

## ABSTRACT

BELSIE R. GONZALEZ

Physical Teen Dating Violence and Risk Behaviors among Black and Latino Teens  
(Under the direction of Russ Toal, Associate Professor)

Victims of teen dating violence (TDV) in the United States engage in risk behaviors that increase their vulnerability to ill health. Although teen dating violence affects millions of adolescents of diverse ethnic backgrounds, there is a higher prevalence of TDV among Blacks and Latinos. In order to develop effective interventions for diverse populations, it is critical to understand the risk behaviors associated with different victims of TDV. The purpose of this thesis is to determine whether there is a difference between the risk behaviors (alcohol abuse, illegal drug use and perilous sexual intercourse) engaged in by Black, Latino and White adolescent victims of TDV. The national 2005 Youth Risk Behavior Survey (YRBS) was the source of data. This thesis hypothesizes that there are different risk behaviors related to each ethnic group, and aims to provide information to support the development of culturally competent TDV interventions.

**INDEX WORDS:** teens, adolescents, violence, dating violence, risk behavior, drug use, alcohol, sexual behavior, intimate partner violence, interventions

PHYSICAL TEEN DATING VIOLENCE AND RISK BEHAVIORS  
AMONG BLACK AND LATINO TEENS

by

BELSIE R.GONZALEZ

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By

BELSIE R. GONZALEZ

Approved:

Russ Toal, MPH

---

Committee Chair

LaQuinda M. Gentry, MBA, PhD

---

Committee Member

Karen E. Giesecker, PhD, MS

---

Committee Member

April 27, 2007

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Date

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## AUTHOR'S STATEMENT PAGE

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Student's Name: Belsie R. González

Street Address: 2100 Hedge Row

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The Chair of the committee for this thesis is:

Professor's Name: Russ Toal, MPH

Department: Institute of Public Health

College: College of Health and Human Sciences

Georgia State University  
P.O. Box 4018  
Atlanta, Georgia 30302-4018

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VITA

**Belsie González**

2100 Hedge Row  
Lawrenceville, GA 30043  
Bgonzalez1@gmail.com

**EDUCATION**

BS-Business Administration - Marketing, 1988. Universidad de Puerto Rico, Mayagüez, Puerto Rico.

**PROFESSIONAL EXPERIENCE**

**Patient Representative and Interpreter, Gwinnett Health System, Duluth, Georgia**

11/2004- Present

**Resources Development Intern, National Center for Injury Prevention and Control, Center for Disease Control and Prevention (CDC), Atlanta, Georgia**

05/2006-10/2006

**Graduate Research Assistant, Georgia State University in collaboration with Emory University, Atlanta, Georgia**

05/2004-12/2005

**Multicultural Services Director, Cherokee Family Violence Center, Canton, Georgia**

2/2003-12/2005

**Resource Development Program Manager, National Latino Alliance for the Elimination of Domestic Violence - Atlanta, Georgia**

1/2002-12/2002

**Manager of Outreach and Community Services - Outreach Coordinator - Bilingual Counselor, Houston Area Women's Center Houston, Texas**

10/1995-12/2001

**CONFERENCE PRESENTATIONS**

- "Listening to their voices: what Latina immigrant survivors need," National Coalition against Domestic Violence's 12th National Conference on Domestic Violence: Organizing for Collective Power, July 9-12, 2006 - Presenter
- "From the Horse's Mouth: Latinos and Mayas Speak Out," National Leadership Summit on Eliminating Racial and Ethnic Disparities in Health, The Office of Minority Health, January 9-11, 2006 – Presenter
- "Using the Maya Heritage Community project with Ethnic Groups in your Community," Southern Organization for Human Service Education 29<sup>th</sup> Annual Conference: Human Services: Survival Strategies for the 21<sup>st</sup> Century, April 7-10 – Co-presenter
- "Se Habla Español: Including Spanish-Speakers in Your Volunteer Force," Texas Council on Family Violence's Conference 19<sup>th</sup> Annual Statewide Family Violence Conference: Partnering for Peace, September 24-27, 2000 – Co-presenter
- "Working with Immigrant Women," Texas Council on Family Violence 16<sup>th</sup> Annual Statewide Family Violence Conference: Building a New World, October 5-8, 1997 – Co-presenter

**PUBLICATIONS**

Mary Odem and Belsie González, "Health and Welfare of Maya Immigrant Families," in *Proceedings of the Maya Pastoral National Conference*, ed. Alan Lebaron (Kennesaw State University Press, 2006).

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## CHAPTER I

### INTRODUCTION

Intimate partner violence (IPV) is a serious health threat affecting millions in the United States, including adolescents. Nearly one and a half (1.5) million high school students nationwide are victims of teen dating violence (TDV) (CDC 2006), a type of IPV. Most of those reporting TDV victimization are Blacks and Latinos (Grunbaum et al. 2004). Healthy People 2010, a Department of Health and Human Services initiative that sets health objectives for the nation (DHHS year not provided), identifies teen dating abuse as a public health issue that demands national attention (DHHS 2000b).

Intimate partner violence has been associated with negative direct (injuries) and indirect (risk behaviors) consequences on health. Current (year 2000 or later) TDV studies often focus more on the behaviors associated with teen dating violence than on its direct health consequences; however, studies with adult victims of IPV give a clear perspective of the serious health consequences of physical violence between couples. Thousands of men and women in the U.S. find themselves in need of medical attention due to injuries sustained during rapes and physical assaults perpetrated by intimate partners (Tjaden and Thoennes 2000). Additionally, many more suffer mental health problems such as depression and mental health disabilities (Carbone-López, Kruttschnitt, and Macmillan 2006).

Indirect consequences of partner violence, such as sexually transmitted diseases and eating disorders, sometimes accompany the risk behaviors associated with IPV and

TDV. For the overall population, research findings have linked TDV to excessive alcohol consumption, illegal drug use, unhealthy weight control, and careless sexual conduct (Ackard and Neumark-Sztainer 2002; Silverman et al. 2001). However, despite the higher prevalence of TDV among Black and Latino adolescents, no research has studied how risk behaviors vary among White, Black and Latino victims or perpetrators of TDV.

This thesis investigates the interrelationship between teen dating violence, alcohol consumption, other drug use, and sexual behavior and compares the nature of these relationships among Black, Latino and White adolescents. The risk behaviors chosen were selected based on previous research documenting the higher prevalence among adolescents who have been abused by their boyfriend or girlfriend. American Indian, Alaska Native, Asian and Native Hawaiian or other Pacific Islander populations are not included in the analysis, as they were not represented in a statistically significant manner among the 2005 Youth Risk Behavior Survey participants.

The thesis hypothesis is: There is a significant difference between the risk behavior reported by Black, Latino and White victims of teen dating violence. The null hypothesis tested in this study is: There is no significant difference between the risk behavior reported by Black, Latino and White victims of teen dating violence. Data from the Youth Risk Behavior Surveillance 2005 is analyzed to identify what are the risk behavioral characteristics of the Black, Latino and White high school students in United States who answered “yes” to the Youth Risk Behavior Survey (YRBS) question: “During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?” The statistical computer software Statistical Package for the Social Sciences (SPSS® 14) was utilized to conduct chi square analysis of the relationship

between teen dating violence, ethnicity and the various risk behaviors. The independent variables are physical teen dating violence and ethnicity. The dependent variables are risk behaviors, defined as alcohol consumption, illegal drug use, and multiple sexual partners, as well as, alcohol consumption or drug use before last sexual intercourse, and having sexual intercourse without a condom.

In order to develop scientifically sound public health programs to prevent TDV and its negative physical and emotional health impact, the public health approach demands that there be an accurate scientific definition of the problem to be addressed and an epidemiological understanding of potential risk and protective factors (DHHS 2001). This being said, the successful design, development, and implementation of TDV prevention programs among Black and Latino groups of adolescents must take into consideration the specific risk behaviors related to TDV among Black and Latino victims and perpetrators of TDV.

To provide a more in-depth context for this study, a literature review discussing findings and gaps of previous TDV research follows, along with a detailed description of the data analysis, and a discussion of the findings and their implications in the development of effective teen dating violence initiatives.

## CHAPTER II

### LITERATURE REVIEW

Intimate partner violence (IPV) has a significant health impact on millions of men and women in the United States, including adolescents. Approximately one in 11 high school students in the United States report being a victim of teen dating violence (TDV) (CDC 2006). When comparing with diverse ethnic groups, most of those reporting physical dating violence are Black and Latino adolescents (Grunbaum et al. 2004). TDV has been identified as a possible precursor of intimate partner violence in adulthood, (Rich et al. 2005; Smith Hall, White, and Holland 2003). It has also been linked to health risk behaviors such as: cigarette use, physical fighting, attempted suicide, binge drinking, illegal substance use, unhealthy weight control, multiple sexual partners, and unprotected sexual intercourse (Ackard and Neumark-Sztainer 2002; Foshee et al. 2001; Howard and Wang 2003a, 2003b; Roberts and Klein 2003; Roberts, Klein, and Fisher 2003; Wingood et al. 2001). Many studies have investigated the relations between these risk behaviors and intimate partner violence among adults and adolescents (Thompson and Kingree 2006; Lipsky et al. 2005; Caetano et al. 2005; Howard and Wang 2003a, 2003b; Ackard and Neumark-Sztainer 2002; Foshee et al. 2001; Wingood et al. 2001). However, to the best of the author's knowledge, no other study has explored the potential differences existing in the type of risk behaviors engaged in by Black, Latino and White victims of TDV. In order to develop scientifically sound public health programs to prevent TDV and its negative physical and emotional health impact, the public health approach demands

the accurate scientific definition of the problem to be addressed and the epidemiological analyses of potential risk and protective factors (Satcher 2001). Hence, the successful design, development, and implementation of TDV programs for Black and Latino highly populated communities or schools must take into consideration the specific risk behaviors related to TDV among Black and Latino victims and perpetrators of TDV.

The purpose of this study is to investigate the relations between teen dating violence and alcohol consumption, illegal drug use, and careless sexual behavior, and compare how these relations manifest themselves among Black, Latino and White adolescent victims of TDV. The thesis question is “Is there a significant difference between the risk behaviors carried out by Black, Latino and White adolescent victims of teen dating violence?” This literature review synthesizes findings regarding the magnitude of TDV, the consequences of the most prevalent risk behaviors among adolescents and their relation to TDV. In addition, the review highlights the absence of TDV surveillance and of research specifically assessing the relation between TDV and risk behaviors among Black and Latino victims of TDV. This literature review is organized in four sections: the first section provides the definition of intimate partner violence, explains how this definition applies to teen dating violence, and describes the types of abuse involved in intimate partner violence. The second section describes the magnitude of IPV among adults and adolescents. The third section provides an overview of the most common risk behaviors associated with IPV and TDV. Finally, the fifth section summarizes the concepts presented in this chapter and sets the basis for this study’s research question: Is there a significant difference between the risk behaviors engaged in by Black, Latino and White adolescent victims of TDV?

## **Definition of Intimate Partner Violence (IPV)**

Intimate partner violence is defined by the Centers for Disease Control and Prevention (CDC) as, “victim/perpetrator relationships among current or former intimate partners.” Intimate partners refers to current or former marital or non-marital partners regardless of whether or not they have cohabitated or been sexually intimate. (Saltzman et al. 1999) A dating relationship fits in the category of current or former non-marital partners. Intimate partner violence is not age specific and can take place among same sex couples. When IPV is perpetrated among adolescent couples who are not married or living together, the term frequently used is teen dating violence (TDV) or teen dating abuse (TDA).

