

# STRENGTH OF THE PREDICTION OF INTENDED CONDOM USE: A COMPARISON OF INDIVIDUALIST, COLLECTIVIST AND ETHNIC CATEGORIES

by

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(Under the direction of David DeJoy)

## ABSTRACT

A study was undertaken to determine if Individualism and Collectivism would be a more effective way to categorize cultural groups than ethnicity. Secondly, the study sought to determine if there would be differences in the prediction of behavioral intention (intent to use a condom), between Individualist and Collectivist groups. Categorization of groups was determined by calculating an index, using scores on a scale of self construal. Results indicate that within racial groups there exist subgroups of Individualists and Collectivists persons. Individualists from each ethnic category appeared to place an increased importance on their perceived confidence to have a condom used when they engage in sexual intercourse. Further investigation is needed to determine which behaviors influence where a participant will fall along a continuum of Individualism and Collectivism.

INDEX WORDS: Individualist, Collectivist, condom intention, self construal, perceived control.

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by

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## DEDICATION

I dedicate this work to Cheryl, my mother, grandmother, sisters (Maria & Renee) aunts (Pearl, Mildred, Willie Mae, Gloria, and Sheila) uncles (Charlie, Finney, William, Henry, and Mack), cousins (Terrance, John, Dwight, Debbie, Trevis and Fred), and my best friend Curtis Douglass. Each of you is a part of me and therefore share in this accomplishment. To my mentor and friend Dr. Thomas Blocker, you live forever in all that you left behind. To Dr. Rebecca Mullis for being the first to give me a chance in this field and making me promise to finish this degree.

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## KEY TERMS

Attitude towards the behavior – A construct of the Theory of Planned Behavior which represents an expression of one's positive or negative evaluation of performing a given behavior.

African-American – Of or relating to American Blacks of African ancestry, their history, or their culture.

Blacks – Belonging to an ethnic group with dark skin. The term “Black” may refer to persons from various backgrounds (i.e., Caribbeans, Africans, Cubans, etc) including Blacks.

Collectivism – A sociological and psychological dimension which is distinguished by strong integration, into a cohesive group that is believed to protect him or her in exchange for unquestioning loyalty.

Individualism – A sociological and psychological dimension which is distinguished by loose ties to other individuals and an expectation to look after himself or herself.

Perceived control – A construct of the Theory of Planned Behavior which reflects personal beliefs as to how easy or difficult performing a given behavior is likely to be. It is assumed to account for external (e.g., availability of time or money, social support) and internal (e.g., ability, skill, information) factors.

Self construal – A perception of “self” based on either, ones own abilities, attributes, characteristics, or goals or by referring to the thoughts feelings, or actions of others.

Sexually active - Those individuals who have engaged in sexual intercourse (requiring vaginal or anal penetration) within the past twelve months.

Subjective norms – A construct of the Theory of Planned Behavior which reflects personal perception of the social expectations to adopt a given behavior.

## CHAPTER 1

### INTRODUCTION

Members of a particular cultural group are inclined to present an idealized view of the cognitive process they would follow when making decisions (Greenfield, 1994). The field of psychology, which primarily evolved in an Individualist Western culture, is an example. Psychology has demonstrated a tendency to elevate Individualism as the sole social orientation. Unfortunately, this is often at the expense of disregarding its antithesis, Collectivism (Greenfield, 1994; Kagitcibasi, 1994).

The inability to accurately differentiate social groups has influenced how they are defined and what role group membership has on the prediction of behavior. This project attempted to demonstrate the worth of accurately differentiating social groups and how this may strengthen the utility of health theory and subsequently health promotion programs. There exists several social groups (e.g., race, ethnicity, sexual orientation), and health behaviors (e.g., physical activity, diet) that could have been included in this study. This study, however, concentrates on the differences in prediction of intention to use a condom in Individualists and Collectivists. Before we discuss differentiating groups based on Individualism and Collectivism, there must first be an understanding of traditional means of differentiating social groups. In particular race which served as the contrasting grouping technique in this study. Race was selected because of the increased importance of narrowing health disparities between racial groups.

The Black population is an important group to reach with health promotion program efforts given the disparities that exist between them and Whites across multiple disease-states (Johnson et al., 1994; Baquet et al., 1991; Freeman, 1991). Most disturbing about these findings is that the majority of these health disparities can be linked to modifiable behaviors (e.g., physical activity, diet, or contraceptive usage), which contribute significantly to risk. Recent efforts to reach the Black community with health promotion programs have focused on ethnic, racial or class specific messages and symbols. However, it is not clear whether these messages and symbols may be relevant or important in message acceptance, nor promote attitude or behavior change. Attempts to promote change in health-related attitudes in Black populations through various culturally sensitive programs have met with limited success (Airhihenbuwa, 1995).

#### Traditional ways of differentiating social groups

Given the importance of health promotion programs, it is important to be sure that all groups (i.e., racial, ethnic) are responsive to health messages or interventions. To ensure that these efforts are received by diverse groups, it has become acceptable to separate these groups and provide them with targeted health promotion programs. Studies that have investigated social group differences have focused on differences related to race (Cross, 2002), ethnicity (Mitchell and Sedlacek, 1996), geographic region (Eid, 2001) or social networks (Stack, 1998) and how they influence behaviors, attitudes, beliefs or values. A brief critique of these ways of differentiating social groups is as follows:

## Race

Race is the division of a population distinguished by physical characteristics transmitted by genes (Triandis, 1989). This conventional definition of race provides an obvious and convenient means of differentiating populations. However, there exist several ethnicities within each race of people. For example, the Black race includes, African immigrants, Haitian immigrants and natives of the West Indies to name a few. To maintain that “all members of a given race, are (i.e., Black, White, Mongoloid) cognitively and behaviorally similar would be a gross oversimplification” (Herskovits, 1955, p. 13).

## Ethnicity

Ethnicity generally refers to the national or cultural background of a group. For example, Hispanic populations include members of both the White and Black races (Padilla & Perez, 2003). Their physical characteristics vary greatly, however, language, customs and values may be similar. While there may exist cognitive trends between ethnic groups, it is difficult to identify similar trends within ethnic groups. This is due partially to overlapping ethnicities created by migration and geographic proximity (Hispanics from Haiti and the Dominican Republic) (Arnold, 2003). It is for this reason differentiating social groups using ethnicity can be confusing and often inappropriate. Therefore, subsequent health promotion programs tailored to a specific ethnic group is likewise difficult as well as challenging to justify.



### Socioeconomic status

Socioeconomic status is a common group differentiation method used to explain social differences. It is widely accepted that more health problems occur among low socioeconomic groups (McGlynn et al., 2003, Mueller, 1999). However, this is not always the case. For example, traditional research in suicide prevention linked high suicide rates to signs of economic strain, such as living below the average poverty level. However, in 1990, the unemployment rate among Blacks was 11.3 compared to 4.7 for Whites. Further, Black families earned 57% of the income of White families in 1991. Inconsistent with traditional assumptions about suicide, Black suicide rates in 1990 and 1991 were half those of Whites (Stack, 1994). Socioeconomic status may serve to provide significant trends that exist within a race or ethnic group but are not always accurate when assessing cultural differences between groups (Freeman, 1989).

### Social networks

Social networks are yet another common means of delineating social groups. Social networks typically involve group membership based upon a common interest or goal (Brown & Gary, 1994). They may involve networks of family, friends, or organizations. Once again, previous views of social networks have linked strong social bonds and networks to positive health outcomes (Brown & Gary, 1994). However, in 1990, 11% of Black adults were divorced compared to 8% of Whites. Single parent families constituted 55% of Black families compared to 18% of Whites. In 1990, births to unmarried women accounted for 65% of the births to Blacks compared to 20% of the

births to Whites. While groups with weak bonds to the family and marriage typically have higher suicide rates than those with stronger social bonds (Stack, 1982; Lester, 1992), this is not the case for Blacks. Although socioeconomic variables provide a partial explanation for on this disparity, it does not explain the a social group trend.

Religion has long been considered a strong cultural element in the Black community. It was originally believed that religious teachings promote optimism about the future and encourage resiliency in the congregation. Several studies sought to explain these dimensions by developing with the goal of including health-promoting messages that could capitalize on these beliefs of optimism and resiliency (Stack, 1983; Early, 1992). Unfortunately, religion as a cultural measure maintains two inherent flaws. First, it is difficult to determine whether the influence of religion on health behavior is due to the influence of the pastor, the interaction of the congregation or some other variable. Early (1992, p. 81) reported that most of the pastors who were surveyed about health messages in their sermons, noted that they never preached on the subject. Even so, Early concluded that the health attitudes of the congregation typically are consistent with the health attitudes of the pastor. Secondly, not all Blacks are churchgoers or subscribe to the same religious doctrine. Thus it is unclear as to whether the attitudes of churchgoers are representative of Black attitudes in general (Early, 1992, p. 84).

### Common belief system

A final means of stratifying culture groups is the identification of a common or uniform belief system. Afrocentrism is a belief system that has been used when working with Black populations. Afrocentrism is a philosophical orientation that reflects

the values of one's African ancestry (Akbar, 1979; Asante, 1988; Baldwin, 1981; Cherry et al., 1998; Meyers, 1988; Nobles, 1985; Phillips & Schuele, 1983). This world-view is incorporated into Black culture and behavior, and ways of relating to others. The core principle inherent in an Afrocentric paradigm is, "... healthy Black behavior is in harmony with the authentic needs and social priorities of their African ancestry, toward its affirmation, enhancement, survival, positive development, and fulfillment of its potential as a community" (Baldwin, 1981). cultural groups assumes that an individual has an innate understanding of these principles and they are reinforced by the Black community (Brunswick, 1996). To date no evidence has been provided to substantiate such an assumption.

In summary, traditional means of differentiating cultural groups are incomplete and lack consistency. More importantly, there appears to be a gap in the understanding of social groups and its possible influence on attitude-behavior consistency, particularly as applied to health behavior theory. A reliable means of differentiating social groups should consistently account for cognitive differences. Additionally it should have a uniform way of assigning group membership.

#### Implications of Inappropriate social group differentiation

The literature has differentiated groups by race, ethnicity, religion or social networks. Thus it is assumed that all persons with the same skin color or language share similar health attitudes, perceptions or beliefs. This could be problematic if social factors influence the attitude-behavior relationship. As it relates to the utility of health theory, social factors may influence the prediction of behavior

### Implications for theory

The development of health promotion programs should be guided by applicable health behavior theory. A theory is “a set of interrelated concepts, definitions, and propositions that presents a systematic view of behaviors by specifying relationships among variables in order to explain and predict behavior” (Christensen, 1997, p 21). Primary to most health behavior theories is an understanding of the relationship of attitudes to behavior. Attitudes serve an important role in promoting behavior change. Attitudes can serve as intermediaries in the decision-making process.

The Theory of Planned Behavior (TPB) has been widely applied in health promotion programs. The TPB has been accepted as a model that is useful in predicting various health behaviors as a function of attitude, subjective norms and perceived behavioral control. The TPB can also provide health professionals with the ability to determine whether a health promotion program should target attitudinal, normative or control beliefs. However, the TPB may yield different explanations across different social groups. Past study using the TPB to investigate differences in behavioral prediction across social groups has focused on race, ethnicity and social class (Godin & Kok, 1996). As previously discussed, race, ethnicity, and social class as social grouping techniques may have inherent weaknesses.

### Individualism and Collectivism

Current literature supports the notion that cognitive differences between individuals may be based on social group membership (Grundy, 1992). If social group

membership is cognitively based then a cognitive measure should be used to assess cross-cultural differences and therefore assign cultural group membership.

Unfortunately, many cross-cultural differences go unnoticed due to the lack of a consistent and accurate measure of culture has yet to be adopted or accepted.

Therefore “culturally-sensitive” health promotion programs have the potential of being effective in only a relatively small segment of some social groups.

The constructs of Individualism and Collectivism have gained considerable attention in the area of anthropology for their ability to predict the effects of social group membership on behavior. These constructs differentiate social groups based on cognitive markers and not demographic or physical traits. The benefit of such a differentiation is the ability to account for those individuals who traditionally are not accounted for using traditional methods of social group differentiation. Individualists are characterized by attitudes and behaviors that are self-serving and are performed with minimal regard for their consequences on social group membership. In contrast, Collectivists are characterized by their propensity to sacrifice their personal goals for those of the social group. Consistent with these behavioral traits, it stands to reason that these two groups require distinctly different messages or interventions to promote a given behavior. For instance, because of the desire to accentuate their self-worth, Individualists tend to embrace messages that focus on self-esteem. However, Collectivists tend to be less responsive to messages centering on self-esteem because they are more concerned with the successes of their social group (Singelis, 1994).

Applicability of these constructs could have a significant impact on “culturally-tailored” health promotion programs and research. For example, several studies have

cited an indirect relationship between self-esteem and sexual promiscuity in Black teens (Bauer et al., 2000; Hockaday, 1999). Health promotion programs have focused on increasing the self-esteem of this social group. Based on the aforementioned understanding of Individualism and Collectivism, however, how can we be sure that this is an appropriate plan for health promotion programs targeting Black teens?

### National Health Problem

The specific health behavior that will be investigated in this study is the intention to use a condom. The number of new AIDS cases among Blacks is now greater than the number of new AIDS cases among Whites. Of AIDS cases reported in 1999, 67% were among Black and Hispanic adults and adolescents. Of the 733,374 AIDS cases reported to the Center for Disease Control (CDC) through 1999, Blacks and Hispanics accounted for 79% of heterosexual cases and 55% of total cases (DHHS, 2000). Nearly 1 million people in the United States are infected with HIV, most of them through sexual transmission, and an estimated 15 million cases of other sexually transmitted diseases (STDs) occur each year in this country. Refraining from having sexual intercourse with an infected partner is the best way to prevent transmission of HIV and other STDs. But for those who have sexual intercourse, latex condoms are highly effective when used consistently and correctly (National Center for HIV, STD and TB Prevention, 2000). According to the American College Health Association, students aged 18-25 are at highest risk for contracting sexually transmitted diseases (National Center for HIV, STD and TB Prevention, 2000).

Public health efforts have been ineffective in reducing health disparities (McGlynn, 2003). The use of common demographic descriptors (i.e., race, class, etc.) may not be appropriate in identifying and limiting social influences on health behavior.

### Statement of the Problem

The purpose of this study was to advance the understanding the role social group differentiation plays in the prediction of health behavior. This was achieved by comparing the prediction of intention to use a condom when social groups were differentiated using the constructs Individualism and Collectivism (I/C) versus differentiating social groups using the criteria of race. It was expected that differences in prediction would exist because I/C applies to a cognitive criteria for differentiating groups as opposed to the physical criteria associated with racial groups. The study was an attempt to demonstrate the utility of I/C, when used in conjunction with an accepted health promotion theory (i.e., TPB), in distinguishing differences in the intention to use a condom across racial groups.

This study's objective was to provide the research community with a new perspective when evaluating the influence of social factors on health related behavior. As discussed earlier, significant progress is not being made in narrowing the health disparities that exist between Black and White populations. A refinement in the application of health behavior theory would serve to enhance the development of potentially more effective health promotion interventions.

### Research Questions and Hypotheses

*Research Question 1:* To what extent does the prediction of intention to use a condom differ in Individualist and Collectivist groups versus racial groups?

Hypothesis 1: Individualism and Collectivism would contribute more to the prediction of intention to use a condom, than would ethnicity.

Rationale: Race is not a cognitive measure, and thus it would not be able to yield recognizable group differences in intention to use a condom.

*Research Question 2:* To what extent does the prediction of intention to use a condom differ between Individualist and Collectivist groups?

Hypothesis 2: Subjective norms would contribute more to the prediction of intention to use a condom in Collectivists than it would in Individualists.

Rationale: Collectivists would be more concerned with maintaining in-group membership and thus the input by important referents would be crucial.

2A) Attitudes toward the behavior would contribute more to the prediction of intention to use a condom in Individualists than it would in Collectivists.



Rationale: Individualists would be more concerned with achieving personal goals and would not be concerned with in-group membership.

2B) Perceived control would contribute equally to the prediction of the intention to use a condom, in both Collectivist and Individualist groups.

Rationale: Limited skills or resources would affect both groups equally.

## CHAPTER 2

### LITERATURE REVIEW

The following review of the literature aims to delineate the key areas of research related to condom use in diverse social groups, the theoretical limitations, the methodological weaknesses and finally a review of the measurement strategies. The Theory of Planned Behavior (TPB) served as the theoretical foundation for this study. The constructs of Individualism and Collectivism were introduced as a means of differentiating social groups when predicting intention to use a condom in a diverse group of college students.

In this review, several authors describe social group membership using the term “culture”. However, this was not an investigation of the impact that “culture” has on health behavior. It was the intent of this study to investigate merely one component of “culture”; that is group differentiation (Gushue & Constantine, 2002). There exist numerous definitions of “culture”, which make usage of the word inconsistent and confusing. In an attempt to present scholars research findings accurately, this literature review will use the word “culture” as quoted by the author in their study findings. The goal of this study was to compare two different techniques used in differentiating social groups (Individualism & Collectivism versus Race). This was an effort to discover which differentiation technique was a more powerful means of identifying group differences in intent to use a condom.

### Community Based Research & Interventions

The field of public health utilizes health interventions to promote healthful behaviors. The successes of these interventions have varied across social groups. Interventions developed to reduce HIV-AIDS risk are one example of the limited success achieved across social groups (Braithwaite et al., 1998). These interventions have utilized an array of culturally specific techniques using several different racial groups.

#### Condom usage

The rates of the Human Immunodeficiency Virus (HIV) among the varying ethnic groups suggest that a significant portion of young adults aged 17-35, participate in unprotected sexual intercourse (MMWR, 1996; Holmberg, 1996; Rosenberg & Biggar, 1998). This is despite research demonstrating that these groups are quite knowledgeable about those behaviors that lead to the transmission of HIV (Coates, 1990; Diclemente, Zorn, & Temoshok, 1986). Because the transmission of this disease is heavily dependent on modifiable health behaviors, determining correlates to risky sexual behavior and then developing effective health messages is the crucial key.

