity while “no one” was indicated as discouraging physical activity participation.

**Table 4: Social referents that Approve/Disapprove participating in Physical Activity**

<b>Social Referents that Approve</b>	<b>RGV</b>	<b>Chinese</b>
<b>Coach</b>	<b>14%</b>	<b>17%</b>
<b>Family</b>	<b>22%</b>	<b>43% *</b>
<b>Dad</b>	<b>24%</b>	<b>16%</b>
<b>Mom</b>	<b>18%</b>	<b>20%</b>
<b>Friends</b>	<b>16%</b>	<b>6% *</b>
<b>Social Referents that Disapprove</b>	<b>RGV</b>	<b>Chinese</b>
<b>Mom</b>	<b>4%</b>	<b>13% *</b>
<b>Dad</b>	<b>3%</b>	<b>9%</b>
<b>Friend</b>	<b>4%</b>	<b>3%</b>
<b>Family</b>	<b>3%</b>	<b>28% *</b>

**\*indicates significance at the 95% level**

Tables 5 and 6 present the circumstances that the participants indicated either facilitate or hinder their involvement in physical activity at least 30 minutes twice a week. "Having easy and fun activities to do" was prominent in facilitating participation in physical activity. "Having TV, computer games and other things to do" were prominent in hindering physical activity. Other perceived hindrances were "too many assignments", "not being willing", and "being tired, sick or too fat," as reasons for not engaging in physical activity.

**Table 5: Salient Circumstances that Facilitate participating in Physical Activity**

<b>Salient Circumstances that Facilitate</b>	<b>RGV</b>	<b>Chinese</b>
<b>Having fewer assignments</b>	<b>3%</b>	<b>28% *</b>
<b>Having more time</b>	<b>5%</b>	<b>14% *</b>
<b>Having easy and fun activities to do</b>	<b>39%</b>	<b>12% *</b>
<b>Having good weather</b>	<b>3%</b>	<b>10%</b>
<b>Having approval from others</b>	<b>8%</b>	<b>9%</b>
<b>Having someone go with me</b>	<b>5%</b>	<b>3%</b>
<b>Having nothing else to do</b>	<b>5%</b>	<b>3%</b>
<b>Having place or court</b>	<b>5%</b>	<b>3%</b>

**\*indicates significance at the 95% level**

**Table 6: Salient Circumstances that Hinder participating in Physical Activity**

<b>Salient Circumstances that Hinder</b>	<b>RGV</b>	<b>Chinese</b>
<b>Having too many assignments</b>	<b>13%</b>	<b>48% *</b>
<b>Not having enough time</b>	<b>5%</b>	<b>19% *</b>
<b>Being tired, sick or too fat</b>	<b>10%</b>	<b>17%</b>
<b>Having nobody to go with</b>	<b>5%</b>	<b>7%</b>
<b>Not being willing</b>	<b>14%</b>	<b>5% *</b>
<b>TV, computer games &amp; other things</b>	<b>25%</b>	<b>6% *</b>

**\*indicates significance at the 95% level**

Table 7 presents response percentage results from the four Likert scaled questions about positive or negative responses. Based on exercise definitions, 43 (54%) were classified as Doers and 36 (46%) were classified as Non-doers.

**Table 7. Scaled Response Summaries**

Questions	Doers Non-Doers	Very Likely	Likely	Neither	Unlikely	Very Unlikely	Total
My participation in physical activity at least 60 minutes every day will strengthen my body.	Doers	28 (65%)	14 (33%)	1 (2%)	0	0	43 (100%)
	Non-Doers	13 (36%)	21 (58%)	0	1 (3%)	1 (3%)	36 (100%)
My participation in physical activity at least 60 minutes every day will give me energy to study.	Doers	8 (19%)	17 (40%)	5 (12%)	12 (27%)	1 (2%)	43 (100%)
	Non-Doers	4 (11%)	17 (47%)	8 (23%)	3 (8%)	4 (11%)	36 (100%)
My participation in physical activity at least 60 minutes every day will take too much of my time.	Doers	1 (2%)	8 (19%)	8 (19%)	10 (23%)	16 (37%)	43 (100%)
	Non-Doers	3 (8%)	6 (16%)	4 (11%)	15 (42%)	8 (23%)	36 (100%)
My participation in physical activity at least 60 minutes every day will take away from study time.	Doers	3 (7%)	6 (14%)	10 (23%)	14 (33%)	10 (23%)	43 (100%)
	Non-Doers	6 (16%)	3 (8%)	8 (22%)	9 (26%)	10 (28%)	36 (100%)