The CDC categorizes the many forms of IPV victimization in three broad categories: psychological, sexual, and physical abuse. Psychological abuse includes humiliating the victim, making her or him feel diminished, isolating her or him from family or friends, prohibiting access to financial resources and threatening to harm the intimate partner or someone he or she cares about, including the perpetrator him/herself. Sexual abuse among couples refers to forcing any type of sexual activity at a time when the other person is not willing to participate or unable to consent either because the person is mentally or physically disabled, or is under the influence of an alcohol or another drug. Some perpetrators of IPV utilize threats and physical force, even weapons to make the other person have sexual intercourse. Physical abuse involves the intentional use of physical force with the potential of causing harm. Physical abuse ranges from hair pulling, pushing, shoving, and punching to burning, shooting or stabbing. (Saltzman et al. 1999)

In this paper, the term “intimate partner violence” is used to refer to the cases involving individuals aged 19 or older. “Teen dating violence” is used to refer to physical abuse perpetrated by intimate partners between the ages of 12 and 18 years.

## **Magnitude of Intimate Partner Violence and Teen Dating Violence**

### **Prevalence**

The magnitude of IPV is nationally measured using the number of fatal and nonfatal incidents, and impact on physical and psychological health. However, there is no comprehensive IPV or TDV national surveillance in place to track the prevalence and impact in a systematic way. There are three commonly cited national sources of statistics on IPV prevalence and impact, the Federal Bureau of Investigation (FBI) (FBI 2006). Uniform Crime Report (UCR), the U.S. Department of Justice Bureau of Justice Statistics National Crime Victimization Survey (NCVS), and the National Violence against Women Survey (NVAWS) co-sponsored by the U.S. Department of Justice National Institute of Justice and the US Department of Health and Human Services Centers for Disease Control and Prevention. The three differ on their data collection methodology, and none of them examines the total breadth of IPV. Further, these data sources do not collect specific data on TDV. Most studies on TDV utilize data from the Youth Risk Behavior Survey (YRBS) or from the National Longitudinal Study of Adolescent Health (Add Health). The YRBS was developed by the CDC (CDC 2004) and the Add Health was developed by the University of North Carolina Population Center with funds from various partners including, the National Institute of Child Health and Human Development (Boonstra 2001).

The YRBS goal is to determine the prevalence of health risk behaviors among adolescents in grades nine to twelve attending high schools across the United States. The survey assesses and monitors the trends and co-occurrence of various health indicators classified in six categories: (1) tobacco use; (2) alcohol and other drugs use; (3) sexual behaviors that may result in HIV infection, other sexually transmitted diseases, and unintended pregnancies; (4) unhealthy dietary behaviors; (5) physical inactivity; (6) behaviors that may result in violence and unintentional injuries. The YRBS has been administered in high schools across the nation every two years since 1991 and it provides comparable national, state and local data. (CDC 2004) To assess TDV the YRBS asks participants, “During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?” This question only assesses if the respondent has been a victim of physical dating violence.

The Add Health is a school-based, longitudinal study launched in 1994. The study has an ecological approach to youth health threats as it assesses social (family, peers, school) and behavioral (tobacco, alcohol and illegal drugs consumption) factors. The Add Health consists of an in-school questionnaire administered to a nationally representative sample of students in grades seven through twelve, followed by in-home interviews approximately one, two, and six years later (1995, 1996 and 2000 respectively). The study also includes other sources of data such as interviews with parents, and questionnaires administered to siblings, school mates and school administrators (UNCPC 2003). Add Health assesses psychological abuse through a series of questions including inquiries about having been called names by a boyfriend or girlfriend, having been insulted, treated disrespectfully, sworn at or threatened with violence during the 18

months preceding the interviews. Students are also questioned about physical abuse such as being pushed or shoved or having something thrown at them that might cause injury. (UNCPC 2003a) Both surveys provide data on diverse ethnic and racial populations; however, the Add Health inquires about same sex relationships while the YRBS does not. Neither the Add Health nor the YRBS address TDV perpetration.

The UCR compiles national data brought to the attention of law enforcement officers through victim testimony or observation. The data includes details on crime location, characteristics of the offender and the victim, and victim-offender relationship (Fox and Zawitz 2006). The NCVS gathers information from a nationally representative sample of households on crimes committed against persons aged 12 years and older. The NCVS data includes information about victim and offender demographic characteristics and relationship to each other, and the nature of the crime, such as use of weapons, time and place of incidents, and nature of injuries, if any. The NCVS includes data on crimes that have been reported to law enforcement as well as those that have not been reported. For the 1993-2004 NCVS, data were collected by interviewing individuals in their residences.(Catalano 2006) The Intimate Partner Violence Report from the NCVS (IPV-NCVS) provides information on the number of homicides, rapes, robberies and assaults perpetrated by a current or former spouse, boyfriend, and girlfriend or same-sex intimate partners. In addition, it includes details on the circumstances surrounding the IPV incidents, such as, (level of alcohol or drugs and presence of weapons) the IPV incidents, the location, the injuries resulted and the treatment sought. All this information from the UCR and the IPV-NCVS is especially helpful since it provides information about the characteristics of victims as well as perpetrators. These data sources also provide useful

information on the number of incidents, the prevalence of nonfatal and fatal IPV incidents, and the trends over time. However, they do not provide specific data on teen dating violence. Neither UCR nor IPV-NCVS provide data on both type of victim-perpetrator relationship and age. Furthermore, even for IPV, the surveys do not collect data on psychological abuse which often results in emotional illnesses and affects the victim quality of life and productivity (Bonomi et al. 2006; Carbone-López, Kruttschnitt, and Macmillan 2006). The findings from the NVAWS include statistics on males and females who have been victimized through rape, physical assault and stalking perpetrated by current and former dates, spouses and cohabitating partners. It also includes statistics on injuries and medical services utilized by victims of IPV. The NVAWS provides statistics on participants' IPV that occurred over the 12 months prior to the survey, as well as during their lifetimes. The data were collected through telephone interviews with 8,000 men and 8,000 women randomly selected from a national household database. (Tjaden and Thoennes 2000) However, the NVAWS was administered only once from November 1995 to May 1996, to adults, thus it is becoming outdated and lacks information on TDV.

The vast variety of data collection criteria and the inconsistencies of study periods compromise precise estimates on the prevalence of TDV. Accurate accounts of prevalence, incidence and impact of any health threat are critical to the effective design and implementation of any program or campaign. The dispersion of financial and human resources depends on accurate surveillance. The NCVS Intimate Partner Violence in the United States report (2006) indicated that in 2004, there were 627,400 victims of nonfatal intimate partner violence crimes, 475,900 adult females and 151,500 adult males.

Approximately one-third of the total nonfatal intimate partner crimes were serious violent criminal acts namely, rapes, sexual assaults, robberies and aggravated assaults. (Catalano 2006) Based on the findings from the NVAWS, Tjanden and Thoennes (2000) reported much higher number of incidents. They found that approximately 1.5 million women and 834,732 men in the United States are victims of intimate partner rape or physical assault every year.

In relation to TDV incidents, in 2003, 15,214 high school students nationwide participated on the YRBS of those 14,956 answered the question, “During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?” Approximately nine percent (1,354) reported having been hit, slapped or physically hurt on purpose by their boyfriend or girlfriend within the past year. When comparing diverse groups of adolescents, greater prevalence was reported by Blacks (13.9% ) and Latinos (9.3%) than Whites (7.0%) (CDC 2006). From 1999 to 2003, the prevalence of TDV fluctuated between 8.8% and 9.5% among U.S. high school students; 8.8% to 9.8% of the victims of TDV were females, and 8.3% to 9.1% were male. (CDC 2006a) Conversely, the Add Health revealed that of 7,493 participants a third (2,299) reported having suffered some type of dating abuse from their dating partner; twelve percent (828) revealed that they had been physically abused. The only racial related finding reported revealed that the rate of victimization was about twice as high for Black males than for White males. (Tucker Halpern et al. 2001) Discrepancies on prevalence might be due to the fact that the YRBS only includes grades nine to twelve while the Add Health includes grades seven to twelve. In addition, the YRBS only uses a 12-month period versus the 18-month period included in the Add Health.

With regard to the impact of TDV on physical health, there is a noticeable absence of research documenting the direct physical impact of TDV. IPV related injuries on the other hand, have undoubtedly been found to be a serious problem. The IPV injury estimates give a perspective of the potential TDV threat against adolescents' physical health.

IPV injury estimates, like prevalence estimates, vary from source to source. However, there are two constants found in studies' results with heterosexual couples: women are the primary victims of IPV and they are more likely to be injured than men who are abused. The 1993 to 2004 NCVS report revealed an average of 871,510 annual nonfatal intimate partner victims, 746,580 were females and 124,930 were males. Of the female victims, 50.5 percent (376,910) were physically injured. The injuries documented ranged from serious injuries such as broken bones, internal injuries, knife wounds and gunshot wounds to minor injuries such as scratches and bruises. IPV female victims have also reported having been knocked unconscious. Additionally, approximately three percent of female victims were sexually assaulted without suffering more injuries. Of the male victims of nonfatal IPV, 45,360 (36.3 %) were injured, 4.7 percent were seriously injured, 30.9 sustained only minor injuries and 0.1 percent suffered not specified injuries. Male victims of rape or sexual assault without other injuries were estimated to be 460 (0.4%). (Catalano 2006) The NVAWS also records injuries sustained by IPV victims. Findings from the NVAWS revealed similar percentages of injuries among females, but significantly different among males. Of the 1,451 female victims of physical assault by an intimate partner, 41.5 percent were injured. Most of the injuries (76.1%) reported were minor injuries such as scratches, bruises and welts. Other injuries included lacerations,

knife wounds, broken bones, dislocated joints, head and spinal cord injuries, sore muscles, sprains, internal injuries, broken bones or teeth and burns. (Tjaden and Thoennes 2000) Tjaden and Thoennes (2000) found that there were 542 male victims of physical assault by an intimate partner and of those 19.9 percent sustained injuries.

TDV has an impact on the psychological health of young people. Various studies have found adolescent victims of TDV to have higher rates of depression, low self-esteem, prevalent sense of hopelessness, lack of life satisfaction, lower levels of health related quality of life, suicidal ideations and suicidal attempts than those who have not endured TDV (Howard and Wang 2003a, 2003b; Roberts, Klein, and Fisher 2003; Roberts, Auinger, and Klein 2005). These findings are supported by IPV studies that have also found strong correlation between higher rates of depression and lower levels of social and mental functionality among adult female victims of IPV (Bonomi et al. 2006; Carbone-López, Kruttschnitt, and Macmillan 2006). Coker et al. (2000a) examined the impact of psychological abuse on women and found that psychological abuse had as many adverse health outcomes as had physical abuse. Coker and colleagues concluded that incapacitating disabilities, arthritis, chronic pain, migraines, stomach ulcers, spastic colon and frequent indigestion, diarrhea and constipation are related to psychological abuse. The literature on IPV prevalence and impact focuses mainly on women. A study investigating the impact of psychological abuse on a sample of adult men and women found that, although male victims of IPV were less likely to suffer serious depression than women, they were more likely to suffer serious depression than men who have not been abused (Carbone-López, Kruttschnitt, and Macmillan 2006).

The psychological health impact of TDV has been assessed mainly through cross-sectional studies. The nature of the cross-sectional design prevents the establishment of a causal relation between TDV and the previously stated psychological symptoms. Nonetheless, the recurrent results substantiate a possible strong correlation between TDV and poor psychological health. Lehrer and colleagues (2006), in a prospective study, investigated the association between depressive symptomatology and TDV among adolescent girls exhibiting depressive characteristics. The study showed that elevated levels of depressive symptoms at baseline were associated with a higher vulnerability for IPV during later adolescence and early adulthood. Further, Roberts, Klein and Fisher (2003) conducted a longitudinal study with data from the Add Health and found an association between date abuse and increased depression in male adolescents and females, and suicidal behavior among female adolescents.

The magnitude of violence between intimate adolescent partners has also been found to be related to poor academic performance. The 2003 California Student Survey results revealed that victims of TDV were 1.6 to 1.8 times as likely as the total sample (10,351 students in grades 7, 9, and 11) to report receiving mostly grades D and F (WestEd year not provided-a, year not provided-b). These study results are supported by the findings of a national longitudinal study that revealed that in the case of female adolescents and young women, poor academic performance was a significant predictor of physical and emotional abuse. This suggests that females with lower grades may have increased vulnerability to physical victimization (Tucker Halpern et al. 2001).