Other than abstinence, condom use is the only viable alternative for preventing sexually transmitted HIV. Unfortunately, it is estimated that only 58% of sexually active young adults used a condom in their last sexual intercourse encounter (CDC, 2000). Additionally, only 2.5% of heterosexual college students demonstrate 100% consistent condom use with each sexual intercourse encounter (Thompson et al., 1999). Equally

disturbing are the differences in risky sexual behaviors that exist for Blacks versus Whites.

Studies investigating the impact of social group membership on condom use and beliefs related to condom use have focused on evaluating the appropriateness of the theories used to identify differences across race or ethnicity. Doljanac and Zimmerman (1998) conducted separate analyses for Whites and Blacks using two different theories (problem behavior theory and social interaction theory) designed to predict condom use. The results suggested that the two theories were appropriate for White youth but that other models may be necessary to explain high-risk sexual behavior among African American youth. Additionally, it was found that high-risk sexual behavior and less frequent condom use is associated with engaging in other forms of problem behavior such as antisocial actions, tobacco, alcohol, substance abuse and difficulties in school. The relationship of risk behaviors with infrequent condom use is an important direction for STD and HIV risk reduction.

Strunnin (1999, p. 1681) explained, “social construction of alcohol use and sexual behavior among African American and Haitian adolescents is related to social and cultural [defined by ethnic group membership] understandings of these [alcohol use and sexual behavior] behaviors.” It was further proposed that programmatic strategies and policies would benefit from identifying the norms, beliefs, and behaviors related to alcohol use and sexual behavior among adolescents from varying ethnic groups. Knowledge of social norms and beliefs may be effective in predicting subsequent behaviors. However, this assumes that social norms are similar for all members of a particular ethnic group. Earlier information, discussed in this paper, related to the

differentiation of groups based on ethnicity, explains why this assumption may not be accurate. Thus, the measurement of norms and beliefs in varying ethnic groups may represent only a small percentage of a population.

In contrast to Strunnin, Polacsek et al. (1999) reported that norms and attitudes have a more indirect association with actual HIV-risk behavior. They suggest that self-efficacy, [a person's confidence in performing a particular behavior] outcome expectancy [a person's estimate that a given behavior will lead to certain outcomes] and cohabitation have a direct bearing on HIV-risk behavior (Bandura, 1977a, 1977b). Thus the authors maintain that "any intervention program in this community (Black community) that fails to address issues of partner reaction, outcome expectancy, self-efficacy, or issues surrounding cohabitation likely will have a lower chance for success." The authors suggest that there exists a social exchange that influences sex behavior and the perceptions of its consequences. This exchange is further influenced by a power imbalance that leans toward the male. It was proposed that "sociopolitical and gender roles guide sex behavior in the Black community." Five factors that contribute to power imbalances between Black men and women are:

- The traditional gender power roles that reinforce male dominance and female submissiveness,
- The weak sociopolitical networks of Blacks,
- The psychological and economic dependence of females on the male partner,
- The lack of eligible Black males relative to the number of single Black females

- The threat of sexual abuse to Black women (Polacsek et al., 1999, p. 50).

However, this assumes that role perception is the same for all members of a racial (Black) or gender group.

### HIV-AIDS risk-reduction interventions

HIV prevention is an area of public health that has had limited success when working with Black populations. Interventions involving Black populations have focused on increasing knowledge and threat sensitization (Brunswick & Banaszak-Holl, 1996; Kalichman et al., 1993; Mays & Cochran, 1988). It was hypothesized that knowledge and sensitization would lead participants to contemplate behavior change. This was based on the success of Mays and Cochran (1988), who reported, in African American and Hispanic women, that an increase in perceived vulnerability would result in a simultaneous increase in the occurrence of HIV-AIDS risk-reducing behaviors. Their work also included culturally specific (culture defined by race) findings, suggesting that minority groups who did not identify with popular images of HIV-AIDS, such as gay White males, did not perceive themselves at risk. These findings spurred a new approach to intervention development targeting the Black community. Interventions were developed utilizing HIV-AIDS risk reduction messages targeted toward a community consisting primarily of African American residents (Kalichman et al., 1993). AIDS information, designed specifically for a particular social group was effective in influencing HIV-AIDS risk reducing behaviors. However, targeted messages did not prove to be more effective than standard public health messages. Such efforts involved

matching message presenters by gender and race (Kalichman et al., 1993). It was believed that by matching the gender and race of the presenter to those of the target population as well as embedding relevant cues related to their social group membership, the effects of an HIV-AIDS message would be enhanced. The authors reported limited success with ethnicity-matched messages. While the HIV messages that included relevant cues were more successful than messages that did not include relevant cues, its practical significance did not merit the financial expense necessary to develop such an intervention (Kalichman et al., 1993).

In summary, it is still unclear, whether or not targeted messages address racial differences or merely promote a temporary behavior change through cues to action. The results of interventions that used targeted messages, or messages that are specifically directed toward a particular social group, may be due to a desire by the target audience to provide an anticipated response to accommodate the researchers.

### Individualism/ Collectivism

The field of anthropology has sought to distinguish the effects of social factors on behavior by measuring the extent to which an individual conforms to an ideology of Individualism or Collectivism (Triandis, et al., 1986). Essential to Collectivist cultures is their belief that individuals should be expected to subordinate their personal goals to the goals of some collective or “in-group.” The allegiance to the “in-group” is maintained regardless of costly demands. Individualists maintain several “in-groups” or social networks and much of the behavior of the individual is consistent with these varying “in-groups.”

Table 1. Components of Individualism and Collectivism and their influence on decision-making.

Major Components	Individualism	Collectivism
1. Values	Intrinsic worth of the individual; the ultimate moral principle is the value of the individual.	The supremacy of the group or collective; the principle that the value or survival of the collective takes precedence over that of the individual.
2. Human Development	Self-realization; each person develops to his or her fullest potential.	Collective development and actualization
3. Individual/Uniformity	Individuality and uniqueness of the individual	Uniformity, conformity to an ideal and model emulation
4. Identity	Self-identity defined by self-concept	Collective identity; defined by group membership
5. Self-Direction & Conformity	Self-assertion or autonomy; individual make independent judgments and decisions; nonconformity, assertion & conflict	Conformity to societal or group norms, compliance & harmony
6. Right to privacy	People should mind their own business; privacy should be respected.	The notion that the collective is able and entitled to know, even regulate, what individuals do and think in private.

Note. From *Individualism and Collectivism: Theory, Method and Applications* by U. Kim, H.C. Triandis, C. Kagitcibasi, S. Choi and G. Yoon, 1994, Thousand Oaks: Sage Publications.

They tend to disassociate themselves from those social networks that make too many demands and thus seek to form new social networks. Therefore the input or advice provided by others is not as important to the Individualist as it is for Collectivist. Table 1. lists additional components that distinguish Individualists and Collectivists with their respective decision-making processes. Values contribute to the development of attitudes and thus differences in values may also elicit differences in attitudes. As outlined in Table 1., conformity with societal norms is important to Collectivist, however, independent judgment is characteristic of an Individualist. Collectivists are also



characterized as void of a right to privacy when making decisions and thus may alter the Collectivist's perception of control (Kim et al, 1994).

Individualism and Collectivism have since been incorporated into social psychological research. The field has depicted members of Individualist groups as having a preconceived negative view of Collectivism. In other words Collectivism was explained in terms of some failure to attain Individualism (Triandis et al., 1985). Social psychologists have linked Collectivism with a submission to group pressure or behavior (Kagitcibasi, 1994, P. 55). Such a depiction encourages a belief that Collectivist's beliefs are inferior to Individualists. These departures from I/C's original definition, have limited the scope of its application in related research fields such as public health.

#### Individualism /Collectivism and social factors

As mentioned in chapter one, there exist several questionable techniques of differentiating social groups. These techniques are erroneously used to define social factors that influence health attitudes and subsequent health behavior. This study proposed that I/C might provide a more appropriate way of separating social groups. Williams (2003) evaluated 35 studies that used the dimensions of Individualism and Collectivism to distinguish counseling trends across European American, Latino, Asian and African American study participants. The study tested the empirical soundness of grouping all visible ethnic groups together. Findings confirmed Utsey's (2000) assertion that African Americans, Latin Americans and Asian Americans are more likely to be Collectivists. However, it also confirmed that Individualist and Collectivist groups

included individuals from all racial and ethnic groups. While the research supports the use of I/C as an accurate means of differentiating social groups, application of the constructs has been limited to its use with individual constructs and not in tandem with a theory or model (Triandis, & Gelfand, 1998).

Miller, Bersoff and Harwood's (1990) investigated the possible interaction between I/C and moral development. Study participants from India and the United States were presented with several written scenarios that would require a moral judgment. Collectivist Indians (sub-continent) consistently reported a stronger moral obligation to help strangers in need of assistance, than did Individualist Americans or Individualist Indians who were presented with the same scenario. However, both Individualists and Collectivists expressed an equally strong moral obligation to help family members and friends in high-need incidents. It was explained that the differences in moral reasoning [rationale for moral judgments] could not be distinguished if social groups were differentiated based on nationality. Because more Indians were members of the Collectivist group and more Americans were members of the Individualist group it appeared that the differences in moral reasoning were based on nationality. However, Individualist Indians possessed distinctly different reasoning patterns than Collectivist Indians and consistent findings were found in Individualist and Collectivist Americans.

Individualism and Collectivism have also been used to explain socio-cultural [defined by race] differences in behavior. Gushue and Constantine (2002) examined aspects of I/C and self-differentiation [or self-identity] in 123 African American women attending a predominantly White university. The study sought to investigate whether

African American women viewed themselves differently because they attended a predominantly White university. The women demonstrated having both personal and group identities that allowed them to maintain a sense of individual “self” while; simultaneously remaining connected to important others. While it was important for some of the women to maintain a strong sense of their identity as an African American woman (Individualism), others valued the importance of connecting with important others at the university (Collectivism). There were two important implications to this study. First, typically a strong sense of “self” is a characteristic of Individualism. However in this example there existed an allegiance with a social group (African Americans) that under laid the characteristics of Individualism. Secondly, a group of women were discovered to vacillate between preserving self (Individualism) and connecting with important others (Collectivism) as their life situations changed. In fact, it was proposed that further research should be performed to identify trends in those individuals who consistently demonstrate both Individualist and Collectivist characteristics. These findings corroborate the idea that membership in Individualist and Collectivist groups is not mutually exclusive (Triandis et al.,1986).

### Individualism/Collectivism and Health Behaviors

Very little is known about the relationship of the I/C constructs and health behaviors. Kitayama and Karasawa (1995) reasoned that for Collectivists, subjective well being and physical health are defined as the absence of negative health attributes rather than the presence of positive health attributes. Thus, Collectivists tend to be less responsive to information that stresses one’s uniqueness. It is important to understand

that Individualist and Collectivist groups include individuals from varying racial and ethnic groups. Therefore, the percentage of the target audience that is neglected will include members of multiple racial and ethnic groups. One of the most notable strengths in the dimensions of Individualism and Collectivism is their potential use in accounting for the differences that exist across racial and ethnic groups.

### Measuring Individualism & Collectivism

#### Self Construal

Self construals measure cognitive factors that determine group membership along a continuum with extremes of the interdependent-self [or Collectivist-self] and the independent-self [or Individualist-self]. Gudykunst (1994) developed the Self construal Scale (see APPENDIX A) to measure an individual's values, human development, individuality, identity, conformity and right to privacy as it relates to social interactions. He proposed that individuals with a highly independent-self will be highly agreeable with those items that promote self preservation and self promotion; while individuals with a highly interdependent self will be highly agreeable with those items that promote group achievement and group preservation.

#### Development of Gudykunst's (1994) Self Construal Scale

Measurement of self construals can be accomplished using the Self Construal Scale; which is a 24 item, 5-point Likert scale with anchors of *strongly agree* and *strongly disagree*. Gudykunst's (1994) original questionnaire consisted of 45 items. Principal component factor analysis was used to identify the best index of questions. A

two-factor solution with a varimax rotation was used consistent with the theoretical framework for self construal. Items not loading highly ( $>.35$ ) on either factor or loading approximately equally on the two factors were dropped. A second analysis of all 45 items with an oblique (promax) rotation was used to verify item selection. This analysis was consistent with the first analysis and thus a total of 24 items were selected for the final version of Gudykunst's Self Construal Scale (Gudykunst, 1994). Finally a confirmatory factor analysis was performed on the 24-item scale (See APPENDIX B ). The final scale assessed the two "selves" that were consistent with [independent-self and interdependent-self, respectively] Individualism and Collectivism. Appendix A, illustrates the relatively higher loading of the independent items on factor 2 (independent) than were calculated for the interdependent items and likewise relatively higher loadings of the interdependent items on factor 1 (interdependent) than were calculated for the independent items. This confirmed that the 12 independent items and the 12 interdependent items were measuring the respective polar extremes of self construal, independent-self and interdependent self.

#### Scoring the Self Construal Scale

Gudykunst's (1994) Self Construal scale includes 12 independent items (e.g., I enjoy being unique and different from others in many respects) and 12 interdependent items (e.g., I will sacrifice my self-interest for the benefit of the group I am in). Items are responded to using a 5-point Likert scale ranging from strongly agrees to strongly disagree (Likert, 1932). The sum of scores for the 12 independent items is calculated and then subtracted from the sum of scores for the 12 interdependent items. This yields a Self Construal Scale raw score that may range from highly independent (maximum

raw score of -60) to highly interdependent (maximum raw score of 60) depending upon the study sample. In this format the raw score can be analyzed as a continuous variable. The raw scores can also be used to develop categories. Traditional methods of developing categories have been a mean or median split. A person whose score is one standard deviation below the mean is considered an Individualist; while a person whose score is one standard deviation above the mean is considered a Collectivist.

### Validation of the Self construal Scale

The literature has supported the use of construal of self as an accurate measure of Individualism and Collectivism. Singeles & Brown (1994) linked social factors and self construal both theoretically and empirically in a path-analytic model. Gudykunst's (1994) scale demonstrated acceptable internal consistency [interdependent-self construal items ( $\alpha = .76$ ) and independent-self construal items ( $\alpha = .68$ )]. It has been documented as being effective in accounting for values, human development, uniformity, self-identity, conformity and right to privacy as components of Individualism and Collectivism (Markus & Kitayama, 1994; Singeles, 1994).

Validity of the scale has been established in multi-ethnic populations and has been demonstrated to be an accurate measure of Individualism and Collectivism (Singelis, 1994). The scale was tested using a sample of undergraduate students from the University of Hawaii ( $N = 364$ , mean age 21.63). The ethnic-racial make up of the sample (self-reported) was as follows: African-American, 8 (2.2%); Caucasian, 49 (13.77%); Chinese, 43 (12.0%); Filipino 32 (8.9%); Hawaiian or part Hawaiian 26 (7.3%); Japanese, 122 (34.1%); Korean, 13 (3.6%); Samoan, 2 (0.6%); mixed, 20

(5.6%); other, 43 (12.0%) and 6 Participants did not indicate an ethnic background. It was noted that although the sample did not represent a typical U.S. university it resulted in a wide range of self construal raw scores. Additionally, the research supported the assertion that non-Whites are more likely to be Collectivists than Whites. This does not mean that Whites are not Collectivists, nor does it mean that non-Whites are not Individualists. In fact most individuals will demonstrate both Individualist and Collectivist characteristics. Past studies have achieved a balance of Individualist and Collectivist participants by recruiting percentages of non-White study participants in the range of 20% to 60% of their target population (Kagitcibasi, 1994; Markus & Kitayama, 1994; Singeles, 1994).

### Theory of Planned Behavior

Icek Ajzen (1985) proposed a “Theory of Planned Behavior (TPB) to describe the psychological processes that predict the relationship between attitude and behavior” (p. 13). He proposed that attitudes influence behavior by their influence on intentions, which are preliminary decisions to act in a particular way. The TPB accounts for behaviors that are or are not wholly under volitional control (Ajzen, 1985, 1988, 1991). Figure 1. is the path model proposed by Ajzen (1985, p. 13), which outlines “the direct path that may be taken from perceived control to behavior or may be mediated by intention to perform the given behavior” (p. 13).

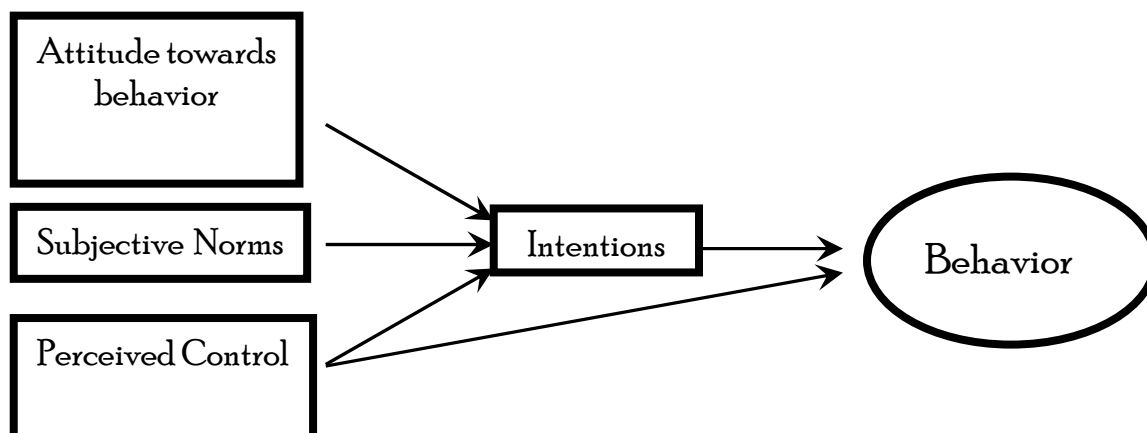


Figure1. Theory of Planned Behavior path model showing the path two decision-making paths that precede behavior.