**Results about Differences**

Data were also analyzed with a Mann-Whitney U test to determine differences between the Doers and Non-doers. The Mann-Whitney U was used to ascertain differences by analyzing the non-parametric data collected from Four

Likert-scaled questions. This analysis would determine whether or not the investigator would reject the null hypothesis. Analyze-IT was the statistical program used to analyze the data (<http://www.analyse-it.com>). Analyses were conducted for difference between all the Doers (n=43) and Non-doers (n=36), male Doers (n=27) and male Non-doers (n=16), female Doers (n= 16) and female Non-doers (n=20) and between all males (n=43) and all females (n=36). The Null Hypothesis formulated for this study stated that:

There is no difference between Doers and Non-doers responses to the Likert scaled questions at the set significance of .05.

Table 8 presents the summary Mann-Whitney U test for differences between Doers and Non-doers if 60 minutes of daily physical activity will strengthen the participant bodies. The test revealed that significant differences existed for this question between Doers and Non-doers ( $0.0149 = p < .05$ ) allowing the investigator to reject the Null Hypothesis.

**Table 8: Will strength body**

<b>N</b>	<b>79</b>			
<b>Q1 by Type</b>	<b>N</b>	<b>Rank Sum</b>	<b>Mean Rank</b>	<b>U</b>
<b>Doers</b>	<b>43</b>	<b>1938.5</b>	<b>45.08</b>	<b>555.5</b>
<b>Non-Doers</b>	<b>36</b>	<b>1221.5</b>	<b>33.93</b>	<b>992.5</b>
<b>Mann-Whitney's Statistic</b>	<b>555.5</b>			
<b>2-tailed p</b>	<b>0.0149</b>			

The Mann-Whitney U tests for differences if 60 minutes of daily physical activity will give the participant energy to study; if 60 minutes of daily physical activity took too much of the participant's time; and if 60 minutes of daily physical activity would take away from study time revealed that significant differences did not exist between Doers and Non-doers. Therefore, the investigator could not reject the null hypothesis for these three questions.

Table 9 presents the summary Mann-Whitney U test for differences between female Doers and female Non-doers if 60 minutes of daily physical activity will strengthen the participant bodies. The test revealed that significant differences existed for this question between female Doers and female Non-doers ( $0.0101 = p < .05$ ) allowing the investigator to reject the Null Hypothesis.

**Table 9: Will strength body**

<b>N</b>	<b>36</b>			
<b>Q1 by Type</b>	<b>N</b>	<b>Rank Sum</b>	<b>Mean Rank</b>	<b>U</b>
<b>Female Doers</b>	<b>16</b>	<b>367.5</b>	<b>22.97</b>	<b>88.5</b>
<b>Female Non - Doers</b>	<b>20</b>	<b>298.5</b>	<b>14.93</b>	<b>231.5</b>
<b>Mann-Whitney's Statistic</b>	<b>88.5</b>			
<b>2-tailed p</b>	<b>0.0101</b>			

The Mann-Whitney U tests for differences if 60 minutes of daily physical activity will give the participant energy to study; if 60 minutes of daily physical activity took too much of the participant's time; and if 60 minutes of daily physical activity would take away from study time revealed that significant differences did not exist between female Doers and female Non-doers. Therefore, the investigator could not reject the null hypothesis for these three questions.

The Mann-Whitney U tests for differences between male Doers and male Non-doers and between male and females for all four Likert-type scaled questions revealed that significant differences did not exist. Therefore, the investigator could not reject the null hypothesis for these three questions.