All the discussed consequences of violence between intimate partners come with a monetary price tag. In the case of teen dating violence, there are not estimates of how it

financially affects its victims or the economy. However, considering that TDV has been found to be a precursor of IPV, the estimates of the IPV financial burden on its victims and the economy once again provide a perspective of the possible long-term consequences of TDV. The costs of intimate partner rape, physical assault, and stalking have been estimated to exceed \$5.8 billion each year. The primary sources of IPV related expenditures are direct medical and mental health services, estimated at \$4.1 billion of the total cost. The total costs of IPV also includes estimates of the cost of lost of productivity from paid work and household chores, and of lifetime earnings lost by victims of IPV homicide (\$0.9 billion each). (CDC 2003) *No need for REF earlier on the paragraph*

The ultimate consequence of violence between intimate partners is death. The Federal Bureau of Investigation Supplemental Homicide Reports 1976 - 2004 (2006) revealed that there were 577,574 homicides in U.S. between 1976 and 2004. Of those homicides, 11.1% (64,337) were perpetrated by an intimate partner. The report states that in recent years one third of all female murder victims, and 3% of all male murder victims, were killed by an intimate partner. Correspondingly, for every age group, females were more likely to be murdered by an intimate partner than males. From 1976-2004, female adolescents between the ages of 12 and 17 years, accounted for five percent of all murders by intimates, while males in the same age range represented less than half of a percent (.5%) of those killed by an intimate. The greatest risk for intimate partner homicide was found among Black females aged 20 to 29 years, White females and Black males aged 30 to 39 years and White males aged 40 to 49 years (Paulozzi et al. 2001).

## **Risk Behaviors Factors**

Healthy People 2010, a Department of Health and Human Services initiative that sets health objectives for the nation (DHHS year not provided), has linked TDV to the leading physical and mental health indicators: weight, tobacco use, illegal substance abuse, sexual behavior, injury and violence (DHHS 2000a). Boys, as well as girls, who are victims of physical dating violence, tend to drink alcohol, take unhealthy weight-control measures, use tobacco products and illegal drugs, have multiple sexual partners and engage in street violence. The most prevalent risk behaviors are alcohol, illegal drug use and risky sexual practices (Foshee et al. 2001; Silverman et al. 2001; Howard and Wang 2003a, 2003b).

## **Alcohol**

Intimate partner violence can exist without alcohol consumption, however, in cases where alcohol consumption is present, the incidents of violence are more frequent and severe, especially in heterosexual couples where the male partner is the one who has been drinking (Testa, Quigley, and Leonard 2003). The odds of any physical male-to-female partner violence increased more than eight times on days when drinking had taken place, compared to the days when the male partner had not been drinking. The odds of severe physical aggression increased to 11 times on the days the male partners had been drinking heavily as compared to days when male partners had not been drinking. (Fals-Stewart 2003) Female victims of intimate partner violence are more likely to suffer injuries if their partner is under the influence of alcohol at the time of the assault than those whose abuser had not been drinking (Thompson and Kingree 2006). Alcohol consumption does not affect only the behavior of male partners, but also that of the

female partners. In a study with newlyweds 30 years old or younger in violent relationships, female partners were more likely to become physically aggressive during male drinking episodes compared to when their male partners were sober (Testa, Quigley, and Leonard 2003).

Alcohol consumption also affects young people, even those under the drinking age allowed by law in the United States. Approximately 17 percent of persons between the ages of 12 and 17 years are currently alcohol drinkers (at least one alcohol drink in the past 30 days), 9.9 percent are binge drinkers, and 2.4 are heavy drinkers (five or more drinks on the same occasion on at least five different days in the past 30 days) (SAMHSA 2006). However, it seems that the level of alcohol consumption varies among different ethnic groups. In a nationally representative survey of persons aged 12 to 17 years, the rate of current alcohol use among Blacks was 19.0 percent, 25.9 percent among Latinos and 32.3 percent among Whites (SAMHSA 2006).

With regard to the relation between TDV and alcohol consumption, researchers have found that there is a strong correlation between being a victim of TDV and alcohol consumption. Male and female high school students who reported higher rates of alcohol consumption, and the drinking five or more drinks within a couple of hours, were also more likely to be hit, slapped or physically hurt on purpose by a boyfriend or girlfriend (CDC 2006; Foshee et al. 2001; Howard, Qiu, and Boekeloo 2003; Howard and Wang 2003a, 2003b). In a longitudinal study among adolescents, Foshee et al (2001) also found that alcohol consumption is a predictor of female perpetration of physical dating violence, but not male perpetration. The findings from both cross-sectional and longitudinal studies suggest that alcohol consumption can affect TDV in two ways;

increasing vulnerability to being abused, as well as to perpetrating the abuse (at least among females).

### **Illicit Drug Use**

Illicit drug use has been empirically linked to individuals who behave violently and those who have been victimized; however, the exact relation between illegal drug use and intimate partner violence has not been established. Researchers have tried to determine if drugs are a precursor of perpetration of violent behavior, or if being a victim of violence or having a violent personality is what prompts the use of illicit drugs. A review of the literature on the effects of drugs on IPV found that often in the case of drugs such as: marijuana, cocaine, heroin, amphetamines, ecstasy and steroids; level of use, personal traits and environmental variables might act as mediators or moderators between drug use and violence (Hoaken and Stewart 2003). For instance, in the case of marijuana, first time use and withdrawal from its main chemical ingredient, delta-9-tetrahydrocannabinol, has been associated with violent behavior. Moderate or excessive use, however, actually results in suppressing or eliminating aggressiveness (Hoaken and Stewart 2003). Approximately 2.1 million persons aged 12 years or older initiated the use of marijuana in 2005 (SAMHSA 2006). In relation to cocaine and amphetamines, there is evidence that the use of these drugs leads to heightened aggressive behavior (Hoaken and Stewart 2003). Cocaine has been found to be more directly related to violent behavior regardless of the presence of antisocial personality disorders (Moeller et al. 2002). Correspondingly, the findings on ecstasy reveal a significant correlation between aggressive behavior and ecstasy use. In the case of steroids, findings are contradictory. Steroids are more commonly used by young men who are more likely to behave

aggressively, making the relation to violence inconclusive. (Hoaken and Stewart 2003)

Inhalants, which are volatile substances with chemical vapors that can be inhaled and induce psychoactive or mind altering effects, are commonly used by adolescents. The fact that these substances are found in common household products makes them especially risky (NIDA 2005). Adolescents have frequent and free access to inhalants just by opening a kitchen or garage cabinet at home. In 2005, 877,000 persons aged 12 years or older used inhalants for the first time within the 12 months prior to the 2005 National Survey on Drug Use and Health (SAMHSA 2006). Of those 877,000, 72.3 percent were under 18 years of age when they first used inhalants. There are different types of chemical inhalants all with diverse and dangerous effects that go from initial excitation to unconsciousness, damage to the heart, lungs, liver, kidneys, and death. Agitation and belligerence are among the effects of the chemicals found in solvents, aerosol sprays and gases. (NIDA 2005)

Weiner et al. (2005) assessed the relation between illegal drug use and violence in a five year prospective study among high school students in Southern California. The study inquired about the use of weapons to injure; weapons used to threaten; injuries occurred without a weapon, and if property was damaged or stolen on purpose. The study findings revealed a reciprocal relation between illegal drug use and being victimized, indicating that victims of violence might become more vulnerable to victimization by using drugs, and conversely, those who are victimized prior to using drugs become more vulnerable to drug use as a result of being victimized. The authors of the study concluded that illegal drug use was a highly significant predictor of violence perpetration among adolescents and that being victimized also predicted illegal drug use. Fals-Stewart and

Kennedy (2005) concluded that neither a cross-sectional nor a prospective study could account for all the additional variables that affect the relation between illegal drugs or alcohol usage and intimate partner violence, i.e., socio-economic environment, education, street violence, personal violent traits and other drug interaction.

Researchers seem to be in consensus on the high prevalence of the coexistence of violence between intimate partner and illicit drugs use. Studies have shown that adult, as well as adolescent victims and perpetrators of intimate partner violence, have a higher prevalence of alcohol and illegal drugs use (Lipsky et al. 2005; El-Bassel et al. 2003). The question is, if that relation applies equally to victims of TDV from diverse ethnic groups. Studies with the general population have shown disparities among Black, Latino and White adolescents. Latino high school students reported higher levels of current use of marijuana (42.6%) use than Black (40.7%) or White (40.0%) students. Latinos were also found to use cocaine at higher rate (6.1%) than Whites (3.2%) and Blacks (1.5%). However, Latinos had the same rates of lifetime use of inhalants and hallucinogenic drugs as Whites (13%); Blacks only registered a 6.8% of inhalants lifetime use. The only drug where Latinos registered a lesser frequency of use (2.4%) than Black (3.9%) and White (4.2%) students was in lifetime steroid use. (Eaton et al. 2006) The National Institute of Drug Abuse (2006) reported that compared to Latino and White high school students, Blacks had lower rates of annual illicit drug use among students in grade 12. Nationwide results from the 2005 YRBS also showed disparities in illegal drugs used by Black, Latino and White high school students. Black high school students reported a lesser current and lifetime use of cocaine (1.5% and 2% respectively), lifetime use of inhalants (7%), injected illegal drugs (2%), heroin (2%), methamphetamines (2%) and

ecstasy (4%) than Latinos and Whites. Latinos on the other hand, reported the highest rates of current and lifetime use of marijuana (23% and 43% respectively) and cocaine (12% and 6% respectively), lifetime use of injected illegal drugs (3%), heroin (4%), methamphetamines (9%) and ecstasy 10%). White high school students reported higher rates of lifetime use of inhalants and illegal steroids (13.4% and 4.2% respectively). (CDC 2006b) There is no empirical evidence showing that these disparities apply to the Black, Latino and White adolescent victims of TDV.

### **Sexual Behavior**

In the United States, approximately 750,000 young women aged 15 to 19 years become pregnant each year (Guttmatcher 2006). In the year 2000, there were approximately 9.1 million new cases of sexually transmitted diseases (48% of all new cases) among persons aged 15 to 24 years. The three most common STDs among this group were human papilloma virus, trichomoniasis and Chlamydia (Weinstock, Berman, and Cates Jr. 2004). The highest rate of gonorrhea was found among females aged 15 to 19 years (624.7 per 100,000) (CDC 2006e).

Sexual intercourse with various partners and not wearing a condom increase a TDV victims' vulnerability to sexually transmitted diseases and pregnancies. Twenty six percent of female victims of physical dating violence were found to have two or more sexual partners while 18 percent reported not using condoms (Howard and Wang 2003b). The prevalence of having more than two sexual partners among male victims of TDV is 21 percent and of not using a condom, 17 percent (Howard and Wang 2003a). In a study with Black single females (N=522) between the ages of 14 and 18 years, Wingood et al. (2001) found that those who suffered physical dating violence were half as likely to use

condoms consistently, 2.8 times more likely to have non-monogamous male partners, and 2.8 times more likely to have had a sexually transmitted disease. Additionally, they were 2.1 times more likely to have ever been pregnant. These findings were supported by a nationally representative study among sexually active girls that found TDV victims to be twice as likely as their non-abused peers to have multiple sexual partners (Silverman et al. 2001). According to the same study, recent condom use was significantly lower among the girls that had suffered TDV.