### Constructs

The assessment of attitudes toward behavior is partially determined by the belief that an anticipated outcome will result from a given behavior. Thus it represents the anticipated consequence (expectancy) of performing a given behavior. For example, a person may have their child immunized because he or she believes their child will not contract the targeted disease. An evaluation of the consequences or outcomes may determine the attitude a person will have toward having their child immunized. It serves as an expectancy value product, by which the parent expects disease prevention and values the child's welfare (Chan & Fishbein, 1993).

Fishbein (1980) conducted a study of two groups of childless women who either intended or did not intend to have a child within the next three years. The women were asked to complete a questionnaire to assess their beliefs concerning life after childbirth. The study found that those women who intended to have a child believed that childbirth would have more pleasant results than did those women who did not intend to have a



child. This demonstrates the value of determining a person's attitude toward the behavior (i.e., childbirth is a pleasant experience) as well as their intent (i.e., intention to have a child) when attempting to predict behavior (Sutton, Marsh, & Matheson, 1990).

Subjective norms are a function of an individual's normative beliefs. Normative beliefs are the perceptions of significant referents' preferences about whether one should engage in a behavior. When evaluated in this simple context they provide a direct prediction of behavior. However, real-world application requires the perception of multiple significant others. Fishbein and Ajzen (1980) concluded that a person has a certain motivation to comply with each significant other or referent. The sum of the products of referents and motivation to comply yields a sum value of subjective norms. This relationship also represents an expectancy-value relationship that can sometimes confuse the distinction between normative beliefs and behavioral beliefs (Chan & Fishbein, 1993).

Perceived behavioral control is an inclusion of beliefs regarding the possession of requisite resources and opportunities for performing a given behavior. It is postulated that the more resources or opportunities an individual believes he or she possesses, the greater their perceived behavioral control (Madden, Ellen, & Ajzen, 1992). Perceived behavioral control is an external variable that has both a direct effect on behavior and an indirect effect on behavior through intention. Bandura and colleagues (1980) provided empirical evidence related to the link between behavior and confidence in the ability to perform the behavior. The direct path from perceived behavioral control to behavior is assumed to reflect the actual control an individual has over performing the behavior (Ajzen and Madden, 1986). This direct effect should be most apparent in

scenarios when the behavior is not under volitional control or in cases of accurate control perceptions (Ajzen, 1991).

Ajzen and Madden's (1986) research was the first complete test of the TPB. Their experiment investigated students' class attendance. The findings supported the hypothesis that perceived behavioral control is a significant predictor of intentions after controlling for attitudes and subjective norms. Unfortunately, perceived behavioral control did not contribute to the prediction of the target behavior after controlling for intentions. Ajzen and Madden (1986) contend that given the relative control one has over his or her attendance, it is logical that the addition of perceived control would have minimal predictive validity with respect to the target behavior. Ajzen and Madden's (1986) second experiment assessed student's attitudes, subjective norms, perceived control and intention toward getting an "A" in a specified college course. The student's actual grade served as the target behavior or goal. Data were collected twice, at the beginning of the semester and at the end of the semester. The results from the two data collection times yielded similar results. This supports the enhanced prediction of intentions using the TPB compared to the TRA, but does not enhance the prediction of behavior directly. As participants became more accurate with respect to the actual level of control they had over attaining the grade they desired, perceived control became a significant predictor of target behavior (Ajzen & Madden, 1986).

Intention in the TPB is conceptualized as a summary of the cognitive and affective mechanisms through which attitude, subjective norms and perceived behavioral control predict future behavior (Ajzen, 1991, p. 181). More specifically, intention is assumed to capture the motivational factors that influence a behavior. It is

an indicator of how hard a person is willing to try, and of how much effort they are planning to exert, in order to perform a given behavior (Ajzen, 1991, p. 181).

### Measuring constructs of the Theory of Planned Behavior

The Safer Sex Scale (SSS) developed by White, Terry and Hogg (1994) is an accepted tool used to measure the constructs of the TPB. The scale was originally developed to assess the utility of revisions to the Theories of Reasoned Action and Planned Behavior in the context of HIV-preventive behaviors. The scale was originally tested using a population of 211 Australian university students aged 17 to 25 years. One hundred forty of the subjects who completed the questionnaire were in a continuing sexual relationship. Data were collected related to the prediction of intention to use a condom and intention to discuss condom use with a new partner. Additionally, the questionnaire included questions that assessed the construct self-efficacy. Prior to administering the questionnaire to the 211 students several steps were taken to develop the final SSS. First, an open-ended questionnaire was given to 43 undergraduate students who were not included in the 211 students included in the principal study. The objective of administering the open-ended questionnaire was to elicit the population's salient beliefs related to typical referents, norms, and condom use. This yielded the SSS used to assess the 211 students' attitudes, normative beliefs, control measures, self efficacy, intention, planning and reported behavior. Next, using principal component factor analysis with oblique rotation it was determined that there was no empirical support for the distinction between behavioral norm and group attitude. Therefore, a composite variable, group norm, was computed combining the three

behavioral norm and three group attitude items (White, Terry, & Hogg, 1994). Finally, the group norm scale was determined to be internally consistent. Fishbein and Ajzen's (1975) recommendations for developing a tool to measure the constructs of the Theory of Planned Behavior did not include this step or the addition of the *planning* and *group attitude* constructs.

The following were the specific techniques used by White, Terry and Hogg (1994) to measure the constructs of the TPB:

**Attitudes toward condom use** were the student's attitudes toward the act of using a condom or asking a sexual partner to use a condom. According to TPB the attitude component consists of two subcomponents. They are, *behavioral beliefs*, which represent the perceived consequences of using a condom; and *evaluation*, which represented the relative likelihood that a perceived consequence would occur due to using a condom. Condom attitudes were measured for condom use with regular or steady partners and for casual partners. Behavioral beliefs were assessed by asking students to rate, on a 7-point Likert scale, the likelihood that a range of different consequences would occur if they used a condom (5 costs and 5 benefits for condom use; ranging from extremely unlikely [1] to extremely likely [7]). Outcome *evaluations* were assessed by having the student's rate, using a 7-point Likert scale, how pleasant or unpleasant they felt about the 10 consequences of condom use ranging from extremely unlikely [1] to extremely likely [7]. The item responses for behavioral beliefs were summed and then multiplied by the summed item responses for evaluations. This yielded a raw score for attitudes toward condom use. Cronbach's alpha for the attitude construct was .87 for condom use (White, Terry, & Hogg, 1994).

**Subjective Norms** were the student's belief about whether significant referents (e.g., friends, parents) think that they should use a condom. Subjective norms consist of two components. They are, normative beliefs, which represent perceptions of significant referents' preferences about whether the student should use a condom and motivation to comply, which is a student's inclination to comply with the significant referents' expectations concerning condom use. Three items were used to assess subjective norms. A 7-point Likert scale was used to assess the perceived social pressure related to condom use (e.g., "If I use a condom every time I have sexual intercourse during the next month, most people who are important to me would ..."). Answers to these items ranged from approve [1] to disapprove [7]. Normative beliefs were assessed by asking participants to rate how likely it was that the referents (identified in pre-testing) would think that the Participant should use a condom (extremely likely [1] to extremely unlikely [7]). Motivation to comply was assessed by indicating how willing the participant was to comply with each of the referents on a scale ranging from "not at all" [1] to "very much" [7]. The item responses for normative beliefs were multiplied by their "motivation to comply" equivalent. These values were summed and the mean was calculated. This mean represented the subjective norms index. Originally this value did not yield an acceptable reliability coefficient. Cronbach's alpha for subjective norms was .83 for condom use (White, Terry, & Hogg, 1994).

**Perceived Behavioral Control** was the student's perception of how easy or difficult it was to use a condom or ask a sexual partner to use a condom. Two components, related to perceived control, were measured. They were control beliefs or

the student's beliefs about the likelihood that they possess the resources and opportunities thought necessary to use a condom or ask a significant other to use a condom. The construct, perceived behavioral control, was assessed using four items (e.g., "It is mostly up to me whether or not I use a condom every time I have sexual intercourse during the next month?" ranging from completely false [1] to completely true [7]). The item responses for control beliefs were summed. This yielded a raw score for perceived behavioral control. Cronbach's alpha for perceived behavioral control was .65 for condom use and .77 for intention to use a condom (White, Terry, & Hogg, 1994). It should be noted that White, Terry and Hogg did not conform with Ajzen's (1991) recommendations for assessing perceived control. He recommended that the mean of control belief items be multiplied by the item means for "perceived power." Power is a participants perceived power or belief that they can really control their behaviors.

**Intention to use a condom** was an assessment of the students' strength of intention to use a condom. It was analyzed as both an independent and dependent variable. Two items were responded to on a 7-point Likert scale (Likert, 1932) "I intend to use a condom every time I have sexual intercourse during the next month," ranging from extremely unlikely [1] to extremely likely [7] and "My level of intention to use or have a condom used every time I have sexual intercourse during the next month", ranging from do not intend [1] to do intend [7]). The mean of the two item responses served as the raw score for intention to use a condom. Cronbach's (1951) alpha for intention to use a condom was .96 for condom use (White, Terry, & Hogg, 1994).

### The Theory of Planned Behavior & diverse populations

The utility of the TPB with culturally diverse populations has been an area of criticism throughout the literature on this topic. Most of the criticism has focused on its application to African American populations. The literature suggests an inability of the TPB to explain differences in behavior across social groups. Ashing-Giwa (1999) tested the ability of the model to predict breast cancer screening behaviors in Black women. Findings supported a need for a social dimension that currently is not accounted for by the TPB. Lauver (1992) reported similar findings in a survey of 96 Black and White women's breast cancer care-seeking behaviors. The positive influence of social norms on intention was significant for White women, but not for Black women. In contrast, Bennett and Bozionelos' (2000) qualitative review of 20 studies reported that attitudes, not social norms, are more predictive of behavior. In both studies, the addition of a social dimension was suggested as an area of further research.

Research suggests that the TPB is unable to account for the influence of acculturation on behavior. Jennings-Dozier (1999), in a study of 108 Black and 96 Latino adult women reported that the empirical adequacy of the TPB was not supported in either ethnic group. It was asserted that specifically, an inability of the subjective norms and perceived control constructs to account for the affects of acculturation was the reason why the theory may be inadequate.

Another criticism of the TPB is its inability to generalize past North American borders (Triandis, 1989). Markus and Kitayama (1991) assert that different psychological processes are often observed between social groups because pronounced differences exist in the way that the self is construed or self-identified.

Heine and Lehman (1997) further contend that self-identity may vary across social groups and subsequently may alter the attitude-behavior relationship across social groups. They proposed that in addition to actions becoming central to one's self-concept, an individual will rationalize behavior in an attempt to preserve their perception of "self" (Gaertner, Sedikides, and Graetz (1999).

Gaertner, Sedikides, and Graetz (1999) investigated the relative differences in prototypic construal of self and its affects on the attitude-behavior relationship. Their study compared the attitude-behavior relationship of a typical North American culture, represented by a sample of Canadians, to that of an Asian or non-Western population. It is believed that an independent construal of self is defined by the individual's internal attributes and perceptions across varying situations. In contrast, an interdependent construal of self is characterized by an emphasis on the fundamental connectedness of the individual to others (Triandis, 1989). Heine and Lehman (1997) reported that when Canadians were presented with a choice that created a feeling of regret they used several techniques to rationalize their decision. Asian participants, however, did not rationalize their decision because the decision did not threaten their fundamental connectedness to others. While both groups may have regretted their decisions, two different behaviors were observed. This is inconsistent with predictions made by the TPB.

In summary, social and acculturation variables promote a highly internalized personal belief schema that cannot be accounted for by the TPB. It was proposed that, the construct of moral obligation, be added to the TPB to account for the internalized personal belief schema (Beck & Ajzen, 1991). Moral obligation reflects internalized



moral rules. Improvements in the prediction of behavioral intention were discovered when moral obligation was taken into account (Gorsuch & Ortberg, 1983). However, moral obligation alone is insufficient in accounting for differences that occur across social groups. Morals typically reflect a standard of conduct imposed by the dominant culture, as defined by race, and thus do not sufficiently reflect the differences of various other sub-cultures (Airhihenbuwa, 1994). This conclusion is predicated on the belief that differentiating groups based on race sufficiently distinguishes group differences. If the social grouping technique is flawed then also flawed is the critique of the TPB and its inability to account for differences across social groups.

#### Theory of Planned Behavior and Condom Usage

The TPB has proven to perform well across health behavior categories with respect to explaining intention. However, for the prediction of behavior its efficiency varies. For example, in a review of the literature related to the use of the TPB, Godin and Kok (1996) reported an average  $R^2 = .156$  for clinical and screening behaviors, whereas much higher values ( $R^2 = .423$ ) were observed for HIV/AIDS-related behavior including condom usage. It is speculated, “the inability to enact one’s intention in some areas may result from various personal and environmental control factors” (Godin & Kok, 1996, p. 94). It can be argued that clinical and screening behaviors require a succession of steps before they can be realized (Godin & Kok, 1996, p. 94). Condom usage, however, involves very few steps, such as condom purchase and then subsequent application.

Investigation of condom usage using the TPB has involved the addition of several different constructs to improve the strength of the model. Boyd and

Wandersman (1991) first attempted to compare two forms of the TPB. The two forms compared were the traditional form of the TPB and the Triandis (1972) model. The Triandis (1972) model proposes that the addition of the past behavior, perceived susceptibility, and fear constructs would serve to increase the explanatory power of the TPB. Using a cross-sectional design the Triandis model yielded an increase in explained variation in intention of only 9% (47% vs. 38%) (Boyd & Wandersman, 1991). Because past behavior cannot be altered by education or behavior change intervention to promote condom use, this is not particularly useful for health promotion program efforts. An unexpected finding of the study was that a significant number of participants believed that they had a moral responsibility to use a condom when having intercourse. It is assumed that this perceived moral responsibility stems from a societal awareness surrounding HIV/AIDS (Boyd & Wandersman, 1991). Media coverage and responsible societal role models as means of influencing self-efficacy have been a consistent theme in the TPB literature focusing on condom usage behavior. In another cross-sectional study, Basen-Engquist and Parcel (1992) observed that self-efficacy made a unique contribution to explaining participant's sexual intentions and behaviors, especially as it pertains to condom use. The researchers suggest that future educational objectives should focus on influencing self-efficacy through one of the four following ways: role modeling, mastery of task, social persuasion or feedback on physiological arousal states. The addition of self-efficacy in this study did increase the explanatory power of Fishbein and Ajzen's (1975) model. The large percentage of unexplained variance in the prediction of condom use intention and condom use frequency (83% and 81% respectively) indicates that further research is needed (Basen-Engquist & Parcel, 1992).

Similar findings were reported by White, Terry and Hogg (1994) in their assessment of safer sex behavior in 211 undergraduate students. While Basen-Engquist and Parcel (1992) chose to replace the perceived control construct with self-efficacy in their model, White, Terry and Hogg (1994) utilized both the perceived control and self-efficacy constructs. Findings suggest that people will be more likely to intend to engage in safer sex behaviors, especially condom use, if their perceptions of their ability to perform the behaviors are enhanced and if planning strategies are encouraged. Ultimate success, however, is still dependent on control factors that appear to play a role in the actual performance of safer sex behaviors. The study does lend support to the notion that there is a distinction among the different measures of control. Perceived behavioral control tends to be governed by the presence or absence of a plan on how and when to use a condom. In contrast, self-efficacy relies on the individual having better negotiating skills (e.g., assertiveness, etc.) (White, Terry, & Hogg, 1994). This study also supports the conclusion that safe sex behaviors are less influenced by normative factors (e.g., normative beliefs, motivation to comply) because of the private nature of sexual behaviors. The authors explain that norms may be a stronger predictor in relation to behaviors that are more visible. Perhaps norms may be a stronger predictor in social groups that deem the topic worthy of greater scrutiny by significant others.

Such an explanation would be consistent with Fishbein and Chan's (1993) assessment of college women's intentions to tell their partners to use condoms. Results from a cross-sectional study of 312 students suggested that intentions were significantly predicted by both attitudes and subjective norms. This contradicts White, Terry and Hogg's (1994) findings, which demonstrated no improved prediction of

intention to use a condom by perceived behavioral control. The study did however report an increase in the predictive strength of the model when the construct, emotional reaction, was included. Emotional reaction refers to “the emotions elicited by the thought of the behavior” (Fishbein & Chan, 1993, p. 1459).

Cross-cultural (defined as membership to a national group) studies have suggested that Americans, compared to other cultures, are more hedonistic and thus emphasize pleasure-seeking (Triandis, Bontempo, Villareal, Asai & Lucca, 1988). Because of this pleasure-seeking approach to sex (as opposed to bearing offspring) a behavior that reduces pleasure, such as condom use, may evoke a strong negative emotional response. In other words, if an individual has a strong negative feeling about condom use then most likely he will not use a condom due to a conditioned response that is less cognitively based than could be observed through one’s attitude toward condom use. Fishbein and Chan’s (1993) study did find evidence to support this “cross-cultural” approach to prediction of condom use; however, changes in explained variation were only .026 which although statistically significant lack practical significance. This suggests that there may indeed be a “cross-cultural” component to condom use, however it is not adequately accounted for by the emotional reaction construct.

### Methodological Issues

As just reviewed, several studies have been published using the TPB to predict condom use. There are several important methodological weaknesses in the body of research that may impede accurate prediction of condom use, as well as the implementation of successful health promotions aimed at encouraging consistent and

correct condom use. There exist several inconsistencies in the way in which “culture” is defined and subsequently how social groups are differentiated. The research has had a propensity to focus solely on statistical significance neglecting the ultimate worth of the findings to the field of health promotion. Other studies have neglected to conform to the strict theoretical protocols outlined by Ajzen and Fishbein (1980) as it pertains to the use of the TPB in predicting health behaviors. Finally, many of these studies have sought to investigate the health behaviors of their sample as a homogenous group, void of unique belief systems.