As presented in Tables 8 and 9, only the question if the participants believed if 60 minutes of daily physical activity will strengthen the participant

bodies indicated significance. This same trend was also true when comparing male Doers to male Non-doers and males to females. However, while not significant as determined by the study parameters, this question demonstrates more differences between groups than the other three questions.

### **Summary of Analysis**

This chapter presented an analysis of data that were obtained from two groups of middle-school students from two different school districts. Content analysis was used to identify categories of positive and negative outcomes from open-ended questions. The Mann-Whitney U test was used to determine differences between Doers and Non-doers to establish significance. The Z-test for proportion comparison was used to calculate significant differences between Chinese youth and RGV youth about their psychological and social answers to positive or negative factors that contribute to physical exercise.



## **CHAPTER V**

### **DISCUSSION OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS**

#### **Discussion**

The purpose of this study was to determine if a rapid survey could elicit data from middle school students and provide information about their levels of physical activity engagement. Additionally, the investigator sought to compare the findings from the current study done in the Rio Grande Valley to findings from a similar study in China (Zhang, Middlestadt, & Ji, 2007).

The investigator replicated a study done in China to see if there would be a difference between China youth and RGV youth. The questionnaire used in the study in China was a valid tool for assessing youth physical activity in the Rio Grande Valley. The investigator added some other items to better meet the needs of the youth here in the Rio Grande Valley.

A Z-test for proportion differences was conducted and the Null Hypothesis was rejected for the following salient advantages to participants engaging in physical activity: "Will help strengthen my body;" "Will improve health;" "Will help me lose weight;" and "Will keep me in good shape." The Null Hypothesis

was rejected for the following salient disadvantages to participants engaging in physical activity: "Will make me tired;" and "Will take too much time." The Null Hypothesis was rejected for the following social referents that approved to participants engaging in physical activity: "Family," and "Friends." The Null Hypothesis was rejected for the following social referents that disapproved to participants engaging in physical activity: "Mom," and "Family." The Null Hypothesis was rejected for the following salient circumstances that facilitate participating in physical activity: "Having fewer assignments;" "Having more time;" and "Having easy and fun activities to do." The Null Hypothesis was rejected for the following salient circumstances that hinder participating in physical activity: "Having too many assignments;" "Not having enough time;" "Not being willing;" and "TV, computer games & other things."

Statistical differences were present between Chinese youth and RGV youth about psychosocial factors that either encourage or discourage physical activity. The Chinese youth believe that being physically active will strength their bodies (59%) where as 23% of the youth participants responded echoed the response by RGV youth.

Chinese youth report that physical activity will help with building strength by more than a two-to one ratio over RGV youth and RGV youth reported by a three-to-one ratio over Chinese youth that physical activity helps with weight loss. The RGV youth believes that being physically active will help them lose weight

by 29% and Chinese youth 10%. In the improvement of health the RGV youth believe that being physical active will improve their health by 41% and Chinese youth 28%.

Chinese youth report that getting tired and takes too much time as a disadvantage to exercise while RGV youth by a larger margin, do not believe so. Chinese youth believe that getting tired is a disadvantage of participating in physical activity by 37% and RGV youth 16%. Chinese youth believe that participating in physical activity will take too much time 41% (RGV youth 4%.

Family was more influential for Chinese youth to participate in physical activity than RGV youth. The individuals that the Chinese youth indicated approval of participation in physical activity were family 43% (RGV youth 22%) and friends 6% (RGV 16%).

RGV youth reported very few social network connections disapproving of physical activity engagement while Chinese youth reported family as most likely to disapprove. Individuals that do not approve Chinese youth to engage in physical activity were family 28% (RGV youth 3%) and mom 13% (RGV youth 4%).

RGV youth want more easy and fun activities to assist with participation in physical activity while Chinese youth want fewer school assignments. Things that would make it easy for the Chinese youth to participate in physical activity

were having fewer assignments 28% (RGV youth 3%), having more time 14% (RGV youth 5%), and fun/easy activities 12 % (RGV youth 39%).

Chinese youth attributed academics as a hindrance to physical activity involvement as opposed to television viewing for RGV youth. Things that would make it hard for Chinese youth to participate in physical activity were having too many assignments 48% (RGV youth 13%), not having enough time 19% (RGV youth 5%), TV, computer games & other things 6% (RGV youth 25%).