The prevalence of being currently (during the last 3 months) sexually active among high school students was reportedly higher among Blacks (47.4%) and Latinos (35.0%) than Whites (32.0%). Regarding the overall prevalence of having multiple sexual partner ( $\geq 4$  persons during a lifetime), Blacks (28.2%) and Latinos (15.9%) were found to have higher rates than White (11.4%) students. Finally, Blacks reported higher rates of condom use during the last sexual intercourse (68.9%), followed by White students (62.6%) and Latinos (57.7%). Latinos reported higher rates of being sexually active and having multiple sexual partners than Whites however, they reported the lowest rate of condom use. (Eaton et al. 2006)

In summary, more than a million adolescents in the United States are being hurt by their intimate partners. The empirical evidence confirms that physical abuse has the potential to cause significant harm to adolescents' health. The magnitude of TDV however, goes beyond its immediate impact. TDV has been identified as a precursor of intimate partner violence during adulthood (Rich et al. 2005; Smith Hall, White, and Holland 2003), turning TDV into a possible long-term health threat with long lasting, and even lethal consequences. Physical and psychological abuse can result in chronic health

issues, decreasing quality of life and lack of productivity (Bonomi et al. 2006; Coker et al. 2000a). The CDC estimates that there are approximately 1.5 million adolescents who are victims of TDV (CDC 2006). These statistics translate into more than a million young individuals with the potential of being physically injured, psychologically traumatized and suffering stress related illnesses. The literature confirms that TDV is a public health threat in need of being addressed as a public health issue.

The Surgeon General Youth Violence Report (2001) calls for the use of the public health approach to eliminate the prevalence of youth violence. The report emphasizes that the prevention focus of the public health approach, as with other health threats, would be more effective in eliminating TDV than the traditional crime approach that emphasizes punishment over prevention. The public health approach encompasses four steps: first, it is necessary to define the problem based on surveillance that establishes the nature of the problem and the trends in its incidence and prevalence; second, risk and protective factors associated with the problem have to be epidemiologically identified; third, effective and generalizable interventions should be designed, developed, and evaluated. Once these steps are accomplished, dissemination of successful models becomes the fourth step for a coordinated effort to educate and reach out to the public. (Satcher 2001) Hence, in order to develop effective public health initiatives to prevent TDV, there needs to be a formal TDV surveillance system, and emphasis has to be placed on understanding the risk behaviors and protector factors associated with teen dating violence. In this study, the focus is on risk behaviors of two particular groups, Black and Latino adolescents.

In relation to the surveillance aspect of the public health approach, the literature review reveals that there is no official surveillance system monitoring TDV's nature and

trends. The Add Health and the YRBS are good sources of TDV data, however, the fact that neither one collects data on perpetration makes them incomplete. In order to develop effective TDV initiatives from the public health point of view, it is critical to have information about the entire nature of TDV not just about its consequences, just like understanding the consequences of any outbreak or epidemic is not enough--even to develop interventions that would control it--let alone eliminate it.

The literature confirms a strong correlation between TDV and various risk behaviors associated with the leading causes of morbidity and mortality among adolescents. The most common of these life-threatening behaviors associated with TDV are alcohol consumption, illegal drugs use and careless sexual behavior. As the aforementioned studies demonstrate, there are disparities in alcohol consumption, illegal drugs use and careless sexual behavior in the general population. Black adolescents are less likely to consume alcohol than Latinos and Whites and less likely to use most common illegal drugs. White adolescents lead in consumption of alcohol and steroids, while Latino adolescents report higher rates of most common illegal drugs. In relation to sexual behavior, Black and Latinos reported higher rates of sexual activity and of having multiple partners; however Blacks had the highest rates of using condoms and Latinos the lowest. These dissimilarities of risk behaviors and the prevalence of TDV among Blacks and Latinos, support the thesis question, is there a significant difference between the risk behaviors engaged in by Black, Latino and White adolescent victims of TDV? This study analyzes data from the YRBS 2005 in order to answer that question. The following section describes the methodology and procedures utilized to conduct the statistical analysis

## CHAPTER III

### METHODS AND PROCEDURES

To test the thesis hypothesis, data from the 2005 Youth Risk Behavior Survey (YRBS) was analyzed. The YRBS is a component of the Youth Risk Behavior Surveillance Survey (YRBSS) developed by the Centers for Disease Control and Prevention. The objectives of the YRBS are to determine the prevalence of health risk behaviors, assess whether the prevalence of these behaviors increases, decreases or remains the same over time, examine the co-occurrence of risk behaviors among young people, provide comparable national, state and local data, and monitor progress toward achieving the Healthy People 2010 objectives. The Healthy People 2010 objectives are based on ten leading health indicators (physical activity, overweight and obesity, tobacco use, substance abuse, responsible sexual behavior, mental health, injury and violence, environmental quality, immunization and access to health care). In the YRBS, the health indicators are classified into six categories that encompass the leading causes of morbidity and mortality among adolescents. These categories are: (1) tobacco use; (2) alcohol and other drugs use; (3) sexual behaviors that may result in HIV infection, other sexually transmitted diseases, or unintended pregnancies; (4) unhealthy dietary behaviors; (5) physical inactivity and (6) behaviors that may result in violence and unintentional injuries (CDC 2004).

This study involved the national school-based data collected in 2005 YRBS. The 2005 YRBS was selected because it contains the most recent national data on adolescent health risk behaviors as well as information on teen dating violence victimization.

## **Subjects**

The YRBS uses a three-stage cluster sample designed to ensure national representation of students in grades nine to twelve. The 2005 YRBS sampling frame consisted of all public and private schools with students in at least one of the grades from nine to twelve from each of the 50 states, and the District of Columbia. Coordinators of the YRBS obtained the sampling from the Quality Education Data (QED), Inc. database. The QED is a marketing corporation that collects data on contact and demographic information for early childhood centers, K-12 schools, and higher education institutions (QED year not provided). Their database includes information from public and private schools, along with the most recent data from the Common Core of Data from the National Center for Education Statistics (CDC 2004).

Separate analysis of data on Black and Latino students was made possible by applying three strategies of oversampling students self-identified as Black and Latino. First, a larger sampling rate was used to select primary sample units from high schools with high-Black and high-Hispanic populations. Second, a modified measure of size was used that increased the probability of selecting schools with a disproportionately high minority enrollment. Finally, two classes per grade (rather than one) were selected in schools with a high minority enrollment. In addition, to adjust for school and student nonresponse and oversampling of Black and Hispanic students, the CDC applied a weight based on student sex, race/ethnicity, and grade level to each record. The overall weights

were scaled to ensure that the students equaled the total sample size and the weighted proportions of students in each grade matched the national population. (CDC 2006b)

For the national 2005 YRBS, 13,953 questionnaires were completed in 159 schools across the country. Of the total, 36 were excluded for failing the quality control assessment. There were 13,917 usable questionnaires. The school response rate was 78 percent and the student response rate was 86 percent with an overall response of 67 percent. (CDC 2006b)

### **Survey Procedures**

Local procedures to obtain parental consent were followed prior to administering the survey. Local procedures for obtaining parental consent varied, with some schools preferring “active consent” procedures that required parents to sign a form authorizing their children to participate in the survey, while other schools preferred a “passive consent,” which required a parent to sign the consent form only if they did not want their child to participate in the survey.

The YRBS is administered by trained data collectors who travel to each participating school. The administrator followed a uniform protocol that included a standardized script as the introduction to the survey. Participants were allowed to respond anonymously and voluntarily to protect their privacy. They completed the self-administered 87 questions survey in their classrooms during a 45 minutes class period by recording their responses directly in a computer-scannable booklet or on an answer sheet. The CDC’s Institutional Review Board granted clearance for the national YRBS. (CDC 2006b)

### **Statistical Analysis**

The literature review revealed a dearth of research assessing risk behaviors among Black and Latino victims of TDV, even though they have been empirically identified as the groups with higher prevalence of TDV. This literature deficiency, and the documented higher prevalence of some illegal drugs use among Latino and Black adolescents, is the basis for assessing the study hypothesis, there is a significant difference between the risk behaviors reported by Black, Latino and White victims of teen dating violence. The Georgia State Institutional Review Board granted clearance for this thesis study.

SPSS<sup>®</sup> (14) was used to conduct statistical analyses of the 2005 YRBS data set for this study. Initially descriptive statistics were used to establish prevalence of TDV. Subsequently, Chi square ( $\chi^2$ ) tests, and  $p$ -value of  $<0.05$  were used to examine the relationship between the independent variables (ethnicity/race and physical dating violence) and the dependent variables (alcohol consumption, illegal drugs use and careless sexual behaviors). Chi-square tests if there is statistical difference between two variables. The larger the chi-square, the less likely it is that the difference is due to chance. A five or less percent P value means that the probability that the result obtained could have happened by chance is five percent or less; the smaller the number, the greater the likelihood that the results were not merely due to chance. (Vogt 2005)

Ethnicity and race were assessed in the survey by asking the participants, “How do you describe yourself? (Select one or more responses.)” The participants were allowed to choose one or more of the following categories: “American Indian or Alaska Native,” “Asian,” “Black or African American,” “Native Hawaiian or other Pacific Islander,” or “White.” For this study, students were classified as “Black” if they selected “Black or

African-American” only. Participants were classified as “Latino” if they selected “Latino or Hispanic” only or in combination with some other response, and as “White” if they selected “White” only. The other classifications did not amount to statistically significant percentages of the sample, and were not included in this study’s analysis. For clarity purposes, only the terms Black, Latino and White are used herein.

Physical dating violence was assessed in the survey by asking the participants: “During the past 12 months, did your boyfriend or girlfriend ever hit, slap or physically hurt you on purpose?” The response categories for this question were coded as “yes” or “no.”

The dependent variables were classified into three categories: alcohol use, illegal drugs use, and careless sexual behavior. To assess alcohol use, responses to two questions were analyzed: (1) “During the past 30 days, on how many days did you drink alcohol?” The response categories were recoded and dichotomized to indicate “zero to two days” or “three to 30 days,” and (2) “During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?” The responses were recoded to reflect, “zero to two days” or “three to 30 days.”

Illegal drug use assessment consisted of seven questions: (1) “During the past 30 days, how many times did you use marijuana?”; (2) “During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase?”; (3) “During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?”; (4) “During your life how many times have you used heroin (also called smack, junk, or China White)?”; (5) “During your life, how many times have you used methamphetamines (also called speed,

crystal, crank, or ice)?”; (6) “During your life, how many times have you used ecstasy?”; and (7) “During your life, how many times have you taken steroid pills or shots without a doctor’s prescription?” All illegal drug use responses with the exception of injected illegal drugs were recoded as “zero to two days” or “three or more days.” Responses to the questions about injected illegal drugs use were recoded to reflect “zero to one time” or “two or more times” due to the format of the question in the survey (CDC 2005).

To assess careless sexual behavior three questions were considered: (1) “During the past 3 months, with how many people did you have sexual intercourse?” Responses to this question were recoded as “have never had sexual intercourse” or “one or more persons;” (2) “Did you drink alcohol or use drugs before you had sexual intercourse the last time?” The responses codes were “yes” or “no;” and (3) “The last time you had sexual intercourse, did you or your partner use a condom?” The response categories were “yes” or “no.”

Odds ratio (OR) analysis and 95% confidence intervals (CI) results from participants that responded “yes” to having been hit, slapped or hurt by their boyfriend or girlfriend were compared to determine differences and similarities among the risk behaviors engaged in by Black, Latino and White adolescent victims of TDV. Odds ratio is a comparative quantity of the odds of an event occurring in one group compared to the odds of the event occurring in the other group. An odds ratio of one means that there is no relationship between the two variables, an odds ratio of less than one indicates a negative relationship and an odds ratio of greater than one indicates a direct or positive relationship. (Vogt 2005) A confidence interval is a range of values calculated from the same observations with the particular probability that it contains the true parameter value.

A 95% implies that one can be 95% confident that the true value of a statistical measure for the whole population lies with the parameter values. (Everitt 2006)

Logistic regression analyses were conducted to determine if TDV predicts risk behaviors or if conversely, risk behaviors predict TDV. A logistic regression coefficient represents the effect of one independent variable over a dependent variable (Vogt 2005). Logistic regressions allow to assess how well a set of predictor variables can forecast a dependent variable (Pallant 2005).