Relatively low amounts of explained variation were a common theme in several of the studies that have investigated the prediction of condom use. While studies have provided statistically significant findings when incorporating several different constructs into the TPB, the practical significance of their incorporation has been weak. Use of the TPB for predicting condom use has done a better job of explaining the variation among study participants when compared to the explained variation in other health behaviors. Unfortunately, this has still produced average  $R^2$  values of .46 (Godin & Kok, 1996). This suggests that there is still a need for further research to improve the overall predictive power of this model.

A possible cause for the relative low explained variation may be attributed to the lack of (or low) fidelity in the use of the TPB. Several studies sought to compare the traditional Ajzen and Fishbein (1980) model to other forms of the model without following the strict protocols of its use. For example, Brien, et al., (1994) replaced the construct perceived control with self-efficacy, citing that the two constructs were ultimately interchangeable given the type of control factor investigated. It should be noted that

Chan and Fishbein (1993) performed a similar study using both constructs (self-efficacy and perceived control) with improved success.

Studies have sought to investigate intention to use a condom and condom use as though no differences exist within social groups that may affect the performance of this health behavior. Much of this approach can be attributed to the relative scarcity of studies performed using groups other than White college students. Traditional approaches to differentiating social groups (i.e., race or ethnicity) tend to view White populations as absent of a cultural identity. The current literature is no exception. Distinctions in group attitudes, norms or control factors have been attributed to constructs such as self-efficacy or emotional reaction despite the relatively high percentage of variance that remained unexplained. In other words, despite the inclusion of these constructs, a lot remains unexplained in regard to the variation in study participants' intentions to use a condom.

#### Individualism & Collectivism and the Theory of Planned Behavior

To date, no published literature has addressed the inclusion of I/C into the TPB or its use in concert with the TPB. The literature has documented the existence of a relationship between Collectivism and perceived norm violations. Verma (1986) reported that Indian women in a Collectivistic society placed a greater emphasis on the social consequences of social group norm violations than did women from an Individualistic society (United States). This led Collectivists to not perform the target behavior based solely on social consequences. The study, however, focused on I/C at

the societal-level and did not investigate behavioral differences that existed across individuals. In other words the study did not evaluate individual self construal.

### Summary

The literature has demonstrated that there is an inconsistency in the measurement of culture and its role in predicting health behavior. Several variables have been used to define culture, such as race, ethnicity and nationality. While these variables have demonstrated the potential benefits of identifying group differences, there still exists a gap in the literature as it pertains to the worth of differentiating groups based on race and its impact on the prediction of health behavior. Specifically as it relates to the Theory of Planned Behavior, the inability to properly differentiate social groups may limit its application when developing health promotion programs for socially diverse populations.

An evaluation of cognitive factors may be a more logical measure of social group differences. Given the nature of social influence on behavior, it is logical to assume that a cognitive approach to accounting for its influence is a better predictor of behavior than race. Following such logic, it is clear that determining the role that social factors play in health behavior begins with identifying an individual's social group membership and subsequently how it is expressed. The literature on Individualism and Collectivism proposes that this socially influenced component of cognition is the individual measure of I/C, self construal. It represents a merger of self-identity and value expectation. As individuals identify "self" and thus identify their social orientation, they assume the value system associated with that social group. It is proposed that one's construal of self is

the social variable that links social group membership to behavior (Singelis, 1994). This linkage may provide the needed understanding that can facilitate more effective prediction of health behavior and subsequent intervention development.



## CHAPTER 3

### METHODS

This chapter provides an overview of the methods utilized in this study. It includes information pertaining to the study sample, research design, data collection and statistical analyses. This section will begin with a brief description of the study site and then will discuss the details of the pilot study. The chapter will conclude with a description of the principal study.

#### Study Site

Data collection took place at multiple sites located on and off the campus of a large state university in the southern United States. Participants for the study were recruited from the basic physical education courses conducted at the university's recreation center. Additional participants were recruited from various organizations sponsored by the university's Office of Minority Services. These organizations served as a means of bolstering inclusion of non-White participants in the study. Ethnic diversity at the university is low with non-Whites comprising only 12% of the student population (See Table 2). Thus the assistance of the Office of Minority Services was crucial to the recruitment of a diverse group of participants. Several of the organizations' representatives informed this researcher that typically attendance at their events is highest early in the school semester or close to graduation. With this in mind, it was decided to conduct the principal study April 2002.

Table 2: Ethnic demographics for students at the university

<u>Ethnicity</u>	<u>Undergraduate</u> (N)	<u>Undergraduate</u> %	<u>Graduate</u> (N)	<u>Graduate</u> %	<u>Professional</u> (N)	<u>Professional</u> %
<b>White</b>	21,679	87.31	5,294	88.60	1,323	87.44
<b>Black or African American</b>	1340	5.39	398	6.66	94	6.21
<b>American Indian &amp; Alaskan</b>	34	.14	18	.30	2	.13
<b>Asian</b>	961	3.87	151	2.53	63	4.16
<b>Hispanic</b>	379	1.53	77	1.29	13	.86
<b>Multiracial</b>	436	1.76	37	.62	18	1.19
<b>Total</b>	24829	100	5,975	100	1,513	100

Source: The University Fact Book Spring 2002.

Recruitment of non-White participants was justified because the current literature has maintained that people from non-White ethnic backgrounds are more likely to be Collectivist than their White counterparts (Kagitcibasi, 1994). Thus, the effort to recruit more non-White participants was actually an effort to increase the likelihood of recruiting Collectivists to participate in the study. It was important that the study collect data from participants who represented a wide range of self construal. It was hoped that this wide range would provide vital information regarding changes in the prediction of the intention to use a condom along a continuum from Individualism to Collectivism.

Prior to performing the principal study a pilot study was conducted to refine the measurement tools, as well as the study protocols. A detailed description of the pilot study and its findings follow this section.

### Pilot Testing

During the Fall Semester of 2002, a pilot study was performed to determine the reliability of the survey instrument. The study used graduate students who were

members of two graduate student organizations. Because it was important that non-Whites participated in the pilot study in adequate numbers, two organizations were used (one predominately White and one predominately non-White). The objective was to achieve a sample that was at least one third non-whites (16 non-White participants) which would be consistent with previous studies in this area (Markus & Kitayama, 1991; Triandis, 1988). This objective was exceeded, as 55.3% (N=21) of the sample was non-White (African American 42.1% (N=16), Asian 7.9% (N=3), African 5.3% (N=2)).

It was difficult to accurately predict the precise number of students who would attend each organization's scheduled events. To gain a good estimate of potential attendance, the Presidents and Faculty advisors of the organizations were interviewed. They provided information on past attendance figures as well as suggestions on how to successfully recruit a large percentage of the event's attendees. Estimates of the expected attendance at each organization's events are provided in the next section.

### Participant recruitment

The first graduate student organization approached consists of members from all of the graduate school disciplines offered at the university. The organization did not have documented demographic information about their membership. However, the President of the organization did confirm that the majority of the active members (those members who consistently attend the organization's events) were White or international students. Originally, the students were to be recruited at the "end of the semester" meeting. Members of the organization were first contacted via email. Based on attendance at previous events, it was estimated that approximately 100 members would

attend the event. Three weeks prior to the data collection date, this researcher received notification that the “end of the semester” meeting had been cancelled. However, email contacts provided access to several members who were willing to participate in the pilot study. Students were met at the campus student center, reserved study rooms as well as various off-campus locations. Twenty-six members participated in the pilot study. Three participants did not meet the data analysis criteria. Three participants reported on their survey engaging in sexual intercourse with the same sex and thus did not meet the data analysis criteria (see “Data analysis criteria” on page 54).

The second organization approached consists of members who are in the same field of study. The organization is 100% non-White, with the bulk of its members being African American. Data collection took place during the organization’s Christmas party/ “end of the semester” meeting. The event took place off-campus at the home of the faculty advisor. Based on the attendance at the previous year’s event, it was estimated that 30 members would attend the event. However, twenty-two members actually attended the event. Seventeen participated in the study. Two of the participants did not meet the data analysis criteria. One participant was married and another participant had never had sexual intercourse.

Students of both organizations were told that they were being asked to participate in a pilot study about the health behaviors of university students. They were then asked to read the informed consent form that was distributed (see Appendix D). If they were willing to participate in the study they were given the 107-item survey. A more detailed description of the pilot survey follows this section. Those students who chose to participate in the study were instructed to complete the survey to the best of

their knowledge and ability. All answers were recorded on a provided answer sheet. The answer sheet also enabled the participants to write any concerns related to the readability or comprehension of the survey items. Each student was given a raffle ticket whether or not they completed the survey. A matching raffle ticket (a raffle ticket with the same number printed on it) was placed in a bag. Finally, students were told that they would be eligible to win a \$10.00 gift certificate to “Wherehouse” Records. All student participants had a 10% chance of winning a gift certificate. All winners of the gift certificate were awarded their prize immediately.

### Pilot survey

The survey used for the pilot study included 107 items. All answers were recorded on a provided answer sheet. The three main areas addressed by the survey were, sex behaviors, self construal and the constructs of the Theory of Planned Behavior.

#### Sex behaviors and relationship status

There were three surveys items that assessed past sexual activity and current relationship status. Participants were asked whether or not they were currently in a monogamous relationship. Responses ranged from [1] No to [5] Yes, more than 2 years. The two questions used to assess past sexual activity [“Have you ever had sexual intercourse” and “With whom do you have sex?”] were used to determine whether or not the participant would be included in the data analysis as outlined by the study’s criteria (see “Data analysis criteria” on page 69).

### Measurement of self construal

The survey included the 24 original items of Gudykunst's (1994) Self Construal Scale (see Appendix C) as well as 12 additional items that are variations of his items, which specifically address the topics of safe sex and condom use. For example, using Gudykunst's original item, "If my brother or sister fails, I feel responsible" a behavior specific item "If my brother or sister does not practice safe sex, I feel responsible" was created. These items were developed by this researcher with the assistance of the dissertation research committee. The rationale for developing these items was that the constructs Individualism and Collectivism had not been used in health research and thus it was unknown how well the original items would account for Individualist and Collectivist orientations related to health behavior, in particular condom use. Other constructs used in health research, such as locus of control, have demonstrated increased reliability when the survey items used to measure the construct specifically addressed the target behavior (Walston et al., 1978). Therefore a total of 36 self construal items were included in the pilot survey (see APPENDIX F).

### Measurement of constructs of the Theory of Planned Behavior

A modification of White, Terry and Hogg's Safer Sex Scale (See Appendix B) was used to measure the constructs of the TPB. No new items were added to their scale. Items related to 'planned intention', intention to discuss condom use with next partner' and 'reported condom use' were deleted from their original survey. It was determined that these items were not relevant to the objectives of this study and thus were deleted as a means of keeping the survey as brief as possible. Additionally the

'motivation to comply' items were deleted from the survey as well (rationale discussed in paragraph to follow). These items were not included because it was originally anticipated that a direct measure of subjective norms would be used for the study. Behavioral beliefs and outcome evaluation represent the indirect measures for attitude toward the behavior, while normative beliefs represent the indirect measure of subjective norms. Attitude toward the behavior and subjective norms also have a direct measure. The pilot study included items to assess both the direct and indirect measures of attitude toward the behavior and subjective norms as well as the direct measure of perceived behavioral control.

The direct measure of attitude toward the behavior was assessed using 8 items to determine the participant's level of certainty (I am very certain of my attitude towards using or having a condom used every time I have sexual intercourse during the next month. (Scores ranged from Very uncertain [1] to Very certain [7])) and definitiveness (How definite are your ideas towards using or having a condom used every time you have sexual intercourse during the next month? (Scores ranged from Not very definite [1] to Very definite [7])). related to their attitude toward condom use. The indirect measures of attitude toward the behavior was assessed using 8 items to determine the relative likelihood that a particular scenario would prevent condom (How likely is it that each of the following factors will prevent you from using or having a condom used every time you have sexual intercourse during the next month? (Scores ranged from Extremely unlikely [1] to Extremely likely [7])) as well as 8 items to determine a participant's appraisal of consequences related to condom use (How likely do you think the following consequences will be if you use or have a condom used every time you

have sexual intercourse? (Scores ranged from Extremely unlikely [1] to Extremely likely [7]). These items measured behavioral beliefs and outcome evaluation, respectively.

A major obstacle occurred as it related to the measurement of subjective norms. This necessitated some changes to be made to the measurement of this construct. As mentioned previously in Chapter 2 (see Measurement of Theory of Planned Behavior constructs" section) the Safer Sex Scale uses both a direct (i.e., questions that directly measure subjective norms) and an indirect measure (i.e., the product of normative beliefs and motivation to comply) to assess subjective norms. The development of the items related to the indirect measure of subjective norms is usually very specific to the population of interest. Fishbein (1981) recommended the performance of an elicitation (or pilot) study that is used to develop a list of significant referents specific to the target population. The list yielded from this elicitation study should be used to develop the questions that determine the impact of significant referents in the decision-making process. Once these questions are developed they are then piloted. This process was beyond the scope of this project and thus it was decided to use the referents used by White, Hogg and Terry (1994). However, due to a poor decision by this researcher the items related to motivation to comply were not included in the survey (potential limitations related to this decision are discussed in the "Limitations" section of Chapter 5). Although unconventional, Wulfert et al., (1996) performed a similar cross sectional study with Gay men in which they did not measure motivation to comply. Basen-Enquist and Parcel (1992) as well as Jemott et al., (1992) also performed safer sex studies using adolescents that did not measure motivation to comply and all of these studies yielded significant findings related to subjective norms as a predictor of condom



use. Thus this way of using the TPB did have precedence. Therefore, during the pilot study, only the questions related to normative beliefs (“How likely is it that each of the following people think that you should use a condom every time you have sexual intercourse during the next month?”; scores ranging from Extremely likely [1] to Extremely unlikely [7] across 6 referents) and the direct measures of subjective norms were used to assess subjective norms. The following items from White, Terry and Hogg’s Safer Sex Scale were piloted as direct measures of subjective norms:

Question 55: “If I use or have a condom used every time I have sexual intercourse during the next month most people who are important to me would ... (Scores ranged from Approve [1] to Disapprove [5]).

Question 86: I am very certain about whether or not people who are important to me think that I should use or have a condom used every time I have sexual intercourse during the next month. (Scores ranged from *Very certain* [1] to *Very uncertain* [7])

Question 87: To what extent would there be agreement amongst the people who are important to you that to use or have a condom used every time one has sexual intercourse is a good thing to do? (Scores ranged from *A large degree* [1] to *A small degree* [7])

Question 90: Most people who are important to me think that I ... use or have a condom used every time I have sexual intercourse during the next month. (Scores ranged from *Should not* [1] to *Should* [7])

Question 91: How sure are you about whether or not people are important to you think you should use or have a condom used every time you have sexual intercourse during the next month? (Scores ranged from *Very sure* [1] to *Very unsure* [7])

Question 104: How would you say there is consensus amongst the people who are important to you about whether using or having a condom used every time one has sexual intercourse is a good thing to do? (Scores ranged from *Very likely* [1] to *Very unlikely* [7])

Seven items were piloted as direct measures of perceived behavioral control. They were used to assess the participant's overall perception of control, difficulty and confidence relation to the target behavior. The piloted items are as follows:

Question 42: For me to use or have a condom used every time I have sexual intercourse in the next month will be" (Scores ranged from *Very difficult* [1] to *Very easy* [5])

Question 52: How confident are you that you will be able to use a condom every time you have sexual intercourse during the next month? (Scores ranged from *Not at all confident* [1] to *Extremely confident* [7]).

Question 66: How much control do you have over whether you use or have a condom used every time you have sexual intercourse during the next month? (Scores ranged from *No control* [1] to *Control* [7]).

Question 78: How much will factors outside your control influence whether you use or have a condom used every time you have sexual intercourse during the next month? (Scores ranged from Not at all [1] to Completely[7]).

Question 79: I am very confident of my feelings towards using or having a condom used every time I have sexual intercourse during the next month. (Scores ranged from Not very confident [1] to Very confident [7]).

Question 88: How much do you feel that whether you use or have a condom used every time you have sexual intercourse during the next month is beyond your control? (Scores ranged from Not at all [1] to A great deal [7]).

Question 102: How certain are you that you will be able to use or have a condom used every time sexual intercourse during the next month? (Scores ranged from Not at all certain [1] to Extremely certain [7]).

### Pilot results

#### Data analysis criteria

All graduate student members of the respective organizations who expressed a willingness to complete the survey were allowed to complete a survey. However, there was a criteria used when determining which surveys would be included in the data analysis. The criteria were as follows:

1. Participant must have responded 'yes' to the question "Have you ever had sexual intercourse?", in order to be included in the data analysis. For the purpose of this study it was decided for the sake of consistency that only sexually active participants would be included in the data analysis. Past

behavior has been found to impact the intention-behavior relationship (Boyd and Wandersman, 1991). Although the behavior being considered was condom use, the lack of two experiences (sexual intercourse and condom use) could be a potential confounder.

2. Married or participants who have been in a monogamous relationship for more than 6 months were excluded from the data analysis. Earlier studies with this data set indicated that married students behaved differently from unmarried students on a variety of risk behaviors (Gledhill-Hoyt J, et al., 2000; Wechsler H, Dowdall GW, Davenport A, Castillo S, 1995).
3. Participants who reported having sex with “Both men & women” or exclusively with their same gender were excluded from the data analysis. Past studies have demonstrated differences in condom use in same-sex and opposite sex partners, specifically as it relates to the available gay, lesbian and bisexual resources at the university (Eisenberg, 2002). In an effort to prevent this from potentially skewing the data same sex and bisexual partners were not included in the data analysis.

Based on the aforementioned criteria 5 of the 43 total surveys collected during the pilot study were eliminated from the data analysis.

### Self construal items

The sum of scores for the 18 independent items was calculated and then subtracted from the sum of scores for the 18 interdependent items. This yielded

Table 3: Final Items and factor loadings for self construal items of CITUC survey.