The above discussion provided insight that certain constraints exist that keeps middle school students from participating in physical activity. These constraints could just be perceptions that are used to prevent students from being physically active. However, more collaboration between researchers and practitioners are needed to study and offer practical ways to assist youth in dealing with the obesity problem they face.

### **Findings**

Based on the investigation, the following findings are presented:

1. Most of the students were Hispanic and males (57%) out-numbered females.
2. The average height for males was five feet five inches and four feet for females. The average weight for males was 103 pounds and 96 pounds for females.
3. Hypothesis testing was performed for differences in psychosocial factors influencing physical activity between Chinese youth and RGV youth. Data for Chinese middle school students was obtained from the Zhang, et al. (2007) study

and compared to the current study data. The Null Hypothesis of no difference was offered at the 95% level of significance.

4. Students were identified as “doers” and non-doers.” Doers were identified as participating in physical activity at least four days or more a week and non-doers participated in physical activity three or less days per week. Fifty-four percent of students were identified as doers and 46% were identified as non-doers.

5. The Null Hypothesis was rejected for differences between Doers and Non-doers if they believed 60 minutes of daily physical activity would strengthen their bodies. The Null Hypothesis was not rejected for differences between Doers and Non-doers for any of the other scaled questions - if they believed engaging in 60 minutes of physical activity daily would give them energy to study; if they believed engaging in 60 minutes of physical activity daily took too much of the participant’s time; and if they believed engaging in 60 minutes of physical activity daily took away from study time.

6. The Null Hypothesis was rejected for differences between Female Doers and Female Non-doers if they believed engaging in 60 minutes of physical activity daily would strengthen their bodies. The Null Hypothesis was not rejected for differences between Female Doers and Female Non-doers for any of the other scaled questions - if they believed engaging in 60 minutes of physical activity daily would give them energy to study; if they believed engaging in 60 minutes of

physical activity daily took too much of the participant's time; and if they believed engaging in 60 minutes of physical activity daily took away from study time.

7. The Null Hypothesis was not rejected for differences between Male Doers and Male Non-doers for any of the four-scaled questions because no differences were found between both male doers and male non-doers.

8. The Null Hypothesis was not rejected for differences between Males and Females because there were no gender differences in the responses to the four-scaled questions.

9. Only the Likert scaled question that asked if participants believed in engaging in 60 minutes of physical activity daily would strengthen their bodies was found significantly different between Doers and Non-doers and Female Doers and Female Non-doers. However, the Mann Whitney U test results for differences about the same question between Male Doers and Male Non-Doers and Males and Females indicated a dissimilar trend as well. However, the trend was not at the 95% level of significance.

10. Parents and family members appear to have a positive influence to encourage the students to engage in physical activity.

11. Participants indicate more frequent positive responses than negative ones resulting from participating in physical activity. Perceived advantages were “improved health, strength/condition and weight loss.” Perceived disadvantages were not mentioned as frequently, but “getting tired” and getting injured” were concerns for not exercising.

12. The most mentioned influential entity were family members, identified as either “family,” dad” or “mom.” Family, friends and coaches were mentioned as approving physical activity while “no one” was indicated as discouraging physical activity participation.

13. “Having easy and fun activities to do” was prominent in facilitating participation in physical activity. “Having TV, computer games and other things to do” were prominent in hindering physical activity. Other perceived hindrances were “too many assignments”, “not being willing”, and “being tired, sick or too fat,” as reasons for not engaging in physical activity.

14. It can be reported that an average proportion ratio difference of three to one exists between Chinese youth and middle school aged students from the Rio Grande Valley (RGV) of Texas. Ratio differences were present for circumstances that hinder physical activity participation, circumstances that facilitate physical activity participation, social referents that both approve and disapprove

participation in physical activity and both salient advantages and disadvantages to participating in physical activity.