The initial logistic regression analysis was conducted to predict the odds that an adolescent engaged in a particular risk behavior would be a victim of TDV. Hence, for this analysis, the predictors (independent variables) were all the risk behaviors and some demographic characteristics (age, gender, and race or ethnicity). The dependent variable was TDV. In order to assess differences on predictors of TDV among the different groups, logistic regression analyses were conducted simultaneously for Blacks and Latinos, and separately for Blacks, Latinos, and Whites. Each of the predictors was entered simultaneously in the logistic regression analysis. All variables were recoded to reflect “0” as “no” (when the response alternatives are “yes” and “no”) or absence of risk behaviors and “1” to reflect “yes” or presence of risk behavior. With regard to the demographic characteristics, “0” was assigned to the characteristics that showed lower odds in the odds ratio analyses and “1” represented those characteristics with higher odds ratios. Age was coded as “0 = 12 to 15 years old” and “1 = 16 years old or older”; and gender was coded as “0 = male” and “1 = female.” Race was coded for Blacks as “0 = “Whites and Latinos” and “Blacks = 1.” For Whites, “Blacks and Latinos = 0” and “Whites = 1”. Ethnicity was coded for Latinos as “0 = “Whites and Blacks” and “1 =

Latinos.” Based on the responses provided on the survey, each risk behavior was coded to reflect “0 = 0 to 2 days or times” and “1 = 3 or more days or times.” In the case of injected illegal drugs, “0 = 0 to one time” and “1 = 2 or more times.” The variable number of sexual partners during the last three months was coded to reflect “0 = Never have had sexual intercourse and no sexual intercourse in the last 3 months” and “1 = 1 or more sexual partners during the past three months.” Using alcohol or illegal drugs before the last sexual intercourse was coded as “0 = No” and “1 = Yes.” Condom use during the last sexual intercourse was coded as “0 = No” and “1 = Yes.” The survey provides an additional response option for the two later questions; participants who responded that they had never had sexual intercourse or have not had sexual intercourse during the three months prior to the survey were excluded from the analysis.

Subsequent logistic analysis was conducted to determine if being a victim of TDV predicted engaging in risk behaviors. For this study, the dependent variables were each of the risk behaviors and the independent or predictor variables were TDV and the demographic characteristics (age, gender, and race or ethnicity). The independent variables were entered simultaneously. Variables were coded the exact same way as they were described above. The following section will discuss the findings from the statistical analysis.

## CHAPTER IV

### RESULTS

Of 13,917 students who participated in the 2005 YRBS, 99.2 percent (13,808) answered the question inquiring about TDV, “During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?,” 9.1 percent (1,263) answered ‘yes’ and 90.1 percent (12,545) answered ‘no’. Of the “yes” respondents, 28.2 percent (355) were between 12 and 15 years of age and 71.8 percent (903) were between the ages of 16 and 18 years; 50.2 percent (631) were females and 49.8 percent (627) were males.

With respect to race, 20.6 percent (233) self-identified themselves as Blacks, 18.0 percent (204) as Latinos and 61.4 percent (696) as Whites. In terms of prevalence within the different races and ethnicities, 11.9 percent of Blacks, 10 percent of Latinos and 8.2 percent of Whites reported having been hit, slapped or physically hurt on purpose by a boyfriend or girlfriend.

Table 1 presents the associations between TDV and age, gender, race or ethnicity and risk behaviors (drinking alcohol, using illegal drugs and careless sexual behavior). With the exception of gender, all the variables were significantly associated with TDV as estimated by chi square and P-value.

**Table 1. TDV<sup>+</sup> and TDV<sup>-</sup> Chi Square and P-value**

Variable	TDV <sup>+</sup>		TDV <sup>-</sup>		X <sup>2</sup>	P-value
<b>Age</b>		%		%	45.36	.000
16 – 18 yrs. or older	903	(71.8)	7768	(62.1)		
≤ 12 – 15 years	355	(28.2)	4737	(37.9)		
Total	1258		12505			
<b>Sex</b>					.229	.615
Female	631	(50.2)	6176	(49.4)		
Male	627	(49.8)	6324	(50.6)		
Total	1257		12500			
<b>Race/Ethnicity</b>					26.53	.000
Blacks	233	(25.1)	1720	(18.1)		
Whites	696	(74.9)	7776	(81.9)		
					6.20	.011
Latinos	204	(22.7)	1844	(19.2)		
Whites	696	(77.3)	7776	(80.8)		
					3.79	.048
Blacks	233	(25.1)	1720	(18.1)		
Latinos	204	(22.7)	1844	(19.2)		
Total	1033		11340			
<b>1+ alcohol drinks - past 30 days</b>					198.41	.000
3 to past 30 days	456	(39.0)	2529	(20.9)		
0 – 2 days	713	(61.0)	9551	(79.1)		
Total	1168		12080			
<b>5 + alcohol drinks in a Row - past 30 days</b>					118.04	.000
3 or more days	249	(20.4)	1254	(10.2)		
0 – 2 days	969	(79.6)	11093	(89.8)		
Total	1218		12347			
<b>Marijuana use – past 30 days</b>					140.80	.000
3 or more times	293	(24.0)	1484	(12.0)		
0 – 2 times	926	(76.0)	10897	(88.0)		
Total	1219		12381			
<b>Cocaine use – past 30 days</b>					97.11	.000
3 or more times	60	(5.0)	152	(1.2)		
0 – 2 times	1132	(95.0)	12013	(98.8)		
Total	1192		12165			

**Table 1 cont.**

<b>Variable</b>	<b>TDV<sup>+</sup></b>		<b>TDV<sup>-</sup></b>		<b>X<sup>2</sup></b>	<b>P-value</b>
<b>Inhalants use – lifetime</b>					128.40	.000
3 or more times	165	(13.6)	660	(5.4)		
0 – 2 times	1052	(86.4)	11646	(94.6)		
Total	1217		12306			
<b>Heroin use – lifetime</b>					162.62	.000
3 or more times	65	(5.3)	113	(.9)		
0 – 2 times	1164	(94.7)	12274	(99.1)		
Total	1229		12387			
<b>Methamphetamines use – lifetime</b>					142.62	.000
3 or more times	115	(9.2)	347	(2.8)		
0 – 2 times	1130	(90.8)	12110	(97.2)		
Total	1245		12457			
<b>Ecstasy – lifetime</b>					131.89	.000
3 or more times	102	(8.2)	298	(2.4)		
0 – 2 times	1146	(91.8)	12166	(97.6)		
Total	1248		12464			
<b>Steroids use – lifetime</b>					138.53	.000
3 or more times	85	(6.8)	211	(1.7)		
0 – 2 times	1163	(93.2)	12267	(98.3)		
Total	1248		12478			
<b>Injected illegal drugs – lifetime</b>					202.47	.000
2 or more times	68	(5.5)	98	(.8)		
0 – 1 time	1179	(94.5)	12363	(99.2)		
Total	1247		12461			
<b># people had sexual intercourse – past 3 months</b>					492.41	.000
1 person or more	715	(64.0)	3599	(31.0)		
I have never had sexual intercourse	403	(36.0)	8007	(69.0)		
Total	1118		11606			
<b>Alcohol or drugs before last sexual intercourse</b>					26.71	.000
Yes	256	(29.5)	1089	(21.5)		
No	613	(70.5)	3987	(78.5)		
Total	869		5076			

**Table 1 cont.**

<b>Variable</b>	<b>TDV<sup>+</sup></b>		<b>TDV<sup>-</sup></b>		<b>X<sup>2</sup></b>	<b>P-value</b>
<b>Condom wear – last sexual intercourse</b>					64.06	.000
Yes	467	(53.9)	3394	(68.0)		
No	399	(46.1)	1600	(32.0)		
Total	866		4994			

Odds ratios (OR) with 95% confidence interval (95% CI) were used to determine the magnitude and direction of the associations. Initially, odds ratio were calculated to compare participants who reported having being physically abused by a boyfriend or girlfriend with those who reported not having being abused (see table 2). The next step was to compare the different ethnic/racial groups to determine if there were significant differences in the extent to which they engaged in risk behaviors (see table 3).

Table 2 shows the magnitude of the association between TDV, age, gender, race and risk behavior as assessed by odds ratios and 95% CI. Participants aged 16 years and older were found to be 55 percent more likely to experience TDV than those 15 years or younger (OR=1.55; 95% CI 1.37, 1.76). Gender was not significantly associated with TDV; conversely, race and ethnicity were found to be significantly associated with TDV. When comparing the three racial and ethnic groups represented in this study, Black and Latino participants reported higher rates of TDV than Whites. Blacks were found to be 51 percent more likely than Whites to suffer TDV (OR=1.51, 95%CI 1.29, 1.77) and Latinos were 24 percent more likely than Whites (OR=1.24; 95% CI 1.05, 1.46) to report TDV victimization. The comparison between Black and Latino students revealed that Blacks are 22 percent more likely to be victims of TDV than Latinos (OR=1.22; 95% CI 1.00, 1.49)

**Table 2. Odds Ratio and 95% Confidence Interval by prevalence of TDV**

<b>Variable</b>	<b>TDV<sup>+</sup></b>	<b>TDV<sup>-</sup></b>	<b>OR</b>	<b>95% CI</b>
<b>Age</b>				
16 – 18 yrs. Or older	903	7768	1.55	(1.37, 1.76)*
≤ 12 – 15 years	355	4737	REF	
<b>Gender</b>				
Female	631	6176	1.03	(.918, 1.16)
Male	627	6324	REF	
<b>Race/Ethnicity</b>				
Blacks	233	1720	1.51	(1.29, 1.77)*
Whites	696	7776	REF	
Latinos	204	1844	1.24	(1.05, 1.46)*
Whites	696	7776	REF	
Blacks	233	1720	1.22	(1.00, 1.49)*
Latinos	204	1844	REF	
<b># days had 1 or more alcohol drinks - past 30 days</b>				
3 or more days	456	2529	2.42	(2.13, 2.74)*
0 – 2 days	713	9551	REF	
<b>5 + alcohol drinks in a row – past 30 days</b>				
3 or more days	249	1254	2.27	(1.95, 2.64)*
0 – 2 days	969	11093	REF	
<b>Marijuana use – past 30 days</b>				
3 or more times	293	1484	2.32	(2.02, 2.68)*
0 – 2 times	926	10897	REF	
<b>Cocaine use – past 30 days</b>				
3 or more times	60	152	4.19	(3.08, 5.68)*
0 – 2 times	1132	12013	REF	
<b>Inhalants use – lifetime</b>				
3 or more times	165	660	2.77	(2.31, 3.32)*
0 – 2 times	1052	11646	REF	
<b>Heroin use – lifetime</b>				
3 or more times	65	347	3.55	(2.85, 4.42)*
0 – 2 times	1130	12110	REF	

**Table 2 cont.**

<b>Variable</b>	<b>TDV<sup>+</sup></b>	<b>TDV<sup>-</sup></b>	<b>OR</b>	<b>95% CI</b>
<b>Methamphetamines use – lifetime</b>				
3 or more times	115	655	3.27	(2.74, 3.90)*
0 – 2 times	1054	11802	REF	
<b>Ecstasy use – lifetime</b>				
3 or more times	102	298	3.63	(2.88, 4.59)*
0 – 2 times	1146	12166	REF	
<b>Steroids use – lifetime</b>				
3 or more times	85	211	4.25	(3.28, 5.51)*
0 – 2 times	1163	12267	REF	
<b>Injected illegal drugs – lifetime</b>				
2 or more times	68	98	7.28	(5.31, 9.97)*
0 – 1 time	1179	12363	REF	
<b># people had sexual intercourse –past 3 months</b>				
1 person or more	715	3599	3.95	(3.47, 4.49) *
I have never had sexual intercourse	403	8007	REF	
<b>Alcohol or drugs before last sexual intercourse</b>				
Yes	256	1089	1.52	(1.30, 1.80) *
No	613	3987	REF	
<b>Condom wear – last sexual intercourse</b>				
Yes	467	3394	.55	(.48, .64) **
No	399	1600	REF	

With respect to risk behaviors, participants who reported having been physically abused by their boyfriend or girlfriend were over two times more likely to report drinking one or more alcohol beverage for 3 to 30 days prior to the survey (OR=2.42; 95% CI

2.13, 2.74). Students who were victims of TDV also were over two times more likely to engage in binge drinking than those who were not victims of TDV (OR=2.27; 95% CI 1.95, 2.64).