<b>Interdependent items [Cronbach alpha = .74]</b>		<b>F1</b>	<b>F2</b>
1.	I have respect for the authority figures with whom I interact.	.70	-.16
2.	It is important for me to maintain harmony within my group.	.73	.10
3.	My happiness depends on the happiness of those around me.	.61	-.43
4.	I respect people who are modest about themselves.	.69	.10
5.	I will sacrifice my self-interest for the benefit of the group I am in.	.64	.09
6.	I should take into consideration my parents' advice when making education/career plans.		
7.	I will sacrifice my self interest, and use a condom, for the benefit of my partner.*	.68	-.06
8.	I should take into consideration my parent's advice when deciding whether I should use a condom.*	.75	.21
9.	I would offer my seat in a bus to my professor.	.63	.04
10.	I often have the feeling that my relationship with others are more important that my own accomplishments.	.38	.22
11.	It is important to me to respect the decisions made by the group.	.17	.16
12.	If my brother or sister fails, I feel responsible.	.40	.20
13.	I will stay in a group if they need me, even when I am not happy with the group.	.36	.17
14.	Even when I strongly disagree with group members, I avoid an argument.	.27	.06
15.	I have respect for my sexual partners.*	.49	.23
16.	It is important to me to respect my partner's request for us to use a condom.*	.31	.11
17.	If my sister or brother does not practice safe sex, I feel responsible.*	.52	.12
18.	I will stay in a sexual relationship, even though my partner does not want us to use a condom.*	.46	.16
		.02	.21
<b>Independent items [Cronbach alpha = .70]</b>			
19.	Having a lively imagination is important to me.	.04	.65
20.	I am the same person at home that I am at school.	.01	.74
21.	I prefer to be direct and forthright when dealing with people I've just met.	.11	.77
22.	I act the same way no matter who I am with.	-.12	.75
23.	I enjoy being unique and different from others in many respects.	.21	.77
24.	The likelihood that we will use a condom is the same at my home as it is at my partner's home.*		
25.	My primary concern is the benefit using a condom has for me.*	.25	.61
26.	I'd rather say "No" directly, than risk being misunderstood.	-.12	.64
27.	Speaking up during a class is not a problem for me.	.01	.15
28.	I am comfortable with being singled out for praise or reward.	.11	.18
29.	Being able to take care of myself is a primary concern.	.21	.26
30.	I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am.	.28	.50
31.	My personal identity , independent of others is very important to me.	.27	.19
32.	Telling my partner that I think we should use a condom is not a problem for me.*	.16	.23
33.	I prefer to be direct and forthright when negotiating whether we should use a condom.*	.15	.47
34.	I use or ask to use a condom no matter who I have sex with.*	.07	.23
35.	I value being in good health above everything.	.17	.35
36.	I value the benefits of using a condom above everything.*	.19	.51
		.32	.03

\* = items added to Gudykunst's original scale

**Note:** F1 and F2 = factor loadings for varimax (with Kaiser Normalization) rotation of 36 items; F1 = interdependent; F2 = independent; Sample interfactor correlation = .02. Rotation converged in 3 iterations.

a Self Construal Scale raw score that ranged from highly independent (maximum raw score of -90) to highly interdependent (maximum raw score of 90). Because categories were not necessary for the statistical test being used for the pilot, the raw scores were not used to develop Individualist and Collectivist categories. This eventually led to a serious flaw in the sample size calculations as well as the power analysis for the principal study (see “Results” for greater detail).

An exploratory factor analysis (varimax rotation with Kaiser Normalization) was undertaken to determine which of the 36 self construal items would be used during the principal study. The extraction method was principal component analysis and rotation converged in 3 iterations. Items with factor loadings  $\geq .61$  were selected for the final survey (see Table 3). While traditionally factor loadings  $>.50$  are considered good, it was decided to use  $.61$  because the most pronounced change in loadings was observed at  $.61$ .

Items were loaded on two factors, interdependent (F1) and independent (F2). Interdependent items used to assess relative levels of Collectivism loaded highly on factor one. Independent items used to assess relative levels of Individualism loaded highly on factor two. Overall factor loadings calculated for the pilot items were considerably higher than those reported by Gudykunst (1994). Additionally, the health-specific items that were added loaded higher on both the Collectivist and Individualist factors than did most of Gudykunst’s (1994) original items. The health-specific items included in the final survey primarily pertained to matters of partner interaction as it related to condom use. The interdependent items that were included also included their non-health specific equivalents (e.g., “I will sacrifice my self-interest for the benefit of the

group I am in.” and “I will sacrifice my self interest, and use a condom, for the benefit of my partner”) with the non-specific items loading higher on factor one. In regards to the independent items, however, the non-specific equivalents were not included in the final survey and did not load nearly as high as the health specific items. Four of the 12 health specific items added to the original Self Construal Scale loaded above .61. Eleven of Gudykunst’s (1994) original 24 items loaded above .61. One weakness of the scale, however, is its lack of inclusion of reverse items. This is discussed in greater detail in the “Discussions” chapter of this document.

#### Theory of Planned behavior items

Several of the items used to measure the constructs of the Theory of Planned Behavior were eliminated due to the inability of students to understand their meaning. Since the focus of the study was the utility of Individualism and Collectivism as a means of differentiating social groups, this researcher decided to leave the remainder of the SSS intact (minus those items that were deleted based on negative feedback received from pilot participants). However, alpha coefficients for the scale were calculated (see Table 4) and compared with those reported by White, Terry, & Hogg (1994). Alpha coefficients for attitude and perceived behavioral control were consistent with their findings (.87 and .87 for attitude and .71 and .65 for perceived behavioral control). The calculated alpha coefficient for intention was lower than their reported values, .86 and .96 respectively. However, .86 still demonstrates strong internal consistency with respect to the intention items. The alpha coefficient for the direct measure of subjective norms was very low compared to the findings of White, Hogg, and Terry (1994), .04 and

.83 respectively. A solution for the problem of the low alpha coefficient for subjective norms was to use the indirect measure of subjective norms (normative beliefs) as the measure of subjective norms. According to Ajzen (2002) the indirect and direct measures are actually alternative ways of measuring subjective norms in the prediction of intentions. For this reason it is perfectly acceptable to use either the direct or indirect measure to measure subjective norms. Cronbach's alpha for the pilot study was .81 for subjective norms.

Table 4. Means and Cronbach's alphas for Theory of Planned Behavior constructs used in the pilot version of the Culturally-based Intention To Use A Condom Survey.

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>Cronbach Alpha</b>
Intention	5.10	.17	.86
Attitude	4.20	2.35	.87
Subjective norm	4.83	1.68	.81
Perceived behavioral control	4.45	2.09	.71

Several items were used to measure each construct of the TPB. Because the survey was administered at only one point in time, coefficients of internal consistency were used to assess reliability of the survey instrument. Additionally, the pilot study was used to determine whether the incentive and recruitment methods were appropriate.

#### Revisions based on Pilot Study

##### Eliminated questions



The pilot study identified several questions that needed to be eliminated due to the inability of study participants to understand the questions and therefore respond accurately. Below is a review of the eliminated items as well as the rationale for their deletion. Additionally, there is a summary of the revisions made to the incentives format and changes to the point scale used for the survey.

#### Modification to the self construal items

Twenty-one items were eliminated using factor analysis. This left 15 remaining items. Because the scoring of the self construal scale relies on even numbers of independent and interdependent items, the calculation of the index score was modified for the principal study (see “Scoring Individualism and Collectivism items” on page 89).

#### Modification to the attitude toward the behavior items

The attitude toward the behavior items were not modified. However, reliability of the direct measure items (Cronbach’s  $\alpha = .76$ ) was less than the indirect measure items (Cronbach’s  $\alpha = .87$ ). Because both measures demonstrated acceptable levels of reliability it was decided that both be included in the final survey.

#### Modification to the subjective norms items

Considerable negative feedback was provided by the pilot study participants concerning several of the direct measure items for subjective norms. Several of the international students expressed difficulty in understanding the range of responses, “to a small degree” and “to a large degree.” Additionally, many of the participants expressed difficulty following the questions that were disconnected, such as, “Most

people who are important to me think that I ... use or have a condom used every time I have sexual intercourse during the next month.” Items such as, “How would you say there is consensus amongst the people who are important to you about whether using or having a condom used every time one has sexual intercourse is a good thing to do?; To what extent would there be agreement amongst the people who are important to you that to use or have a condom used every time one has sexual intercourse is a good thing to do?” were recorded as confusing and difficult to answer. The item, “I am very certain about whether or not people who are important to me think that I should use or have a condom used every time I have sexual intercourse during the next month” was a poor item because it begins with the words “I am very certain” and then asked the participant to respond using the scale “very certain to very uncertain.” This was identified as a potentially leading question and thus was removed from the survey. The negative feedback related to these items was confirmed by the calculated Cronbach’s alpha for the direct measure (.04). This unfortunately left one remaining item as the direct measure of subjective norms. Therefore it was decided that the indirect measure be used to assess subjective norms. However, only normative beliefs were used to assess the indirect measure, instead of the recommended combination of normative beliefs and motivation to comply (Fishbein, 1980). The subsequent impact this may have had on the validity of the measure is discussed in the “Limitations” section of this document (see Chapter 5). Not without precedence, Wulfert et al., (1996) performed a similar cross-sectional study using Gay men that assessed subjective norms using only normative beliefs as the indirect measure. Wulfert et al., (1996) still reported that

subjective norms were a significant variable that affected the decision-making process related to condom use.

#### Modification of perceived control items

The following perceived control items were not included in the final version of the survey:

Question 66: How much control do you have over whether you use or have a condom used every time you have sexual intercourse during the next month? (Scores ranged from No control [1] to Control [7]).

Question 78: How much will factors outside your control influence whether you use or have a condom used every time you have sexual intercourse during the next month? (Scores ranged from Not at all [1] to Completely[7]).

Question 88: How much do you feel that whether you use or have a condom used every time you have sexual intercourse during the next month is beyond your control? (Scores ranged from Not at all [1] to A great deal [7]).

Question 102: How certain are you that you will be able to use or have a condom used every time sexual intercourse during the next month? (Scores ranged from Not at all certain [1] to Extremely certain [7]).

These items posed specific problems with the Asian and African students who expressed difficulty following the points of the question. Additionally, question 88 used the response option, “a great deal”, which was not an easily understandable term for most of these students. To avoid potential response bias, it was decided to eliminate

these four questions. Therefore, two items were used to calculate the direct measure of perceived control.

#### Ethnic categories

One survey item was used to determine the ethnicity of study participants. Seven options were provided, African, African American, Hispanic, Non-Hispanic White, Asian American, Asian, and Native American Pacific Islander. An additional space was provided for participants to provide an alternative ethnic identity that was not listed. Based on the most common responses received it was determined that the ethnic group names to be included in the final survey would be, African, African American, Asian, Asian American, and non-Hispanic White.

#### Modification to incentives

The decision was made to reduce the amount of the incentive based on the feedback received from pilot study participants. The possibility of reducing the amount to \$5.00 was presented to the participants to determine if the incentive would still be satisfactory. It was confirmed that \$5.00 would be a sufficient incentive. The incentive in the pilot study was a gift certificate that could be redeemed for movies and music. During the period of time between the pilot study and the principal study, the retail store that provided the original incentives went out of business. Therefore, the incentive used for the principal study was a gift card from a retail outlet that only distributed movies.

### Modification to point scale

Finally, it was decided that a 5-point Likert scale would be used instead of a 7-point Likert scale. This was a financial decision. The cost of custom (7-point) scantron forms made using them not viable. There is no required point scale that must be used with the Theory of Planned Behavior. It is recommended that the scale be either a Likert or semantic differential depending upon the construct being measured (Ajzen, 1991, Fishbein 1980).

## Principal Study

### Principal Study Design

The principal study used a cross-sectional survey design to assess the extent to which Individualism and Collectivism were better predictors than ethnicity of intention to use a condom. The study proposal was submitted for review and approved by the Institutional Review Board of the university.

Participants were asked to complete a survey that included items to measure attitudes toward the behavior, perceived control, normative beliefs, self construal (Individualism & Collectivism), and intention to use a condom. Completion of the survey took approximately 20 minutes [not including the time needed to read the consent form and implement the incentive protocol].

### Study Participants

Eligible study participants were English-speaking, male and female students of the university. All participants were 18 years of age or older and were expected to

represent several different racial, ethnic and gender groups. Participants engaged in monogamous relationships and homosexual relationships were allowed to complete a survey. However, their surveys were not included in the data analysis (see next section “Data analysis criteria”).

#### Data analysis criteria

All students enrolled in one of the 15 physical education classes as well as undergraduate student members of the respective organizations sponsored by the Office of Minority Services, who expressed a willingness to complete the survey, were allowed to complete a survey. However, there was a criteria used when determining which surveys would be included in the data analysis. The criteria were as follows:

4. Participant must have responded ‘yes’ to the question “Have you ever had sexual intercourse?”, in order to be included in the data analysis. For the purpose of this study it was decided for the sake of consistency that only sexually active participants would be included in the data analysis. Past behavior has been found to impact the intention-behavior relationship (Boyd and Wandersman, 1991). Although the behavior being considered was condom use, the lack of two experiences (sexual intercourse and condom use) could be a potential confounder.
5. Married or participants who have been in a monogamous relationship for more than 6 months were excluded from the data analysis. This was performed to have consistency in relationship status.

6. Participants who reported having sex with “Both men & women” or exclusively with their same gender were excluded from the data analysis.

### Sample Size

Using Browner, Black, Newman and Hulley's (1988, p. 218) table for collective measurement of expected correlation coefficient, sample size, and alpha level, it was estimated that in order to detect a level of association of at least .60, with an alpha of .05 and a minimum power of 80%, the sample size needed to be at least 400 total participants. Based on national data related to sexual activity and university estimates of homosexuality and class attendance, it was calculated that there would be a need to collect 645 completed surveys in order to have 400 useable surveys that meet the data analysis criteria.

Previous research supports that non-Whites are more likely to be Collectivist than Whites (Kagitcibasi, 1994) and thus to facilitate a greater potential for recruiting Collectivists, recruitment sessions were coordinated with the Department of Minority Services. The primary goal was to have at least one third of the sample be Collectivist. Past studies have reported percentages of non-White participants categorized as Collectivist in the range of 20 to 60% of their target sample (Kagitcibasi, 1994; Markus & Kitayama, 1994; Singeles, 1994). For this study the goal was to achieve a non-White representation of at least 35%. Based on the data analysis criteria (see previous section, “Data analysis criteria) this study had 333 useable surveys with 34% of the sample being non-White.

### Participant Recruitment

Several sections of the university's basic physical education classes were recruited for this study. Prior to data collection instructors of the basic physical education classes were contacted via email to determine classes available for participation in the study. Two instructors' classes had concluded before the data collection period and two other instructors declined to participate in the study. Consequently, a total of 15 out of 19 basic physical education classes participated in the study (Table 4). The classes of all instructors who agreed to allow class time to participate in the study were included regardless of schedule conflicts. Other participants of the study were recruited at several events, meetings and functions sponsored by Office of Minority Services chartered organizations (Table 5). Unlike the basic physical education classes, recruitment from the student organizations were most times held in an informal setting that often did not accommodate administering the survey to large numbers at one time period. For example, several students agreed to complete the survey however, their responsibilities at the event did not allow them the time to complete the survey. Therefore some requested that I meet them at another time or place to complete the survey. These cases are denoted in Table 5 as "student center" or "follow up from previous events." The graduation party was an event sponsored by the Black Student Union at the home of one of the organization's members. Lay Park was the site of a tutorial program for local youth that was sponsored by a university sorority. Sororities are not sponsored by the Office of Minority Services; however, the tutorial program is staffed primarily by Office of Minority Services' students.



*Table 5. The recruitment record for the basic physical education recruitment site.*

Site Location	# Enrolled students	Refusals	Absence	Ineligible <sup>1</sup>	Total completed surveys
Racquetball	27	0	3	0	24
Racquetball	26	0	1	0	25
Racquetball	28	0	2	0	26
Racquetball	26	0	3	0	23
Weight room	25	0	4	0	21
Weight room	25	0	2	0	23
Golf	16	0	3	0	13
Golf	27	1	7	0	19
Racquetball	21	1	2	0	18
Volleyball	30	1	4	0	25
Racquetball	22	0	2	0	20
Volleyball	27	0	3	0	24
Golf	27	0	1	1	25
Golf	25	1	3	3	18
Volleyball	37	0	0	1	36
<b>Total</b>	<b>385</b>	<b>4</b>	<b>40</b>	<b>5</b>	<b>340</b>

*Table 6. The recruitment record for the Office of Minority Services coordinated recruitment sites.*

Site Location	Total Completed Surveys	Refusal	Ineligible
Graduation party	53	9	2
Lay Park Recreation Center Tutorial Program	21	0	0
Student center	34	7	0
Follow up from previous events <sup>2</sup>	43	0	0
<b>Total</b>	<b>151</b>	<b>16</b>	<b>2</b>

This researcher read a prepared script to potential participants. The script stated they were being asked to participate in a study being conducted by a doctoral student at the university in an effort to improve health promotion programs designed to encourage

<sup>1</sup> Ineligible students are those who had either completed a survey in previous class or site or were graduate students.

<sup>2</sup> Some students indicated that they did not have the time to complete the survey at the time of the event but would be willing at a later time during the week or they scheduled a time to complete the survey. These people were met at multiple locations.

safer sex behaviors (see Appendix E). Potential participants were informed that participation in the study involved their completion of an anonymous survey. It was possible for a student to be a member of more than one student organization or be enrolled in more than one basic physical education class. Students were told in advance not to complete the survey if they had previously completed one. There was no definitive way of knowing whether or not students complied with this request.