### **Conclusions**

The analysis of the data collected indicates the following conclusions:

1. The type of study conducted offers another insight into why students may or may not engage in physical activity.
2. Too many answers with similar themes were offered by the students indicating more explanation should have been provided about answering the questions with more precision.
3. The study illustrated that students believed that physical activity took too much time away from their study time.
4. There were not many differences between “Doers” and “Non-doers” in their responses about exercise.

### **Recommendations**

1. A shorter more condensed version of the questionnaire should be developed for future investigations.
2. The findings of this study should be distributed to middle school physical educators.



3. All students not involved in physical activity should be informed about the health benefits one gets from participating in physical activity.
4. The finding of this study should be distributed to middle school students by physical educators and used, as a lesson to counter the reasons indicated why the participants do not exercise.
5. An investigation on psychosocial determinants using close-ended items developed from this study with larger populations.
6. That parents and school staff be included in a future study to understand the perceptions of these stakeholder groups key to creating the students' social environment.
7. Have an additional meeting with students to present lesson on the benefits of physical activity.
8. While cultural differences between Chinese youth and RGV youth are obvious, finding out the reasons for the difference between the youth is recommended to uncover cultural similarities through further study.
9. Cross-cultural studies between groups of students for other countries are suggested to learn about similarities and difference between societies.

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## **APPENDIX A**

**APPENDIX A****INSTRUMENT****We need to know a little about you.**

1. What grade are you in? Fill in one circle.  
☐ Seventh  
☐ Eighth
2. How old are you in years as of today? Fill in one circle.  
☐ 10  
☐ 11  
☐ 12  
☐ 13  
☐ 14  
☐ 15  
☐ 16
3. What is your gender? Fill in one circle  
☐ Male  
☐ Female
4. Which of the following best describes your race/ethnicity? Fill in one circle.  
☐ Native American  
☐ Caucasian/White  
☐ Hispanic/Mexican American  
☐ Other \_\_\_\_\_
5. What is your height (in inches)? \_\_\_\_\_
6. What is your weight (in pounds)? \_\_\_\_\_



7. Think about the last seven days, did you exercise at least 30 minutes in the last seven days? By exercise, we mean any physical activity that increases your heart rate.

\_\_\_\_\_ Days exercised at least 30 minutes over the last seven days

8. How long have you been a part of a fitness clubs, parks & recreation, or boys and girls club? Fill in one circle.

☐ Less than 1 year

☐ 1 to 2 years

☐ More than 2 years

☐ Never





### **Physical Activity Elicitation Survey**

We'd like your thoughts and ideas of what happens when you exercise for 30 minutes at least two times every week. By exercise we mean physical activity that increases your heart rate.

Answer what it's like or would be like for you to exercise for at least 30 minutes two times every week. Don't be afraid to tell us what you think. There are no right or wrong answers. We need to know the good and the bad. Just write down the first thing that comes to your mind.

9. What do you see as the advantages or good things if you exercise at least 30 minutes at least two times every week?

10. What do you see as the disadvantages or bad things if you exercise for at least 30 minutes at least two times every week?

11. What would make it easier for you to exercise at least 30 minutes at least two times every week?

12. What would make it more difficult for you to exercise at least 30 minutes at least two times every week?

13. Who (individuals or groups) do you think would approve or support you exercising for at least 30 minutes at least two times every week?

14. Who (individuals or groups) do you think would disapprove or object to you exercising for at least 30 minutes of exercise at least two times every week?



15. My participation in physical activity at least 60 minutes every day will strengthen my body (mark one):

          ;                ;                ;                ;                  
Very likely      Likely      Neither      Unlikely      Very Unlikely

16. My participation in physical activity at least 60 minutes every day will give me energy to study (mark one):

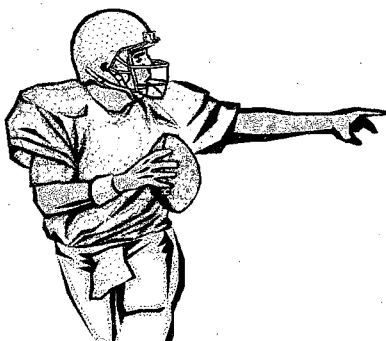
          ;                ;                ;                ;                  
Very likely      Likely      Neither      Unlikely      Very Unlikely