When assessing illegal drug use during the 30 days prior to the survey, participants who reported having been physically abused by their boyfriend or girlfriend were significantly more likely to have used marijuana (OR=2.32; 95% CI 2.02, 2.68) and greater than four times more likely to have used cocaine (OR=4.19; 95% CI (2.02, 2.68). The responses to the survey question of lifetime use of illegal drugs revealed that victims of TDV were more likely to use inhalants (OR=2.77; 95% CI 2.31, 3.32), heroin (OR=3.55; 95% CI 2.85, 4.42), and methamphetamines (OR=3.27; 95% CI 2.74, 3.90). They were also more likely to use ecstasy (OR=3.63; 95% CI 2.88, 4.59), steroids (OR=4.25; 95% CI 3.28, 5.51), and inject illegal drugs (OR=7.28; 95% CI 5.31, 9.97) than their non-abused counterparts.

The odds ratio analysis of sexual behavior revealed that participants who reported being physically abused by their boyfriend or girlfriend were four times more likely to have had sexual intercourse with one or more people in the three months preceding the survey (OR=3.95; 95% CI 3.47, 4.49). Victims of TDV were also one and a half (1.5) times more likely to have consumed alcohol or drugs before their last sexual intercourse (OR=1.52; 95% CI 1.30, 1.80). With regard to condom use, victims of TDV were 45 percent less likely to have used a condom during their last sexual intercourse (OR=.55; 95% CI .48, .64) than those who were not victims of TDV.

To address the central hypothesis, risk behaviors among Black, Latino and White victims of TDV were compared. Black victims of TDV were 64 percent less likely than

Whites to have had at least one alcoholic drink on 3 to 30 days of the 30 days prior to the survey (OR=.36; 95% CI .25, .51; see table 3). Blacks also were 80 percent less likely than Whites to have had five (5) or more drinks in a row on three (3) or more days within the same period of time (OR=.20; 95% CI .11, .35). Comparison of illegal drugs use showed that Black victims of TDV were only 62 percent less likely to have used inhalants three or more times (OR=.38; 95% CI .20, .72) and 70 percent less likely than White victims to have used methamphetamines in their lifetime (OR=.30; 95% CI .13, .70). When comparing Black and White TDV victims, all other illegal drug use associations with TDV were not significant.

With respect to sexual behavior, Black victims were approximately 47 percent more likely than Whites were to have had sexual intercourse with one or more people during the three (3) months preceding the survey (OR=1.47; 95% CI 1.01, 2.15). Conversely, Blacks were 54 percent less likely to have had alcohol or drugs before their last sexual intercourse (OR=.46; 95% CI .29, .74).

**Table 3. Odds Ratio and 95% Confidence Interval by Race and Ethnicity – Blacks and Whites**

<b>Variable</b>	<b>BLACKS</b>	<b>WHITES</b>	<b>OR</b>	<b>95% CI</b>
<b># days had 1 or more alcohol drinks – past 30 days</b>				
3 to past 30 days	44	291	0.36	(0.25, 0.51)**
0 – 2 days	158	372	REF	
<b>5+ alcohol drinks in a Row- past 30 days</b>				
3 or more days	13	168	.20	(.11, .35)**
0 – 2 days	203	517	REF	
<b>Marijuana use – past 30 days</b>				
3 or more times	51	148	1.19	(0.83, 1.71)
0 – 2 times	157	542	REF	
<b>Cocaine use- past 30 days</b>				
3 or more times	4	27	0.51	(0.18, 1.48)
0 – 2 times	191	659	REF	
<b>Inhalants use – lifetime</b>				
3 or more times	11	88	0.38	(0.20, 0.72)**
0 – 2 times	198	594	REF	
<b>Heroin use – lifetime</b>				
3 or more times	5	25	0.65	(0.25, 1.73)
0 – 2 times	204	667	REF	
<b>Methamphetamines use – lifetime</b>				
3 or more times	6	60	.30	(0.13, 0.70)**
0 – 2 times	214	634	REF	
<b>Ecstasy use – lifetime</b>				
3 or more times	10	46	0.67	(0.33, 1.34)
0 – 2 times	212	650	REF	

**Table 3. cont.**

<b>Variable</b>	<b>BLACKS</b>	<b>WHITES</b>	<b>OR</b>	<b>95% CI</b>
<b>Steroid pills – lifetime</b>				
3 or more times	9	40	0.70	(0.33, 1.46)
0 – 2 times	212	657	REF	
<b>Injected illegal drugs - lifetime</b>				
2 or more times	5	34	0.45	(0.17, 1.17)
0 – 1 time	216	662	REF	
<b># people had sexual intercourse – 3 months</b>				
1 person or more	115	416	1.47	(1.01, 2.15)*
I have never had sexual intercourse	46	245	REF	
<b>Alcohol or drugs before last sexual intercourse</b>				
Yes	25	153	0.46	(0.29, 0.74)**
No	120	337	REF	
<b>Condom wear - last sexual intercourse</b>				
Yes	83	259	1.23	(0.85, 1.80)
No	60	231	REF	

The comparison of Latino to White victims of TDV (see table 4) revealed no significant differences in alcohol consumption and sexual behavior between the two groups.

However, Latino victims of TDV were more likely to use marijuana (OR=1.96; 95% CI 1.39, 2.77), cocaine (OR=2.81; 95% CI 1.54, 5.12), inhalants (OR=1.78; 95% CI 1.19, 2.68), heroin (OR=2.62; 95% CI 1.40, 4.92), methamphetamines (OR=1.84; 95% CI 1.15, 2.95), ecstasy (OR=2.58; 95% CI 1.59, 4.19), and steroids (OR=1.83; 95% CI 1.04, 3.20).

**Table 4. Odds Ratio and 95% Confidence Interval by Race and Ethnicity –Latinos and Whites**

<b>Variable</b>	<b>LATINOS</b>	<b>WHITES</b>	<b>OR</b>	<b>95% CI</b>
<b># days had 1 or more alcohol drinks - past 30 days</b>				
3 to past 30 days	79	291	0.97	(.70, 1.35)
0 – 2 days	104	372	REF	
<b>5+ alcohol drinks in a Row- past 30 days</b>				
3 or more days	42	168	0.86	(.59, 1.27)
0 – 2 days	150	517	REF	
<b>Marijuana use - past 30 days</b>				
3 or more times	68	148	1.96	(1.39, 2.77)*
0 – 2 times	127	542	REF	
<b>Cocaine use -past 30 days</b>				
3 or more times	20	27	2.81	(1.54, 5.12)*
0 – 2 times	174	659	REF	
<b>Inhalants use - lifetime</b>				
3 or more times	42	88	1.78	(1.19, 2.68)*
0 – 2 times	159	594	REF	
<b>Heroin use - lifetime</b>				
3 or more times	18	25	2.62	(1.40, 4.92) *
0 – 2 times	183	667	REF	
<b>Methamphetamines use - lifetime</b>				
3 or more times	30	60	1.84	(1.15, 2.95)*
0 – 2 times	172	634	REF	
<b>Ecstasy use - lifetime</b>				
3 or more times	31	46	2.58	(1.59, 4.19)*
0 – 2 times	170	650	REF	

**Table 4 cont.**

<b>Variable</b>	<b>LATINOS</b>	<b>WHITES</b>	<b>OR</b>	<b>95% CI</b>
<b>Steroid pills - lifetime</b>				
3 or more times	20	40	1.83	(1.04, 3.20)*
0 – 2 times	180	657	REF	
<b>Injected illegal drugs – lifetime</b>				
2 or more times	15	34	1.59	(.85, 2.98)
0 – 1 time	184	662	REF	
<b># people had sexual intercourse – 3 months</b>				
1 person or more	121	416	1.19	(0.84, 1.68)
I have never had sexual intercourse	60	245	REF	
<b>Alcohol or drugs before last sexual intercourse</b>				
Yes	49	153	1.07	(.72, 1.58)
No	101	337	REF	
<b>Condom wear – last sexual intercourse</b>				
Yes	75	259	.93	(0.64, 1.34)
No	72	231	REF	

The comparison of Latino to Black victims of TDV (see table 5) revealed that Latinos who reported having been physically abused by a partner were significantly more likely than Blacks to participate in any of the risk behaviors studied. The only behavior in which the results revealed that Black victims of TDV had a higher rate than Latinos was condom use, but the difference was not significant (OR=1.33; 95% CI .84, 2.11).

**Table 5. Odds Ratio and 95% Confidence Interval by Race and Ethnicity – Blacks and Latinos**

<b>Variable</b>	<b>BLACKS</b>	<b>LATINOS</b>	<b>OR</b>	<b>95% CI</b>
<b># days had 1 or more alcohol drinks – past 30 days</b>				
3 or more days -	44	79	.37	(.24, .57)**
0 – 2 days	158	104	REF	
<b>5+ alcohol drinks in a Row- past 30 days</b>				
3 or more days	13	42	.23	(.12, .44)**
0 – 2 days	203	150	REF	
<b>Marijuana- lifetime</b>				
3 or more times	51	68	.61	(.39, .93)**
0 – 2 times	157	127	REF	
<b>Cocaine – lifetime</b>				
3 or more times	4	20	.18	(.06, .54)**
0 – 2 times	191	174	REF	
<b>Inhalants –lifetime</b>				
3 or more times	11	42	.21	(.11, .42)**
0 – 2 times	198	159	REF	
<b>Heroin – lifetime</b>				
3 or more times	5	18	.25	(.09, .69)**
0 – 2 times	204	183	REF	
<b>Methamphetamines – lifetime</b>				
3 or more times	6	30	.16	(.07, .40)**
0 – 2 times	214	172	REF	
<b>Ecstasy – lifetime</b>				
3 or more times	10	31	.26	(.12, .54)**
0 – 2 times	212	170	REF	
<b>Steroid pills – lifetime</b>				
3 or more times	9	20	.38	(.17, .86)**
0 – 2 times	212	180	REF	

**Table 5 cont.**

<b>Variable</b>	<b>BLACKS</b>	<b>LATINOS</b>	<b>OR</b>	<b>95% CI</b>
<b>Injected illegal drugs – lifetime</b>				
2 or more times	5	15	.28	(.10, .80)**
0 – 1 time	216	184	REF	
<b># people had sexual intercourse – 3 months</b>				
1 person or more	115	121	1.24	(.78, 1.97)
I have never had sexual intercourse	46	60	REF	
<b>Alcohol or drugs before last sexual intercourse</b>				
Yes	25	49	.43	(.25, .74)**
No	120	101	REF	
<b>Condom wear - last sexual intercourse</b>				
Yes	83	75	1.33	(.84, 2.11)
No	60	72	REF	

Logistic regression analysis was used to determine if any of the risk behaviors predict TDV and if TDV predicts the participation in any of the risk behaviors included in this study.

Table 6 presents the results from the logistic regression analysis with TDV as the dependent variable. The analysis for Blacks and Latinos show that after controlling for the effects of age, gender, race, and all risk behaviors, significant predictors of TDV included: drinking one or more alcohol drinks for more than three days during the thirty (30) days prior to the survey (OR=1.62; 95% CI 1.30, 2.03), using inhalants three or more times in a lifetime (OR=1.45; 95% CI 1.09, 1.92), injecting illegal drugs twice or more in a life time (OR=2.30; 95% CI 1.20, 4.39), having one or more sexual partners

during the three months prior to the survey (OR=1.79; 95% CI 1.44, 2.23), and having alcohol or drugs before last sexual intercourse (OR=1.24; 95% CI 1.00, 1.53). The use of marijuana, cocaine, heroin, methamphetamines, ecstasy, steroids, and alcohol or illegal drugs use before sexual intercourse were not significant in the logistic regression. None of the demographic characteristics was found to be a predictor of TDV.