### Incentives

As an incentive to participate in the study, participants were told that they would be given a raffle ticket when they returned their survey (whether they had completed the survey or not). A duplicate raffle ticket was placed in a bag. Once the surveys were collected two raffle tickets were drawn from the bag. Winners of the raffle received a \$5.00 gift certificate card from a local movie rental store. Each class was guaranteed a winner. It was calculated that participants in the basic physical education courses, had a 10% chance of winning the raffle. For those participants recruited from the Office of Minority Services, given the unorthodox groups that were used for recruitment, a different system was used that provided the same probability of winning as students enrolled in the basic physical education courses. By calculating the average number of surveys completed in each of the basic physical education classes it was estimated that there were two winners for every 22 completed surveys. The bag containing the raffle tickets for the student organization participants contained 2 winning tickets and 20 non-winner tickets. Another 22 raffle tickets were added to the bag after every cycle of 22 tickets had been distributed.

## Data Collection Procedures

### Measurement Instruments

The survey instrument for the principal study was the Culturally Based Intention to Use A Condom (CITUC) survey (see APPENDIX G). The CITUC was developed using items from White, Terry & Hogg's (1994) Safer Sex scale (SSS) and Singeles (1994) Self construal scale (SCS). The survey was piloted and demonstrated acceptable reliability across all constructs (see Tables 3 and 4).

### Dependent Variable

Participants were asked to respond to three questions to assess the strength of intention to use a condom. The items were responded to on a 5-point Likert scale (Likert, 1932). The three items used are as follows:

*"I intend to use a condom every time I have sexual intercourse during the next month," ranging from extremely unlikely [1] to extremely likely [5]).*

*"My level of intention to use or have a condom used every time I have sexual intercourse during the next month," ranging from do not intend [1] to do intend [5].*

*"I am very certain of my attitude towards using or having a condom used every time I have sexual intercourse during the next month," ranging from not very certain [1] to very certain [5].*

The calculated Cronbach's (1951) alpha coefficient from the pilot study for the intention to use a condom items was .86.

#### Scoring intention to use a condom items

The mean for the three aforementioned items was calculated for each participant and served as the index score for intention to use a condom.

### Independent Variables

#### Demographic variables

Several demographic variables have been found to be important in association with condom use. Thus the following demographic information was collected:

- **Ethnicity** (Self-identified; African American, non-Hispanic White, Asian, Asian American, African)
- **Relationship status** (Non-monogamous, Monogamous [less than 2 months, more than 2 months but less than 6 months, more than 6 months but less than 1 year, more than 2 years])

#### Health Attitudes and Beliefs

The Theory of Planned Behavior served as the theoretical foundation for the prediction of intention to use a condom. An outline of the questions used to assess each construct follows this section. A complete test of the Theory of Planned Behavior consistent with the study performed by White, Terry and Hogg (1994) was not performed in this study. Participants were assessed using a 5-point Likert scale

indicating their position on a continuum of most to least agreeable in regards to a particular attitude or belief related to condom use.

The following constructs were measured:

**Attitudes toward condom use** defined as attitudes toward the act of using a condom or asking a sexual partner to use a condom. This is measured using a direct measure of attitudes as well as an indirect measure of attitudes.

The direct measure of attitude toward the behavior was measured using items that measured the participant's overall evaluation of condom usage. A semantic differential scale was used with endpoints that consisted of either positive or negative adjectives. This semantic differential scale consisted of a set of instrumental items represented by adjective pairs such as valuable-worthless and a set of experiential items represented by adjective pairs such as pleasant-unpleasant. These items were counterbalanced to counteract potential response bias.

According to the Theory of Planned Behavior the attitude component consists of two subcomponents (or indirect measures). Behavioral beliefs represents the perceived consequences of using a condom, while evaluation represents the relative likelihood that a perceived consequence will occur due to using a condom.

Behavioral beliefs were assessed by asking participants to rate, on a 5-point scale, how likely it would be that a range of different consequences would occur if they used a condom (5 costs and 5 benefits for condom use; ranging from extremely unlikely [1] to extremely likely [5]).

## 5 Benefit items

Protect Against contracting HIV/AIDS

Protecting against contracting other sexually transmitted diseases

Preventing you, or your partner, from becoming pregnant

Showing concern for your partner's well-being

Providing variety in your sex life

## 5 Costs items

Interrupting foreplay

Reducing the intimacy of sex

Destroying the spontaneity of sex

Being offended by or offending your partner

Reducing sexual pleasure

Outcome evaluations were assessed by the participant rating how pleasant or unpleasant they feel the 10 consequences (listed above) of condom use would be on a 5-point bipolar scale ranging from extremely unlikely [1] to extremely likely [5].

Cronbach's alpha coefficients calculated during the pilot study for this predictor variable (using the direct measure) were .81 for intention to use a condom.

## Scoring attitude toward the behavior items

Attitude toward the behavior (condom use)

### A. Direct Measure

Direct measure of Attitude items - Questions 30, 31, 32, 33, 34, 35, 36, 37

Direct Measure – Items 30, 32, 34 and 35 were reverse scored and then the mean of all items were calculated. [Mean of all items represented the index score]

## B. Indirect Measure

Sum of the product scores on the measures of **behavioral beliefs AND outcome evaluations**

Behavioral beliefs items - Questions 48, 49, 50, 51, 52, 53, 54, 55, 56, 57

Outcome evaluations items - Questions 38, 39, 40, 41, 42, 43, 44, 45, 46, 47

Corresponding behavioral beliefs and outcome evaluation items were multiplied (e.g., behavioral belief item # 48 was multiplied with outcome evaluation item #38; behavioral beliefs item # 49 was multiplied with outcome evaluation item # 39) and then the mean of these values were calculated. This represented the indirect measure of attitude toward the behavior index.

**Subjective Norms** represented a student's belief about whether significant referents think that he or she should use a condom. An indirect measure, normative beliefs, was used to assess subjective norms. Normative beliefs represent the perceived beliefs held by another person (person who plays a significant role in the student's life) concerning whether the participant should use a condom.

Five items were used to assess the normative beliefs of the participants. Students were asked to respond on a scale ranging from Extremely unlikely [1] to Extremely likely [4], and no person exists [5] to the item, "How likely is it that each of the following people think that you should use a condom every time you have sexual intercourse during the next month?" Five different referents were listed: Your friends, Your parents, Other family members, Your doctor/medical groups, Your current partner, and Your partner's parents/family. There was no measure of motivation to comply.

One item served as the direct measure of subjective norms. Cronbach's alpha coefficients from the pilot study for this variable (using the indirect measure) was .81 for intention to use a condom.

#### Scoring subjective norms items

##### Normative beliefs items- Questions 58-63

All scores of 5 were recoded 0, since option 5 denoted that no such significance referent existed. The mean for these scores was calculated and served as the index for subjective norms.

**Perceived Behavioral Control** was the participant's perception of how easy or difficult it would be to use a condom or ask a sexual partner to use a condom (Ajzen & Madden, 1986). A direct measure of perceived control was used to assess perceived behavioral control. The direct measure of control simply assesses the perceived control and confidence of the participant to perform the target behavior. Perceived behavioral control (direct measure) was assessed using three items (How confident are you that you will be able to use or have a condom used every time you have sexual intercourse during the next month, scores ranging from Not confident at all [1] to Extremely confident [5]; "For me to use or have a condom used every time I have sexual intercourse in the next month will be" scores ranging from Very difficult [1] to Very easy [5]; and "How much control do you have over whether you use or have a condom used every time you have sexual intercourse during the next month?", scores ranging from



No control [1] to Complete control [5]). Cronbach's alpha from the pilot study for this predictor variable was .71 for intention to use a condom.

#### Scoring perceived behavioral control items

The mean of items 23, 25 and 28 (direct measures) was calculated and served as the index for perceived control.

#### Social variables

Social factors were measured using the self construal construct, which assesses social group influence at the individual level. Self construal is consistent with the constructs Individualism and Collectivism, which typically denote societal level influences. Measures were based on the following assumptions:

Individualism/ Collectivism – Societal influence falls on a continuum with Individualism and Collectivism at the extremes. The two extremes of self construal are as follows:

Independent self construal [Individualists] – “bounded, unitary, stable” self that is separate from social context. It includes an emphasis on internal abilities, thoughts and feelings as well as being unique and expressing the self.

Interdependent self construal [Collectivists] – “flexible, variable” self that emphasizes external, public features such as status, roles, and relationships as well as occupying one's proper place and engaging in appropriate action.

Measurement of self construal was accomplished using 15 items (8 interdependent self construal items; 7 independent self construal items). They were as follows:

Interdependent self construal items (measurement of Collectivism)

- I have respect for the authority figures with whom I interact.
- It is important for me to maintain harmony within my group.
- My happiness depends on the happiness of those around me.
- I respect people who are modest about themselves.
- I will sacrifice my self-interest for the benefit of the group I am in.
- I will sacrifice my self interest, and use a condom, for the benefit of my partner.
- I will sacrifice my self interest, and use a condom, for the benefit of my partner.
- I should take into consideration my parent's advice when deciding whether I should use a condom.

Independent self construal items (measurement of Individualism)

- Having a lively imagination is important to me.
- I am the same person at home that I am at school.
- I prefer to be direct and forthright when dealing with people I've just met.
- I act the same way no matter who I am with.
- I enjoy being unique and different from others in many respects.
- The likelihood that we will use a condom is the same at my home as it is at my partner's home.
- My primary concern is the benefit using a condom has for me.

Students responded using a 5-point Likert scale with anchors of *strongly agree* [1] and *strongly disagree* [5]. Cronbach's alpha's, calculated during the pilot study, for the Interdependent items was .74 and .70 for the independent items.

#### Scoring Individualism and Collectivism items

Eight interdependent items and 7 independent items were used to calculate the IC index. The IC index was calculated by subtracting the sum of the 7 independent self construal items from the sum of the 7 interdependent self construal items. This was performed again substituting the independent item "I will prefer to be direct and forthright when dealing with people I've just met" for the independent item "I enjoy being unique and different from others in many respects." This yielded two IC index scores. The mean of these two scores was the IC index. The IC index was used to form Collectivist and Individualist categories as well as high Collectivist, low Collectivist, high Individualist and low Individualist categories. Collectivists were all participants above the mean and Individualists were all participants below the mean.

#### Data Management & Data Entry

Data were collected in 15 physical education classes and 4 sites coordinated with the permission of the Office of Minority Services. Participants were instructed to record their survey answers on a scantron sheet. Scantrons were scanned at City University of New York's Hunter College institutional resource center. The data were converted to an ASCII file and imported into SPSS 11.0. SPSS was programmed to delete those cases (or surveys) that presented the following scenarios:

1. Repeated answers (e.g., the same response for 15 consecutive questions).  
This was assessed when data were reviewed for potential outliers using scatter plots. Eleven surveys were eliminated from the study because of repeated or pattern scoring. Three of the 11 surveys were eliminated because of obvious patterns identified through visual inspection.
2. Participants who do not meet the requirements necessary to be included in data analysis. Participants not included in the data analysis were homosexuals, virgins, and participants 22 years of age or older. Because of a design error in the survey that produced unequal categories the “22 or older” category had to be eliminated from the data analysis. Thirty-seven participants were excluded due to this criterion.
3. Conflicting responses (e.g., two items that assess the same attitude or belief are scored at two extremes 1 and 5 or 2 and 4).
4. Responses that were out of field (e.g., Responds with a 5 when there are only 2 choices)
5. Mean substitution was used for missing data in all items except those assessing ethnicity, relationship status, sexual preference (i.e., male or female) and whether or not the participant had ever had sex before. For a questionnaire to be considered “complete” 75% of the items (including all items related to Individualism and Collectivism) must have had a response.

### Statistical Analyses

Prior to testing the hypotheses descriptive statistics were calculated for the final sample (N= 333). Cross tabulations were computed to determine if there were equal groups across Individualist and Collectivist groups versus ethnic groups. Mean values for Collectivists and Individualists across all items were calculated as well as across construct indices. A Spearman correlation table with all indices as well as Individualists, Collectivists and ethnic categories was developed. Analysis of variance was performed using the attitude toward behavior, subjective norms and perceived control indices for Individualist and Collectivist groups.

To specifically test the hypotheses of this study the following data analysis techniques were utilized:

Hypothesis 1: Individualism and Collectivism will contribute more to the explanatory power in the intention to use a condom than will ethnicity.

Data analysis procedure: To determine the relative impact of subjective norms and attitude toward the behavior on Individualist and Collectivist's intention to use a condom compared to racial groups this researcher performed several steps. First, dummy variables were created for each self-identified ethnic group identified by the study as well as for the Individualist and Collectivist groups. Since nominal data can not be used with regression analysis it must be translated into a numerical format using dummy variables. The nominal variables were then broken up into a number of dichotomous variables (Table 7) and then regression analysis was performed. Thus these categories were created by coding them as 1 and all other racial groups as 0. To avoid a problem

with multicollinearity the number of dummy variables is one less than the number of categories of the original variable. Therefore the 'Asian' category was coded 0.

*Table 7: Dummy variables for Black (self-identified African-American & African), White (self-identified non-Hispanic White) and Asian (self-identified Asian American & Asian).*

	Black	White	Asian
Black	1	0	0
White	0	1	0
Asian	0	0	0

Finally, a regression analysis was performed to calculate the percentage of variability accounted for by the variables attitude toward the behavior, subjective norms, perceived control, Individualism and Collectivism as well as ethnicity

To ensure that the criteria for regression analysis were met, the residuals for each independent variable was plotted to determine whether or not each variable met the assumption of normality. A scatter plot matrix was used to determine if the dependent and independent variables would fit a linear model.

Using a stepwise data analysis procedure the percent of variance explained by the model was calculated. Attitude toward the behavior and subjective norms were entered in the first step, perceived control was entered in the second step and ethnicity and I/C were entered in the last step. In the final step the ethnic and I/C variables were entered as a block (i.e., no stepping technique used) because these were indicator variables. It was expected that I/C would contribute more to the explanatory power of the prediction model than would ethnicity. Two variables were evaluated to determine

the level of association between I/C and ethnicity with the dependent variable. The squared multiple correlation coefficient and the regression beta coefficient. The limitations in using these variables are discussed in the “Limitations” section of Chapter 5. A correlation matrix for the variables was computed to determine the correlation between each independent variable with the dependent variable as well as the relationship of each of the independent variables with each other. Additionally, the most accurate means of partitioning variance is the use of confirmatory factor analysis. However, in order for this technique to be substantiated for this study, I/C and ethnicity must have been found to have a significant correlation with the dependent variable.

Hypothesis 2: Subjective norms would explain greater percentage of variance in the prediction of intention to use a condom in Collectivist than it would in Individualist.

Data analysis method: Stepwise linear regression was utilized to determine the level of association between intention to use a condom and subjective norms in both Individualist and Collectivists groups. For simpler presentation separate regression analyses were performed for Individualist and Collectivist groups. The assumptions of linear regression had been met previously as well as the assumption of a linear relationship.

2A) Attitude toward behavior would explain greater percentage of variance in the prediction of intention to use a condom in Collectivist than it would in Individualist.

Data analysis procedure: Stepwise linear regression was utilized to determine the level of association between intention to use a condom and attitude toward behavior in both Individualist and Collectivists.

2B) Perceived control would account for no greater percentage of variance in the prediction of intention to use a condom in Collectivist than it would for Individualist.

Data analysis procedure: Stepwise linear regression was utilized to determine the level of association between intention to use a condom and perceived control in both Individualist and Collectivists.



## CHAPTER 4

### RESULTS

A total of 491 students responded to the survey. When predicting intention to use a condom, the sample size was reduced to those 333 heterosexual participants who had engaged in sexual intercourse during the month prior to the survey's administration. There was no significant difference in the representation of males and females (Table 8). Participants included in the data analysis self-identified as either, "non-Hispanic White" (65.8%), "African-American" (15%), "African" (12.9%), "Asian" (4.2%) or "Asian American (2.1%)."

Participants' scores represented a normal distribution along the continuum of Individualism and Collectivism (Figure 2). The mean IC index value was  $-1.49$  ( $SD \pm 4.20$ ). There were more Collectivist participants ( $N = 168$ ) than Individualist participants ( $N = 165$ ). However, consistent with prior research the overall sample reported disproportionately higher self construal values, resulting in a negative mean IC index (Singeles, 1994). Consistent with Singeles (1994) a mean split was performed to differentiate Individualist and Collectivist groups. Collectivists were all participants above the mean (IC index scores  $> -1.49$ ;  $n = 168$ ). Individualists were all participants equal or below the mean (IC index scores  $\leq -1.49$ ;  $n = 165$ ).

Table 8. Demographics of sample in principal study data analysis.

	Number	Percent
Gender		
Male	159	47.7
Female	174	52.3
Total	333	100.0
Racial groups		
Non-Hispanic White		65.8
African-American		15.0
African		12.9
Asian		4.2
Asian American		2.1
Total		100.0
Age		
18	38	11.4
19	89	26.7
20	82	24.6
21	124	37.2
Total	333	100

Cross tabulation of Collectivist and Individualist categories with self-identified ethnic groups supported the representation of all ethnic groups in both the Collectivist and Individualist categories (Table 7). However, inconsistent with previous research, none of the self-identified Asian participants were included in the Collectivist category (Markus & Kitayama, 1991). The literature has consistently professed Asians and Asian Americans as the models of Collectivism (Choi et al., 1999, Markus & Kitayama, 1991). Unanticipated results were also seen in the self-identified African American and African groups as well. Past research has supported the notion that natives of the continent of Africa are consistently Collectivists while natives of the Western hemisphere are typically Individualist (in particular White natives) (Markus & Kitayama, 1998).