17. My participation in physical activity at least 60 minutes every day will take too much of my time (mark one):

          ;                ;                ;                ;                  
Very likely      Likely      Neither      Unlikely      Very Unlikely

18. My participation in physical activity at least 60 minutes every day will take away from study time (mark one):

          ;                ;                ;                ;                  
Very likely      Likely      Neither      Unlikely      Very Unlikely



**Thank You!**



**APPENDIX B**

## **APPENDIX B**

### **OUTLINE OF LECTURE**

1. Why is physical activity important?
  - Live a longer, healthier, happier life
  - Help relieve stress and can provide an overall feeling of well-being.
  - Help you achieve and maintain a healthy weight.
2. Benefits of physical activity may include:
  - Improves self-esteem
  - Increases fitness level
  - Helps build and maintain bones, muscles, and joints
  - Builds endurance and muscle strength
  - Enhances flexibility and posture
  - Helps manage weight
  - Lowers risk of heart disease, and type 2 diabetes
  - Energy to study
3. How much physical activity is needed?
  - Minimum – 30 minutes most days of moderate intensity activity
  - To prevent weight gain – do 60 minutes a day of moderate physical activity
  - Children and teenagers – at least 60 minutes every day of physical activity
4. Nutrition:
  - Start eating healthier
  - Drink plenty of water
  - Eat fruits and vegetables
  - Cut saturated fat
  - Cut refined carbohydrates

## **APPENDIX C**

## APPENDIX C

### LETTER OF CONSENT (ENGLISH & SPANISH)

#### The University of Texas – Pan American Informed Consent Form

**Investigator:** Mary Lou Trinidad

**Background:** I am conducting a research study to examine what barriers are preventing middle school children from participating in physical activities outside their physical education class. My faculty advisor is Dr. Paul Villas from the University of Texas-Pan American.

This study will collect data from middle school students from South Middle School in Edinburg and Mercedes Junior High School in Mercedes.

**Procedure:** Participants in the study will be asked to answer a questionnaire. Participants will also complete a brief survey asking them their age, gender, and their race/ethnicity. The total time to participate in the study will be approximately 25 minutes. Students who participate will complete the study during their physical education class and will have no effect on their grades.

**Risks or Possible Discomforts Associated with the Study:** There are no anticipated risks associated with your child's participation in this study.

**Benefits of Participation:** The participants will receive a pencil from the investigator for participating in the study.

**Voluntary Participation:** Your child's participation in this study is voluntary and will not in any way interfere with their class grade; your child may discontinue from participating in the study at any time without penalty. Your child will be asked if he/she wants to participate in the study and only then will your child be able to participate in the study. If your child participates in the

study and there are questions that your child would prefer not to answer, he/she simply leaves those items blank.

**Anonymity and/or confidentiality:** All questionnaires will be picked up by the investigator, who will place them in a locked filing cabinet at the University of Texas-Pan American. Access will not be given to anyone who is not actively participating in the study without the written consent of the participant. After three years, any printed data files will be shredded.

**Who to Contact for Research Related Questions:** For any reason regarding the research, please contact Mary Lou Trinidad, Department of Health & Kinesiology at the University of Texas-Pan American at 956-380-8745, or email at [mltrinidad@broncs.utpa.edu](mailto:mltrinidad@broncs.utpa.edu) or Dr. Paul Villas, at 956-381-3501.

**Who to contact Regarding Your Rights as a Participant:** If you have any question about your rights as a participant, or if you feel that your rights as a participant were not adequately met by the researcher, contact the Institutional Review Board for Human subjects Protection at 956-384-5004.

**Consent to participate:** By signing and marking either yes or no indicates whether or not your child can participate in this study. Please return this consent form with your child to his/her teacher.

**Child's name** \_\_\_\_\_

- ☐ YES, permission has been given for my child to participate in this study.
- ☐ NO, permission is not given for my child to participate in this study.