**Table 6. Logistic Regression Analysis for Blacks and Latinos - Risk Behaviors as Predictors of Teen Dating Violence: Youth Risk Behaviors Survey**

<b>Demographic Characteristics</b>	<b>Adjusted OR</b>	<b>95% CI</b>
Age	1.20	(0.98, 1.46)
Gender	1.11	(0.93, 1.31)
Race – Blacks	1.19	(0.94, 1.51)
Ethnicity - Latinos	1.11	(0.89, 1.39)
<b>Risk Behaviors</b>	<b>Adjusted OR</b>	<b>95% CI</b>
1+ alcohol drinks-past 30 days	1.62	(1.30, 2.03)*
Binge Drinking	0.72	(0.56, 0.93)**
Marijuana use	1.09	(0.88, 1.35)
Cocaine use	0.87	(0.53, 1.44)
Inhalants use	1.45	(1.09, 1.92)*
Heroin use	1.44	(0.73, 2.85)
Methamphetamines use	1.16	(0.80, 1.66)
Ecstasy use	0.95	(0.64, 1.40)
Illegal Steroid use	1.36	(0.88, 2.10)
Injected illegal drugs	2.30	(1.20, 4.39)*
1+ sexual partners	1.79	(1.44, 2.23)*
Alcohol or Drugs before last sexual intercourse	1.24	(1.00, 1.53)
Condom use during last Sexual intercourse	0.58	(0.49, 0.69)**

Note: OR = Odds ratio; 95% CI = Confidence Interval.

**Table 7. Logistic Regression Analysis for Blacks - Risk Behaviors as Predictors of Teen Dating Violence: Youth Risk Behaviors Survey**

<b>Demographic Characteristics</b>	<b>Adjusted OR</b>	<b>95% CI</b>
Age	1.19	(0.97, 1.45)
Gender	1.10	(0.93, 1.30)
Race – <b>Blacks</b>	1.16	(0.92, 1.46)
<b>Risk Behaviors</b>	<b>Adjusted OR</b>	<b>95% CI</b>
1+ alcohol drinks- past 30 days	1.62	(1.29, 2.03)*
Binge Drinking	0.71	(0.55, 0.92)**
Marijuana use	1.09	(0.89, 1.35)
Cocaine use	0.89	(0.54, 1.46)
Inhalants use	1.45	(1.09, 1.92)*
Heroin use	1.46	(0.74, 2.88)
Methamphetamines use	1.15	(0.80, 1.66)
Ecstasy use	0.95	(0.65, 1.40)
Illegal Steroid use	1.36	(0.88, 2.10)
Injected illegal drugs	2.27	(1.19, 4.34)*
1+ sexual partners	1.79	(1.43, 2.22)*
Alcohol or Drugs before last sexual intercourse	1.24	(1.00, 1.53)*
Condom use during last Sexual intercourse	0.56	(0.48, 0.68)**

Note: OR = Odds ratio; 95% CI = Confidence Interval.

When conducting logistic regression for Blacks adjusting for the effects of age, gender, race and risk behaviors (Table 7), significant predictors of TDV included: drinking one or more alcohol drinks for more than three days during the thirty (30) days prior to the survey (OR=1.62; 95% CI 1.29, 2.03), using inhalants three or more times in a lifetime (OR=1.45; 95% CI 1.09, 1.92), injecting illegal drugs twice or more in a life time (OR=2.27; 95% CI 1.19, 4.34), having one or more sexual partners during the three

months prior to the survey (OR=1.79; 95% CI 1.43, 2.22), and having alcohol or drugs before last sexual intercourse (OR=1.24; 95% CI 1.00, 1.53). The use of marijuana, cocaine, heroin, methamphetamines, ecstasy and steroids were not significant in the logistic regression. None of the demographic characteristics was found to be a predictor of TDV.

**Table 8. Logistic Regression Analysis for Latinos - Risk Behaviors as Predictors of Teen Dating Violence: Youth Risk Behaviors Survey**

<b>Demographic Characteristics</b>	<b>Adjusted OR</b>	<b>95% CI</b>
Age	1.19	(0.97, 1.46)
Gender	1.10	(0.93, 1.30)
Ethnicity - Latinos	1.08	(0.87, 1.34)
<b>Risk Behaviors</b>		
1+ alcohol drinks- past 30 days	1.59	(1.28, 1.99)*
Binge Drinking	0.71	(0.55, 0.92)**
Marijuana use	1.10	(0.89, 1.36)
Cocaine use	0.88	(0.54, 1.45)
Inhalants use	1.43	(1.08, 1.90)*
Heroin use	1.46	(0.74, 2.90)
Methamphetamines use	1.14	(0.79, 1.63)
Ecstasy use	0.95	(0.64, 1.39)
Illegal Steroid use	1.35	(0.87, 2.08)
Injected illegal drugs	2.29	(1.20, 4.37)*
1+ sexual partners	1.79	(1.44, 2.23)*
Alcohol or Drugs before last sexual intercourse	1.23	(1.00, 1.52)
Condom use during last Sexual intercourse	0.58	(0.49, 0.69)**

Note: OR = Odds ratio; 95% CI = Confidence Interval.

When conducting the logistic regression for Latinos adjusting for the effects age, gender, race, and risk behaviors (Table 8), significant predictors of TDV were the same as for Blacks and Latinos, and for Blacks alone: drinking one or more alcohol drinks for more than three days during the thirty (30) days prior to the survey (OR=1.59; 95% CI 1.28, 1.99), using inhalants three or more times in a lifetime (OR=1.43; 95% CI 1.08, 1.90), injecting illegal drugs twice or more in a life time (OR=2.29; 95% CI 1.20, 4.37), and having one or more sexual partners during the three months prior to the survey (OR=1.79; 95% CI 1.44, 2.23). The use of marijuana, cocaine, heroin, methamphetamines, ecstasy, steroids, and alcohol or illegal drugs before sexual intercourse were not significant in the logistic regression. None of the demographic characteristics were found to be predictors of TDV.

Finally the logistic regression for White adolescents (Table 9), also adjusted for the effects age, gender, race, and risk behaviors revealed that the significant predictors of TDV were: drinking one or more alcohol drinks for more than three days during the thirty (30) days prior to the survey (OR=1.62; 95% CI 1.29, 2.02), using inhalants three or more times in a lifetime (OR=1.45; 95% CI 1.09, 1.92), injecting illegal drugs twice or more in a life time (OR=2.30; 95% CI 1.20, 4.40), having one or more sexual partners during the three months prior to the survey (OR=1.79; 95% CI 1.44, 2.23), and consuming alcohol or drugs before last sexual intercourse (OR=1.24; 95% CI 1.00, 1.53). The use of marijuana, cocaine, heroin, methamphetamines, ecstasy and steroids, were not significant in the logistic regression. None of the demographic characteristics were found to be predictors of TDV.

**Table 9. Logistic Regression Analysis for Whites - Risk Behaviors as Predictors of Teen Dating Violence: Youth Risk Behaviors Survey**

<b>Demographic Characteristics</b>	<b>Adjusted OR</b>	<b>95% CI</b>
Age	1.20	(0.98, 1.47)
Gender	1.11	(0.93, 1.31)
Race – Whites	0.87	(0.73, 1.04)
<b>Risk Behaviors</b>	<b>Adjusted OR</b>	<b>95% CI</b>
1+ alcohol drinks- past 30 days	1.62	(1.29, 2.02)*
Binge Drinking	0.72	(0.56, 0.93)**
Marijuana use	1.09	(0.89, 1.35)
Cocaine use	0.87	(0.53, 1.44)
Inhalants use	1.45	(1.09, 1.92)*
Heroin use	1.44	(0.73, 2.86)
Methamphetamines use	1.15	(0.80, 1.66)
Ecstasy use	0.94	(0.64, 1.39)
Illegal Steroid use	1.36	(0.88, 2.10)
Injected illegal drugs	2.30	(1.20, 4.40)*
1+ sexual partners	1.79	(1.44, 2.23)*
Alcohol or Drugs before last sexual intercourse	1.24	(1.00, 1.53)
Condom use during last Sexual intercourse	0.58	(0.49, 0.69)**

Note: OR = Odds ratio; 95% CI = Confidence Interval.

The results of all the logistic regressions analyses in which TDV was the dependent variable show that participants who reported wearing a condom during their last sexual intercourse are 42 percent less likely to be victims of TDV. The odds ratios were practically the same when adjusting for all the different races and for ethnicity (OR=.58; 95% CI .49, .69).

Table 10 presents the results from the logistic regression analysis, with TDV as the independent variable and each risk behavior as the dependent variable. After controlling for the effects of age, gender, and race or ethnicity, TDV was a significant predictor of all risk behaviors. TDV most significantly predicted the use of injected illegal drugs (OR=6.89; 95% CI 4.85, 9.79), heroin (OR=5.14; CI 95% 3.62, 7.32), and steroids (OR=4.16; 95% CI 3.13, 5.54). Victims of TDV are 46 percent less likely to wear a condom (OR=0.54; CI 95% 0 .46, 0 .63).

When controlling for the other independent variables, being Black was not a significant predictor of risk behaviors. However, being Latino was a significant predictor of the use of some illegal drugs. Being Latino was a significant predictor of the use of marijuana (OR 1.24; 95% CI 1.08, 1.43), cocaine (OR=2.13; 95% CI 1.54, 2.93), heroin (OR=1.62; 95% CI 1.09, 2.39), and methamphetamines (OR=1.38; 95% CI 1.09, 1.74). Further, being Black (OR=1.97; 95% CI 1.76, 2.21) or Latino (OR=1.20; 95% CI 1.07, 1.34) was significant predictor of having one or more sexual partners.

**Table 10. Logistic Regression Analysis – Teen Dating Violence as Predictor of Risk Behaviors Adjusted for Age, Gender, Race and Ethnicity: Youth Risk Behaviors Survey**

	TDV		AGE		GENDER		BLACK		LATINO	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
<b>RISK BEHAVIORS</b>										
1+ alcohol drinks- past 30 days	2.48	(2.165, 2.84)	1.60	(1.46, 1.76)	0.80	(0.73, 0.87)	0.35	(0.30, 0.41)	0.85	(0.75, 0.96)
Binge drinking	2.23	(1.89, 2.63)	2.08	(1.82, 2.38)	0.68	(0.61, 0.77)	0.22	(0.17, 0.28)	0.79	(0.68, 0.93)
Marijuana	2.29	(1.97, 2.66)	1.25	(1.12, 1.40)	0.67	(0.60, 0.74)	0.95	(0.81, 1.10)	1.24	(1.80, 1.43)
Cocaine	3.82	(2.74, 5.33)	1.21	(0.82, 1.66)	0.55	(0.41, 0.75)	0.57	(0.33, 0.98)	2.13	(1.54, 2.93)
Inhalants	2.80	(2.30, 3.41)	0.81	(0.70, 0.95)	0.93	(0.80, 1.08)	0.45	(0.34, 0.60)	1.00	(0.82, 1.22)
Heroin	5.14	(3.62, 7.32)	0.91	(0.65, 1.28)	0.33	(0.22, 0.47)	1.00	(0.62, 1.62)	1.62	(1.09, 2.39)
Methamphetamines	3.30	(2.60, 4.20)	1.32	(1.06, 1.64)	0.92	(0.76, 1.13)	0.27	(0.17, 0.43)	1.38	(1.09, 1.74)
Ecstasy	3.51	(2.73, 4.53)	1.24	(0.98, 0.56)	0.61	(0.49, 0.77)	0.55	(0.37, 0.80)	0.55	(1.30, 2.15)
Steroids	4.16	(3.13, 5.54)	0.64	(0.49, 0.82)	0.55	(0.43, 0.71)	0.64	(0.43, 0.95)	1.05	(0.76, 1.45)
Injected Illegal Drugs	6.89	(4.85, 9.79)	0.86	(0.61, 1.23)	0.30	(0.20, 0.44)	0.49	(0.27, 0.88)	1.08	(0.70, 1.65)
1+ Sexual Partner	3.83	(3.33, 4.40)	2.57	(2.35, 2.81)	1.06	(0.98, 1.15)	1.97	(1.76, 2.21)	1.20	(1.07, 1.34)
Alcohol-Drugs before sexual intercourse	1.52	(1.28, 1.80)	0.98	(0.85, 1.14)	0.71	(0.62, 0.80)	0.40	(0.32, 0.49)	0.93	(0.79, 1.10)
Condom use	0.54	(0.46, 0.63)	0.75	(0.65, 0.85)	0.53	(0.47, 0.60)	1.28	(1.20, 1.49)	0.88	(0.76, 1.03)

Note: OR = Odds ratio; CI = 95% Confidence Interval.