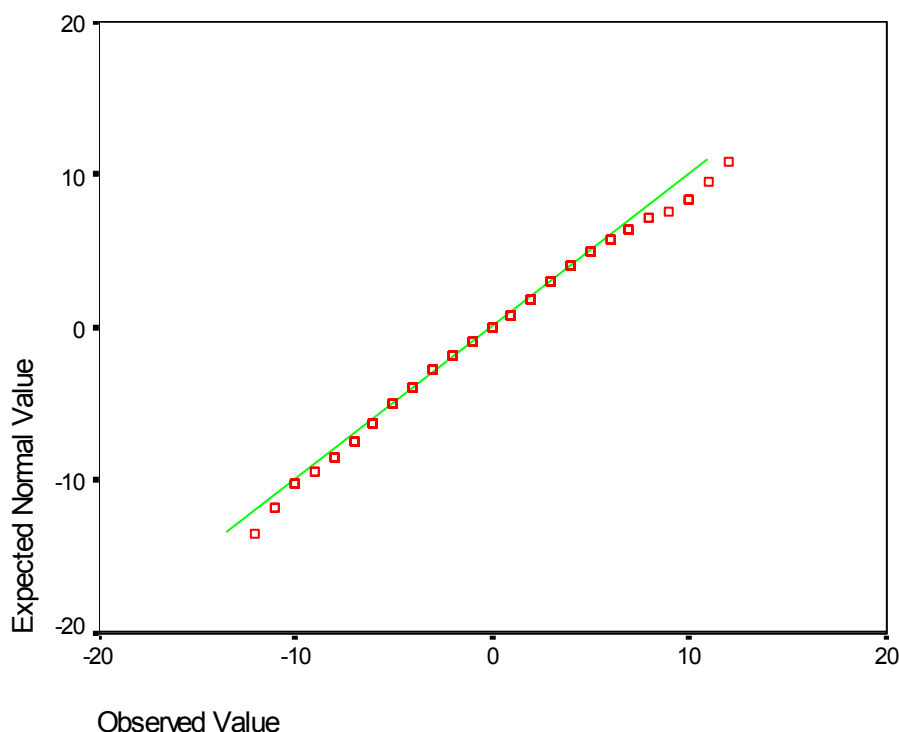


Figure 2. Q-Q plot for Individualism/ Collectivism differences demonstrating the normal distribution of the Individualism-Collectivism index.

Therefore it was expected that a greater percentage of African Americans than White participants would be Collectivist and a greater percentage of African than African American participants would be Collectivists. While the results supported this expectation slightly in African American and White participants, it was not supportive of the research related to African participants.

Reliability of the Culturally Based Intention to Use A Condom (CITUC) survey varied across constructs. Overall reliability statistics support only a limited confidence in the survey scores and thus only a limited amount of confidence can be placed in the findings. However, given the fact that this represents the early stages of research

related to Individualism and Collectivism, especially as applied to health research, the reported alphas may be adequate for this study (Nunnally, 1978, p. 226).

*Table 9. Cross tabulation of Collectivist and Individualist categories and ethnic groups demonstrating that each racial group is represented in both Individualist and Collectivist groups.*

	African American	African	Non- Hispanic White	Asian	Asian American	Total
Collectivist	31	24	109	0	4	168
Individualist	19	19	110	14	3	165
Total	50	43	219	14	4	333

Cronbach's alpha for the intention to use a condom items was .80, slightly lower than findings from the pilot (Cronbach's alpha = .86) and considerably lower than the value reported by White, Terry and Hogg (1994) (Cronbach's alpha = .96). Cronbach's alpha coefficient for subjective norms was .87 for predicting intention to use a condom. This actually represented an improvement from the pilot (.81) as well as the value reported by White, Terry and Hogg (1994). The indirect measure of attitude toward the behavior demonstrated poor reliability (Cronbach's alpha = .54) in predicting intention to use a condom. However, Cronbach's alpha calculated for the direct measure items was .71. Reliability of the perceived behavioral control items was low (.47). This was a considerable difference from the pilot (.71) as well as White, Terry and Hogg's (1994) (.65) findings. While there is no consensus on the acceptable range for alpha coefficients, by most estimation the alpha coefficients reported for this study would be considered low (Winne & Belfry, 1982, Nunnally, 1978, p 238).

Prior to hypothesis testing, the data were examined for mean differences in Collectivist and Individualist categories on self construal items (see APPENDIX H). Consistent with the theoretical foundation of the self construal scale, mean values for most of the interdependent items were significantly higher for Collectivists than Individualists ( $p < .05$ ). Only participants' views on the relative importance of parental advice related to condoms use demonstrated no significant difference in mean values. However, Collectivists (Mean = 1.85, SD 1.1) did demonstrate a slightly higher mean value for this interdependent item than did Individualists (Mean = 1.70, SD 1.0). Consistent with the theoretical foundation of the self construal scale, most mean values for independent items were significantly higher for Individualists than Collectivists ( $p < .05$ ). Only participants' views on the relative importance of where the condom is used (e.g., their home or their partner's home) demonstrated no significant difference in mean values. However, Individualists (Mean = 1.55, SD .90) did demonstrate a slightly higher mean value for this independent item than did Collectivists (Mean = 1.35, SD .79).

Collectivists and Individualists demonstrated no significant differences in mean values for the constructs of the TPB (see Table 10). Collectivists demonstrated slightly higher mean values in the direct measure of attitude toward condom use (Mean = 3.02, SD .34) and perceived behavioral control (Mean = 4.07, SD .90) than did Individualists (Mean = 3.01, SD .31; Mean = 4.05, SD .93 respectively). Individualists demonstrated slightly higher mean values in the indirect measure of attitude toward the behavior (Mean = 12.64, SD 2.6) and subjective norms (Mean = 2.54, SD .90) than did Collectivists (12.21, SD 2.7; Mean = 2.39, SD .92 respectively). Additionally there was no significant difference in Collectivist's intention to use a condom than was reported by

Individualists. However, Individualists did demonstrate a slightly higher mean index value for intention to use a condom when compared to Collectivists.

*Table 10. Comparison of index means for Individualists and Collectivists across constructs of the Theory of Planned Behavior*

		Collectivist	Individualist	Total
Attitude Toward Behavior (direct measure)	Mean	3.03	3.01	3.02
	Std Deviation	.34	.31	.32
Attitude Toward Behavior (indirect measure)	Mean	12.21	12.64	12.44
	Std Deviation	2.7	2.6	2.7
Subjective Norm Index	Mean	2.39	2.54	3.47
	Std Deviation	.92	.89	.90
Perceived Control Index	Mean	4.07	4.05	4.06
	Std Deviation	.90	.93	.94
Intention to Use Condom	Mean	3.63	3.78	3.71
	Std Deviation	1.2	1.1	1.2

No significant differences in means were discovered in high or low Individualist and Collectivist categories.

Prior to performing regression analyses, Spearman correlations between attitudes toward the behavior, subjective norms perceived control, Individualism and Collectivism, and ethnic groups were computed (Table 14). It appeared that there was a significant relationship between students' ethnicity, increased confidence in using or having a condom used, the approval of key people in their lives and intention to use a condom. However, their perceived benefits related to using or having a condom used demonstrated a very low correlation with their intention to use a condom. For perceived behavioral control, the correlation was

*Table 11. Spearman correlations for attitude toward behavior (Direct & Indirect measures), subjective norms, perceived control, Individualist and ethnic groups*

* = p<.05 ** = p<.01	Intention To use condom	Attitude (Direct)	Attitude (Indirect)	Subjective norms	Perceived control	Individ./ Collect.	Ethnicity
Intention To use condom	1						
Attitude (Direct)	.190**	1					
Attitude (Indirect)	.114*	.887**	1				
Subjective Norms	.499**	.194*	.124*	1			
Perceived Control	.672**	.236**	.146**	.477**	1		
Individ./ Collect.	-.065	-.030	-.095	-.081	.026	1	
Ethnicity	.134*	.088	.008	.194**	.068	-.128*	1

$r_{pc*Int} = .67$ ,  $p < .01$ , for intention to use a condom. For subjective norms, the correlation was  $r_{sn*Int} = .49$ ,  $p < .01$ , for intention to use a condom. For attitudes, the correlation was  $r_{Att*Int} = .19$ ,  $p < .01$ , for intention to use a condom. It is anticipated that there would be some significant relationship between the theoretical constructs (i.e., Attitude toward the behavior, subjective norms and perceived behavior control) since they have been posited as collectively being predictive of behavioral intention. However, there were concerns that the significant relationship between perceived control and subjective norms might exceed an acceptable level of association and potentially lead to a problem with multicollinearity in the regression analysis. This was not substantiated during the regression analysis. Calculated tolerance for perceived control and subjective norms were .81 and .82, respectively. Ethnic groups appeared to demonstrate a greater propensity to be intenders (or those who strongly intend to use a condom). In contrast,

Individualists and Collectivists failed to demonstrate any significant pattern in intended condom use. Membership in an ethnic group was positively associated with intention to use a condom ( $r_{\text{eth}*\text{Int}} = .194, p < .01$ ); however membership in either the Individualist or Collectivist groups demonstrated no relationship with intention to use a condom ( $r_{\text{IC}*\text{Int}} = -.065, p = \text{ns}$ ).

### Hypothesis testing

Each participant was informed that they should only complete the survey once. If they had taken the survey at another location they were asked to return the survey and were still eligible to participate in the incentive lottery. This was an attempt to ensure independence of scores.

Graphs were developed for the relationship between observed values and expected values for intention to use a condom (Figure 3), attitude toward the behavior (Figure 4), subjective norms (Figure 5), and perceived control (Figure 6). The points in each graph appear to cluster around a straight line. Therefore the assumption of normality appears to be reasonable for each variable. A scatter plot matrix including intention to use a condom, attitude toward condom use, subjective norm, and perceived control yields points that cluster around a straight line. The lack of a visible curve in the plots supports the decision that the dependent and independent variables should fit a linear regression model.



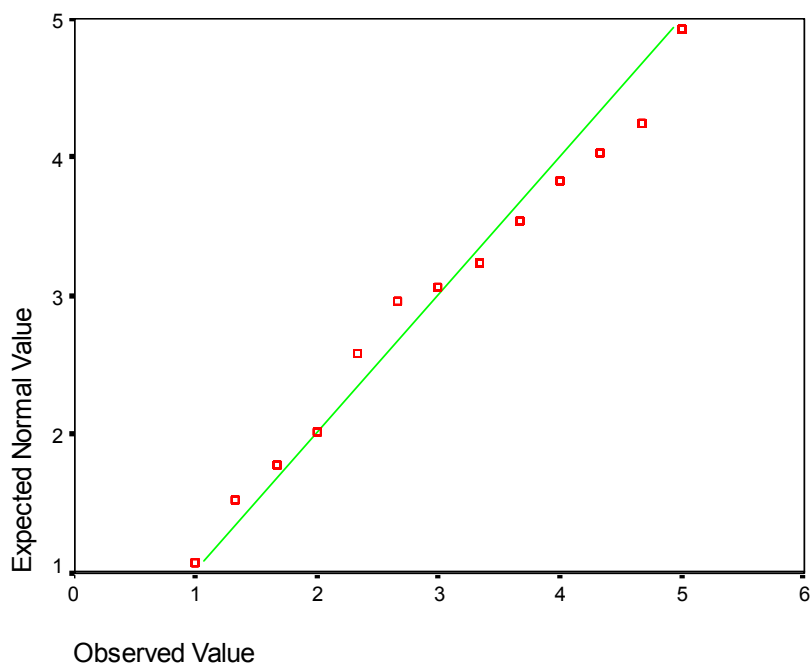


Figure 3. Relationship of expected values and observed values for calculated intention to use a condom indices [Q-Q plot].

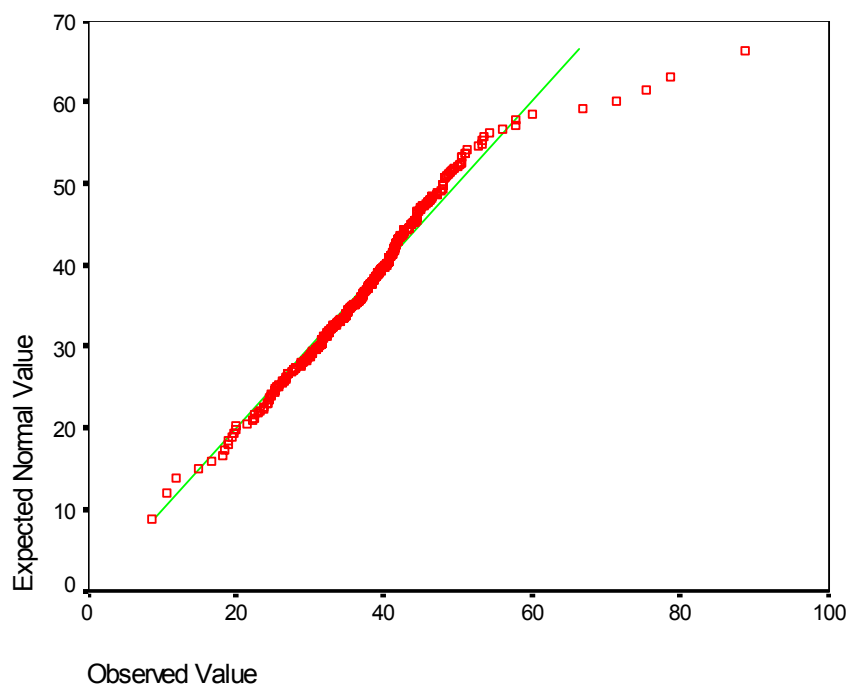


Figure 4. Relationship of expected values and observed values for calculated attitude toward condom use indices [Q-Q plot].

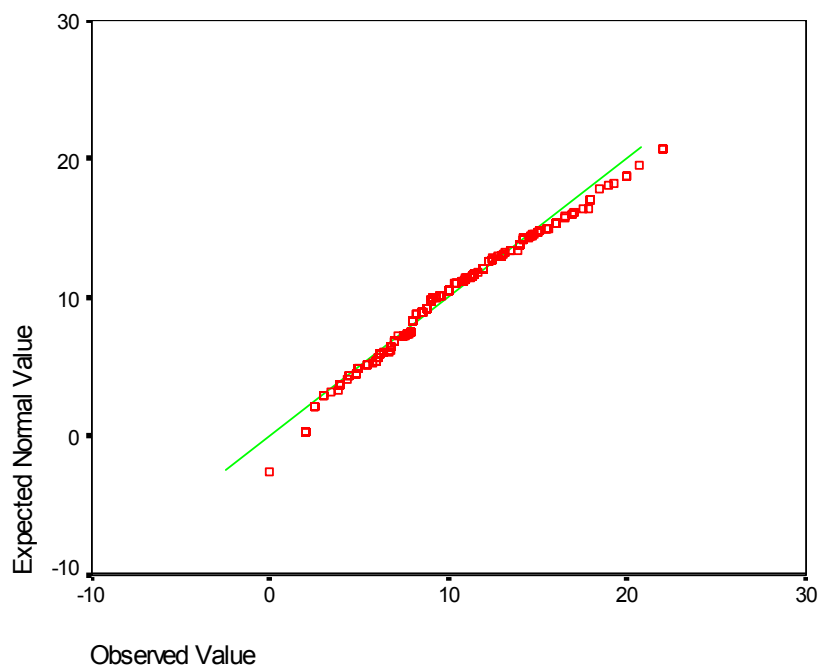


Figure 5. Relationship of expected values and observed values for calculated subjective norms indices [Q-Q plot].

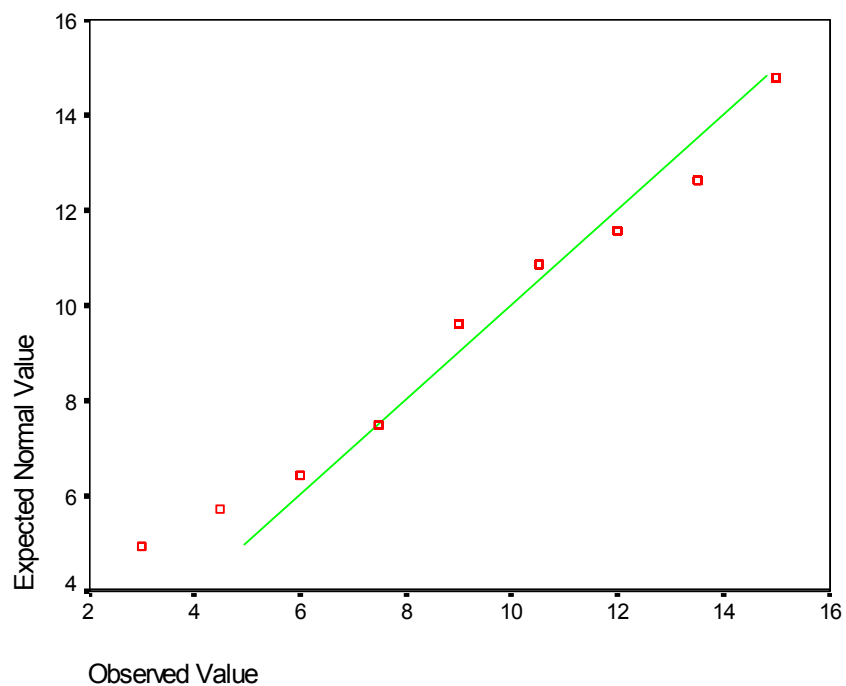


Figure 6. Relationship of expected values and observed values for calculated perceived control indices [Q-Q plot].