\_\_\_\_\_  
**Parent's or Guardian's Name (please print)**

\_\_\_\_\_  
**Parent's or Guardian's Signature**

\_\_\_\_\_  
**Date**

**University of Texas-Pan American**

**Forma de Consentimiento Informado**

**Investigador:** Maria Luisa Trinidad

**Antecedentes:** Estoy conduciendo un estudio de la investigación para examinar qué barreras están evitando que los niños de escuela media participaran en actividades físicas fuera de su clase de la educación física. Mi consejero de la facultad es el Dr. Paul Villas de la University of Texas-Pan American.

Este estudio recogerá datos de estudiantes de las escuelas South Middle School de Edinburg y de Mercedes Junior High School en Mercedes.

**Procedimiento:** Pedirán a los participantes en el estudio contestar a un cuestionario. Los participantes también terminarán un breve examen que les piden su edad, género, y su raza/pertenencia étnica. El tiempo total de participar en el estudio será aproximadamente 25 minutos. Los estudiantes que participan terminarán el estudio durante su clase de la educación física y no tendrán ningún efecto en sus grados.

**Los riesgos o los malestares posibles se asociaron al estudio:** No hay riesgos anticipados asociados a la participación de su niño/a en este estudio.

**Beneficios de la participación:** Los participantes recibirán un lápiz del investigador por participar en el estudio.

**Participación voluntaria:** La participación de su niño/a en este estudio es voluntaria y de cualquier manera no interferirá con su grado de la clase. Si su niño/a no desea participar, su niño/a puede desatender simplemente el cuestionario. Si su niño/a participa en el estudio y hay preguntas a que su niño/a preferiría no contestar, simplemente deje el espacio en blanco de esos artículos.

**Anonimato y/o secreto:** Todos los cuestionarios serán tomados por el investigador, que los colocará en un gabinete bajo candado en la University of Texas-Pan American. El acceso no será dado a cualquier persona que no esté participando activamente en el estudio sin el consentimiento escrito del participante. Después de tres años, cualquier fichero de datos impreso será destrozado.

**Quién entrar en contacto con para la investigación relacionó preguntas:** Por cualquier razón con respecto a la investigación, comuníquese con Maria Luisa Trinidad, en el Departamento del Salubridad y Educacioin Fisica de la University of Texas-Pan American en 956-380-8745, o por correo electronic: [mltrinidad@broncs.utpa.edu](mailto:mltrinidad@broncs.utpa.edu) o con Dr. Paul Villa al 956-381-3501.

**Quién a entrar en contacto con con respecto a las sus derechas como participante:** Si usted tiene preguntas sobre los derechos de su hijo(a) como participante, o si usted siente que los derechos de su hijo(a) como participante de la investigacion no fueron resueltas adecuadamente por la investigacion, comuníquese con la oficina del IRB de la University of Texas-Pan American al (956) 384-5004.

**Consentimiento a participar:** Firmando y marcando sí o no indica si su niño/a puede participar en este estudio. Regrese esta forma del consentimiento con su niño/a a su professor de Educacion Fisica.

**Nombre del niño** \_\_\_\_\_

- ☐ **SÍ**, doy permiso para que mi niño/a participe en este estudio.
- ☐ **NO**, doy permiso para que mi niño/a participe en este estudio.

**Nombre de los padre o guardian (por favor use letra de molde)** \_\_\_\_\_

**Firma de los padres o guardian** \_\_\_\_\_

**Fecha** \_\_\_\_\_



### **BIOGRAPHICAL SKETCH**

Mary Lou Trinidad was born in Mercedes, Texas, June 20, 1953, the daughter of Antonio T. (deceased) and Guadalupe Z. Verduzco. She graduated from Mercedes High School in Mercedes, Texas on June 3, 1971. She attended Valley Central College where she graduated with a Senior Executive Secretary Degree in 1972. She attended South Texas College and acquired an Associate Degree in May 2004 then transferred to The University of Texas-Pan American where she graduated with a Bachelors of Science Degree in Kinesiology in May 2007. In the fall of 2007, she was employed by The University of Texas Pan-American as a Research Assistant and in the spring of 2008 she was employed as a graduate teaching assistant until her graduation. She received a Master Degree in Science in Kinesiology from The University of Texas Pan-American in May 2009.