## CHAPTER V

### DISCUSSION AND CONCLUSION

This study examines the prevalence of TDV, the magnitude and direction of the associations between TDV and several risk behaviors, and to which extent these associations vary among ethnically and racially diverse victims of TDV. Further, it assesses if TDV predicts risk behaviors or if conversely, risk behaviors are predictors of TDV.

Several important findings emerged from the data analysis. The most important is that there are significant differences on the rates in which Black, Latino, and White adolescent victims of TDV engage in risk behaviors. Although Black high school students report the highest rates of TDV victimization, they were the least likely to engage in almost any of the risk behaviors.

#### **TDV prevalence among diverse groups**

One in eleven of the high school students who participated in the 2005 YRBS reported having been physically hurt by a boyfriend or girlfriend within the year prior to the survey. Of the total number of students who reported abuse by their intimate partner (1,263), 72% are 16 years or older and 28% are between the ages of 12 and 15 years. Odds ratio analysis reveals that students 16 years and older are 1.5 times more likely than those who are between the ages of 12 and 15 years old to be abused by a boyfriend or girlfriend. Older age might be indicative of more autonomy and opportunity for

unsupervised interactions with intimate partners. With regard to gender, female and male participants reported similar rates of TDV (50.2% and 49.8% respectively).

Significant differences were found when comparing ethnic and racial prevalence of TDV. Black (11.9%) and Latino (10%) participants report higher rates of TDV victimization than Whites (8.2%). This is consistent with what has been reported elsewhere (CDC 2006; Grunbaum et al. 2004) and suggests that racial and ethnically sensitive programs are needed.

### **Risk behaviors and TDV association**

All studied risk behaviors (drinking alcohol; use of marijuana, cocaine, inhalants, heroin, methamphetamines, ecstasy, illegal steroids, injected illegal drugs; and careless sexual behaviors; having one or more sexual partners; consuming alcohol or drugs before sexual intercourse and not using a condom) are significantly associated with TDV. Findings from other national teen dating violence studies concur with this finding (Roberts, Klein, and Fisher 2003; Roberts and Klein 2003). Those that were most significantly associated with TDV are the use of cocaine, steroids and injected illegal drugs. The co-occurrence of TDV and risk behaviors associated with the leading causes of morbidity and mortality among adolescents, in addition to TDV's psychological and physical impact fatalities, is what defines TDV as a public health issue.

When comparing the three racial and ethnic groups included in this study, Black victims of TDV are less likely than their White and Latino counterparts to be engaged in almost any of the risk behaviors. The only risk behavior that Black victims are more likely to engage in than Whites and Latinos is having one or more sexual partners (the difference with Latinos was not significant). Alternatively, Latinos are more likely to

engage in all other risk behaviors compared to Blacks and are more likely to use illegal drugs than Whites. White victims of TDV have higher rates of alcohol consumption than Blacks and Latinos; however, the difference with Latinos was not significant.

Interestingly, although Black TDV victims have the highest rate of having one or more sexual partners, they also are more likely to use a condom during sexual intercourse. Further, Black adolescents have the highest rate of abuse and the lowest for most risk behaviors. The survey does not provide enough data to explain this phenomenon. However, these results raise the question about the influence of social norms among Black adolescents and the coping mechanisms preventing them from engaging in risk behaviors.

Logistic regression analysis was utilized to determine the effect of risk behaviors on predicting TDV. The results show that regardless of the race or ethnicity for which the analyses were adjusted, after controlling for age, gender, and all other risk behaviors, only four risk behaviors predict TDV: frequent consumption of alcohol among adolescents, higher usage rates of inhalants and injected illegal drugs, and having one or more sexual partners. The odds of an adolescent suffering teen dating violence are significantly higher for those who have had one or more alcohol drinks on three or more days during the 30 days prior to the survey than for those who drank for less than two days. Similarly, students who used inhalants three or more times in their lifetime were at greater risk of being abused than students who used inhalants fewer than three times in their life. Participants who reported using injected illegal drugs two or more times in their lifetime and those who had one or more sexual partners during the three months prior to the survey also had higher odds of being abused. Participants who have never injected

illegal drugs or reported having done it only once and those who have never had sexual intercourse in their life or at least not during the three months prior to the survey are less likely to be abused. Using alcohol or illegal drugs prior to the last sexual intercourse proved to be a predictor of TDV in logistic regressions for Blacks and Latinos simultaneously, and the logistic regressions analysis for Blacks and Whites independently. Using alcohol or illegal drugs before sexual intercourse was not a significant predictor during the logistic regression for Latinos.

When adjusting for each of the different racial and ethnic groups, the predictor factors of TDV were the same: frequent alcohol drink, higher rates of use of inhalants and injected illegal drugs, and having one or more sexual partners. The fact that the odds ratios were practically the same across the different groups suggests that the risk behaviors lead the prevalence of TDV and not the specific races or ethnicity. Further, being Black or Latino had no significance in predicting TDV.

Finally, logistic regression analysis was used to determine if TDV predicts the participation in any of the risk behaviors. After adjusting for the effects of age, gender, race and ethnicity, the results show TDV to be likely to predict all the risk behaviors included in this study.

### **Limitations**

This study has the following limitations. First, the cross-sectional study design precludes the author from establishing causal relationships between physical dating violence and each risk behavior. Second, the survey did not inquire about TDV perpetration, which limited the study assessment to risk behaviors of victims only. Third, the survey did not ask for sexual orientation or the gender of the intimate partner, which

precluded a determination of whether there are different patterns of abuse in same-sex relationships. Fourth, the absence of questions regarding psychological abuse permits investigation of only one aspect of teen dating violence instead of the entire scope of what teen dating abuse may encompass. Fifth, this study is limited to Black, Latino and White adolescents. American Indians, Alaska Natives, Asians, Native Hawaiians or other Pacific Islanders were not included in the analysis due to lack of statistical representation in the 2005 YRBS. Finally, the YRBS is administered only to participants who are attending high schools, excluding adolescents who do not attend high schools; therefore, this study does not represent all adolescents.

### **Future Research**

The findings of this study suggest directions for future research on teen dating violence. Due to the cross-sectional nature of the study, it is still unclear if TDV triggers the participation in risk behaviors, or if conversely, engaging in risk behaviors leads to being abused by an intimate partner. Looking at factors over time may provide more information on the dynamics of the different variable affecting TDV, and the temporality of the relation between TDV and risk behaviors.

In order to prevent teen dating violence, it is critical to have a comprehensive understanding of the breadth of TDV. Learning about the prevalence of psychological abuse is as critical as learning the magnitude of physical abuse. Psychological abuse has been found to have its own serious impact on the psychological and physical health of victims of intimate partner violence (Bonomi et al. 2006; Carbone-López, Kruttschnitt, and Macmillan 2006). Thus, psychological abuse should be considered in future research.

In addition, this study did not include statistics on American Indians, Alaska Natives, Asians, Native Hawaiians or other Pacific Islanders due to lack of statistical representation in the 2005 YRBS. More research is necessary among these groups as they might have different rates and types of risk behaviors from those included in this study. Adolescents not attending high school were also excluded from this study as the YRBS is only administered in high schools. Adolescents not attending high school might have different prevalence of risk behaviors and physical dating violence. Future research should be expanded to include adolescents not attending high school. Another group excluded from the 2005 YRBS, hence from the analysis was adolescents in same-sex relationships. More research is needed to establish if there are different patterns of risk behaviors among victims of TDV in same-sex relationships across racial and ethnic groups in order to develop the appropriate interventions.

Although there is a higher prevalence of TDV among Blacks and Latinos, the findings revealed that race and ethnicity did not predict TDV. More needs to be learned about the interaction of ethnicity and race with TDV. Higher prevalence among Blacks and Latinos might be related to socioeconomic variables that should be considered in future research. Black adolescents have the highest rate of TDV, but the lowest rate of most risk behaviors. Future research should assess if social norms might be increasing Black adolescents' vulnerability to abuse. Further research should also assess the protective factors preventing Black victims from engaging in alcohol and illegal drugs consumption and those preventing Whites from being abused.

## **Conclusions**

This study found that teen dating violence is significantly associated with certain risk behaviors. The co-occurrence of TDV and risk behaviors linked to the leading causes of morbidity and mortality, and TDV's psychological and physical consequences, which can be fatal, define TDV as a public health issue. Consequently, prevention initiatives and programs must be developed from a comprehensive public health approach. To start, there must be a standardized definition of TDV and a coordinated, national surveillance system from which public health officers can retrieve consistent, scientifically sound data to assist them in the planning, implementation, and evaluation of public health prevention initiatives and programs. The YRBS should be revised to include questions assessing TDV perpetration, emotional abuse, and same gender relationships. Adding questions to assess social norms and socioeconomic factors will also provide critical information to help identify the risk and protective variables affecting TDV prevalence. Implementing these changes and adapting the YRBS to be administered to adolescents not enrolled in high school will help turn the YRBS into the national and state TDV surveillance system necessary to develop epidemiologically sound prevention and intervention programs.

The study also revealed that the association between risk behaviors and TDV varies between the diverse groups studied. Black, Latino and White adolescent victims engage in risk behaviors at different rates. This finding expands the present knowledge of the correlation between TDV and risk behaviors by identifying the most prevalent risk behaviors in each racial and ethnic group studied. As noted earlier more research is needed to make conclusive assertions regarding the implications of this study's findings. Nonetheless, the differences found among the risk behaviors of Black, Latino and White

adolescent victims of TDV suggest that public health prevention programs should be comprehensive and tailored. For instance, TDV programs in highly Black populated communities, should address what constitutes a healthy relationship, but should also address the risks of multiple sexual partners as well as reinforce the proper use of condoms. Programs with Latino adolescents should place emphasis on illegal drugs use prevention. Further, programs designed to reach White adolescents must focus on the risks of alcohol consumption. These statements do not suggest that other risk behaviors should not be addressed, only that the primary focus should concentrate on what has been found to be more prevalent among the specific groups.

The success of the suggested comprehensive programs requires the establishment of collaborations across disciplines. Public health professionals working on TDV and those working to prevent risk behaviors must establish collaborations with the purpose of sharing resources and developing initiatives that are more effective. Professionals from both disciplines should join legislative efforts to control alcohol and illegal drugs usage among adolescents, as well as to support legislation increasing funds toward collaborative efforts, research and health education.

In following with the public health approach, initiatives taking into consideration risk behaviors disparities must be evaluated. Initiatives found to be successful, should be made available for others to implement.

As with other public health issues, teen dating violence seems to be affected by the interaction of multiple factors. Additional research is needed to identify more of those factors and to determine how they interact among the diverse groups. Current public health interventions must take into consideration the known associations of risk behaviors

and TDV among diverse populations. The goal must be a holistic approach to the protection and promotion of adolescents' holistic health.

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