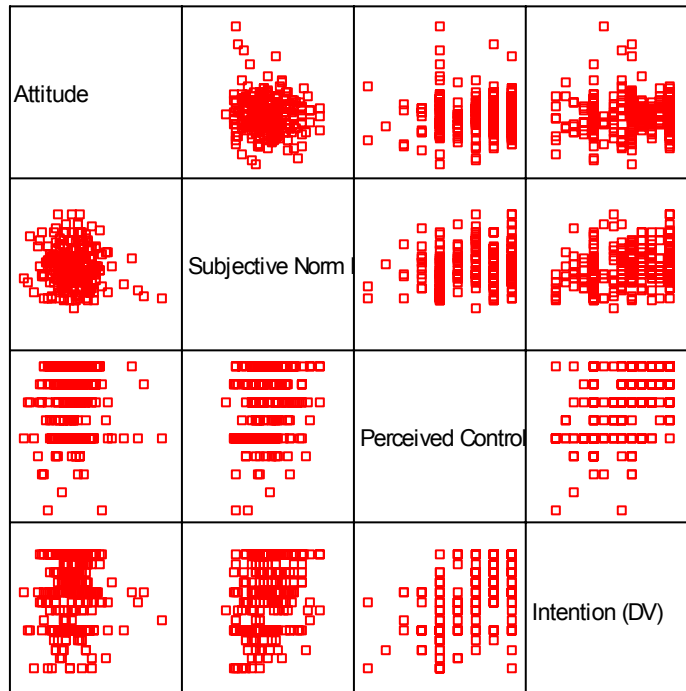


Figure 7. Scatter plot matrix: Intention to use a condom and attitude toward behavior index, subjective norm index, and perceived control index

### Test of Hypothesis 1

A stepwise linear regression was used to examine the differences in the prediction of intention to use a condom in Individualist and Collectivist groups versus racial groups. The stepping method criteria was determined by the probability of F (entry: .05; removal: .10) for each step. Attitude toward behavior and subjective norms were entered in step 1 while perceived control was entered into the model at step 2. Finally, dummy variables were assigned to Blacks (African Americans and Africans), non-Hispanic Whites, Asians (Asians and Asian Americans), Individualist and Collectivist categories were entered at step three.

Forty-nine percent of the variability in the student's intention to use a condom was explained by their attitudes toward condom use, perceived behavioral control, subjective norms, as well as their membership in either White Individualist or Black Individualist groups (Table 12). Inclusion in the Black Individualist and White Individualist groups did not contribute significantly in the variability of student's intention to use a condom ( $R^2_{\text{change}} = .009$ ,  $p < .ns$ ). The relative contribution of membership in the Individualist group to the overall explanatory power of the model was less than the contributions of membership in both the White and Black ethnic groups. The relative contribution of membership in the Individualist group (Beta = .046) was nearly half that of membership in the White ethnic group (Beta = -.089) and approximately a third of membership in the Black ethnic group (Beta = -.137). a fifth of the impact of perceived control (Beta = .63) and equal to impact of subjective norms (Beta = .11) when predicting intention to use a condom (Table 12). Therefore, the inclusion of Individualism and Collectivism in the model did not significantly improve the overall explanatory power of the model nor did it serve as a more significant contributor to the model than ethnicity. For these reasons the results did not support the acceptance of the hypothesis that Individualism and Collectivism would contribute more to the explanatory power of the TPB, and its prediction of intention to use a condom, than would ethnicity.

It appears that White Individualists and Black Individualists were to a greater extent affected by their perceived confidence in using a condom when making the decision to use or have a condom used every time they had sex in the proceeding month. A significantly greater amount ( $R^2_{\text{change}} = .276$ ,  $p < .05$ ) of the variability in

intention to use a condom was explained by the model when perceived behavioral control was added to the model. Students' perceived confidence in using or having a condom used was viewed as a more important factor than the perceived beliefs of key people in their lives. Findings support those reported by Armitage (2001).

*Table 12. Summary of Stepwise Regression Analysis for variables predicting the intention to use a condom in Individualist and collectivist groups (N = 333)*

<i>Variable</i>	<i>B<math>\epsilon</math><math>\alpha</math></i>	<i>R<sup>2</sup></i>	<i>R<sup>2</sup><sub>change</sub></i>
Step 1			
Subjective norm	.435	.220	
Attitude (Direct)	-.109		
Step 2			
Subjective norm	.229	.496	.276
Attitude (Direct)	-.063		
Perceived control	.570		
Step 3			
Subjective norms	.211	.505	.009
Attitude (Direct)	-.059		
Perceived control	.577		
Individualists	.046		
White	-.089		
Black	-.137		

Armitage's meta-analysis of 185 studies using the Theory of Planned Behavior reported that on average the theory explained 39% of the variance in behavioral intention.

Additionally, he reported that the addition of the perceived behavioral control (PBC) construct to the model greatly improved the explanatory power of the overall model to predict intention to use a condom (Armitage, 2001).

### Test of Hypothesis 2

It was hypothesized that subjective norms would contribute more to the explanatory power of the TPB, and its prediction of intention to use a condom, in Collectivist groups than Individualist groups. Likewise it was hypothesized that attitudes toward the behavior would contribute more to the explanatory power of the TPB, and its prediction of intention to use a condom, in Individualist groups than Collectivist groups. Separate regression analyses were performed for both Individualist and Collectivist groups. The Theory of Planned Behavior appears to explain more of the variability in intention to use a condom in Individualist groups than it does with Collectivist groups. Forty-two percent of the variance in intention to use a condom was explained in the Collectivist group (Table 13) compared to 46% percent of the variance in the Individualist group (Table 14). Additionally, both groups appear to be significantly influenced by their perceived confidence in using or having a condom used every time they engaged in sexual intercourse in the proceeding month. However, in both Individualist and Collectivist nonintenders (or those who do not strongly intend to use a condom) were significantly influenced by the perceived approval of key people in their lives. Beta coefficients for both Collectivist and Individualist groups were  $-.101$  and  $-.138$ , respectively.

*Table 13. Summary of Stepwise Regression Analysis for variables predicting the intention to use a condom in the Collectivist group (N = 168).*

<i>Variable</i>	<i>B<math>\epsilon</math><math>\alpha</math></i>	<i>R<sup>2</sup></i>	<i>R<sup>2</sup><sub>change</sub></i>
Step 1			
Subjective norms	-.373	.139	
Step 2			
Subjective norms	-.101	.421	.280
Perceived control	.597		

*Table 14. Summary of Stepwise Regression Analysis for variables predicting the intention to use a condom in the Individualist group (N = 165).*

<i>Variable</i>	<i>B</i>	<i>R<sup>2</sup></i>	<i>R<sup>2</sup><sub>change</sub></i>
Step 1			
Subjective norms	-.341	.116	
Step 2			
Subjective norms	-.138	.468	.352
Perceived control	.627		

In conclusion, the results were consistent with prior research in the area as it relates to the representation of multiple ethnic groups within Individualist and Collectivist groups (Marksu & Kitayama, 1991). The results did not support the acceptance of the hypothesis that Individualism and Collectivism would contribute more to the explanatory power of the Theory of Planned Behavior than would ethnicity as it relates to intention to use a condom. In fact, ethnicity demonstrated a significantly stronger correlation with the dependent variable than did Individualism or Collectivism. Further the results did not support the acceptance of the hypotheses that subjective norms would contribute

more to the explanatory power of the Theory of Planned Behavior in Collectivists and attitude toward the behavior would contribute more to the explanatory power of Individualists. The tendency to be influenced by the perceived approval of key people in their lives as well as perceived confidence in using or having a condom used every time the students engaged in sexual intercourse in the proceeding month were similar in both Individualist and Collectivist groups. Implications of these findings are discussed in the chapter that follows.



## CHAPTER 5

### DISCUSSION

The primary purpose of this research was to investigate whether Individualism and Collectivism is a more effective way than ethnicity of categorizing social groups. To investigate this relationship, a study was performed to identify differences in the prediction of the intention to use a condom in Individualist, Collectivist and ethnic groups. The results of the study suggest that the categorization of this group of students using Individualism and Collectivism was not a more robust way of categorizing social groups when predicting intention to use a condom. Implications of this finding are discussed in greater detail later in the chapter. The second aim of the study was to test the utility of Individualism/ Collectivism as a construct that can be used to predict behavior across ethnic categories. Study findings did not support the ability of Individualism and Collectivism to predict behavioral intent. Likewise the results did not support that there was any significant difference in the subjective norms, attitudes toward condom use or perceived behavioral control of Individualists versus Collectivists. However, the results did suggest that a relationship exists between attitudes toward condom use, subjective norms, perceived behavioral control and membership in an Individualist group, in the prediction of intent to use a condom. Unfortunately, the overall percentage of the variance accounted for by this model is low when compared to previous research performed in this area (Armitage, 2001). It was hypothesized that

subjective norms and attitudes toward the behavior would account for a significant percentage of the variance in the prediction of intention to use a condom for Collectivist and Individualist groups respectively. Additionally, it was hypothesized that perceived control would not have a distinct impact in either Individualist or Collectivist groups. The data did not support either of these hypotheses. Instead perceived behavioral control was discovered to play a significant role in the prediction of intent to use a condom in both Collectivist and Individualist groups. Despite the relatively low percentage of the variance accounted for by these variables, caution should be exercised before dismissing the relevancy of this research until it can be tested with a sufficient sample size. This may play a significant role in accurately categorizing Individualist and Collectivist groups and thereby eliciting true differences in these groups (see “Limitations” section for a detailed discussion).

Implications of this study exist primarily in the area of stratification of social groups. Introducing an alternative method of categorizing study participants that supersedes ethnicity, could promote an improved understanding of different ethnic groups beyond their physical, historical and spiritual characteristics. It promotes an understanding of the arrangement of priorities, social interactions and attitudes that influence the decision making process in persons of all ethnicities. The assumption that every member of a specified group will respond exactly the same way when presented with the same health intervention does not seem justified. Instead, as suggested by this study, individuals exist along a continuum of attitudes that influence the decision making process. Such an implication could potentially alter the way in which health interventions are constructed and implemented. Current strategies that approach

minority populations as highly spiritual or socially connected, based merely on past studies conducted with Black populations would be unjustified. Instead of investigating the relative spiritual beliefs or social connectedness of two distinct groups (e.g., Blacks or non-Hispanic Whites), investigations should focus on the beliefs and connectedness of individuals along a continuum from Individualism to Collectivism. Overall, this study suggests a more logical approach to research in diverse communities that applies a cognitive criterion to differentiating social groups.

Theoretically, this study offers a new challenge when attempting to ensure that current theoretical models are sensitive to potential social group differences. There exists literature that disputes the sensitivity of accepted health theories (Airhihenbuwa, 1994). This research is based primarily on a definition, which uses race or ethnicity (Asante, 1998; Azibo, 1986). The inclusion of Individualism and Collectivism as a means of categorizing social groups will require research to determine if current health theory is sufficient in its ability to account for this new dimension. Perhaps the perceived inadequacy of the Theory of Planned Behavior to account for differences across social groups is not a shortcoming of the theory but instead a failure to sufficiently distinguish social groups. If this is accurate, then this may be the value of Individualism and Collectivism when applied to health research.

#### Research Limitations

Ideally, this study would have benefited from being conducted in a population, which might have made the results generalizable. The use of a college population is innately a self-selected population based on their decision to attend a particular institution. Accompanying this self-selection is the potential for selection bias, which in

this particular case may limit the generalizability of the study to different socioeconomic groups. The literature supports the increasing disparity of rates of HIV and unsafe sex behaviors as income decreases (Crosby et al., 2000). However, after several failed attempts to use a more ideal sample, the decision was made to use a student population. The use of a student population made recruiting of a relatively large sample more feasible. The large sample made it possible for this researcher to isolate the type of participant included in the data analysis. Although this is a convenience sample its use was strengthened by controlling for several confounders (e.g., sexual orientation, sexual activity). Additionally, despite the relatively limited range of ethnicities included in the study, there was still a wide range of self construals represented in the sample. When working with multiple social groups, misinterpretation of measurement tool items could still affect the reliability of the study. However, Cronbach's alphas for the social measure of this study were .54 and .50 respectively for Collectivism and Individualism. This was not consistent with prior research (Singees, 1994). Intention to use a condom was assessed instead of actual condom use. While several studies have supported the importance of intention measures as an index of condom use (Sheeran, & Orbell, 1999, Sheeran & Orbell, 1998), accounting for approximately 20% of the variance in reported condom use (Sutton, 1998), this still remains a potential limitation in estimating the significance of study findings on actual condom use.

Additionally, the literature has revealed relatively low participation rates of Non-White populations in research studies (Baxter et al., 1998, p. 34). However, the use of a student population enabled us to access several organizations with a large pool of Non-White participants. Because the University does not have a very diverse student

population, it is posited by Berry and Kim's (1988) model of acculturation that there are four modes of behavior that could potentially be more pronounced. It is believed that acculturation is encouraged by extreme differences in the percentages of subgroups. In other words, because the University has a low percentage of non-White students, the setting may influence a non-White student's willingness and ability to change, add or retain their cultural identity. Therefore, according to these four modes a student may (1) assimilate, and replace their self-image with the type that is most common – for example an independent (or Individualist) self. A student who is willing to (2) integrate, may develop an independent self in addition to his or her interdependent (or Collectivist) self. Additionally, a student may decide to retain his/her traditional interdependent self, which is called (3) separation. Finally, (4) "marginalization" results when the student's interdependent self image is degraded and not replaced with an independent self image (Berry & Kim, 1988). Therefore, the by-product of each of these modes of acculturation may have influenced the role that Individualism and Collectivism played in predicting intention to use a condom.

The study did not collect data related to the use of alternative birth control methods. This information could have explained some participants' decision not to use a condom. While this is a potential limitation in the prediction of intention to use a condom, the perspective of this study was the utility of condoms as a HIV-AIDS preventive behavior. To this end, the two risk reduction behaviors considered were abstinence and the use of a condom. Those participants who were practicing abstinence at the time of the survey were still allowed to complete the survey, however, they were not included in the data analysis. Those non-monogamous participants who

acknowledged that they were sexually active in the past month were considered by this study at high risk for contracting HIV-AIDS. While this aspect of the study was not the primary focus of the study it was the perspective by which methodological decisions were based.

It should be noted that this study did not assess actual behavior but instead assessed behavioral intentions. According to Fishbein and Ajzen (1975) there should be strong agreement between intention and behavior. There is evidence in the literature that there is a strong link between intention and behavior. Ajzen's (1988) review of the literature reported correlations between intention and actual behaviors ranging from .72 to .96. This included a review of multiple behaviors including contraceptive behaviors (Ajzen & Fishbein, 1980). Fishbein and Ajzen (1975) outlined three factors that may weaken the link between intention and behavior. First, the relationship is weakened if the measures of intention and behavior are not obtained at the same level of specificity. Efforts were made by this study to reduce the potential impact of this weakness by eliminating from the data analysis those participants who were married or engaged in a monogamous relationship for longer than 6 months. This protocol is consistent with the *context* component of Ajzen and Fishbein's (1980) principle of compatibility, which outlined the extent to which the sample is assessed along compatible dimensions. Additional components to be considered are time, target and action. This study's protocol regarding time may have weakened the link between intention and behavior. The study determined levels of sexual activity based on relationship status and included only those individuals who were not in a monogamous relationship at the time or have been for fewer than 6 months. The survey items,

however, assessed intention based on intended behavior in the proceeding one month. This is incompatible. The target (sexual partner) and action (intention to use a condom) were compatible items.

The second factor that could potentially weaken the link between intention and behavior is the instability of a person's intention when faced with an unanticipated event. According to Ajzen (1988) these events as they relate to condom use are typically related to a change in partner. If the partner does or does not wish to use a condom this may ultimately affect the behavior of the individual being assessed. For this reason, individuals who expressed only being in a relationship for less than 6 months were also included in the data analysis. It was proposed that these were relatively new relationships that would still be negotiating contraceptive options.

The third factor that could potentially weaken the link between intention and behavior is the extent to which the behavior is under volitional control. Condom use is not completely under a person's volitional control because it requires skills related to using a condom and it is a decision that must be negotiated. The perceived control construct was used to determine the impact of perceived confidence as well as the relative ease in using a condom.

Fishbein and Ajzen's (1975) protocol for assessing subjective norms requires the performance of an elicitation study that asks participants to identify key referents or those people in their lives who would either approve or disapprove of them using or having a condom used during sexual intercourse. Additionally, during the elicitation study, participants should be asked to list the advantages and disadvantages of using or having a condom used during sexual intercourse. Due to the extraordinary length of the

pilot survey, it was determined that performing an elicitation study was prohibitive. In lieu of this departure from the theory's protocol it was originally determined that the referents used by White, Terry and Hogg (1994) in their Safer Sex Scale, would also be used for this study. Due to poor readability of the direct measure questions, it was decided that the indirect measure of subjective norms be used for this study. However, due to a poor decision by this researcher no items were included to measure motivation to comply, a component that Fishbein (1991) suggested be used also as an indirect measure of subjective norms. As stated previously in the text, prior studies had been performed that did not include measures of motivation to comply (Wulfert et al., 1996, Basen-Enquist & Parcel, 1992, Jemott et al., 1992). Similar to those studies this study still reported a significant association between subjective norms and the prediction of intention to use a condom. Additionally, the goal of this study was to determine the relative impact categorizing groups using the dimension Individualism and Collectivism versus ethnicity would have on the prediction of intention to use a condom. Therefore, while the lack of a motivation to comply measure does violate the theory, it does not impact the goal of the study, which was to ascertain differences in Individualist, Collectivist and ethnic groups.

It should be noted that the items of the self construal subscale have no reversed items. This is an innate flaw of the self construal scale. Therefore it is not known whether the item, "I will sacrifice my self-interest for the benefit of the group I am in", would load positively on the interdependence factor or would load negatively on the independence factor hence be a reversed item there. There is no literature related to



the possibility that the scores are affected by an acquiescence bias. More is discussed related to this limitation in the future research section.

Finally, consistent with Gudykunst (1994) and Singelis (1994), a mean split was used to categorize Individualist and Collectivist groups. The inherent weakness in this technique is that differences between group members could potentially be determined by a mere item response or point value. It is questionable as to whether a significant difference can be discovered between groups that are themselves so similar. The preferred method of categorizing these groups would have been to differentiate groups one standard deviation from the mean. However, when this was performed two thirds of the population was eliminated from the sample thus leaving a remaining sample size of 111 participants. This sample size was not sufficient to perform any meaningful statistical analyses.

### Future Research

It is worth mentioning again that this study was performed with an exploratory focus in mind. It was this researcher's intent to document the utility of Individualism/Collectivism as a means of differentiating social groups as well as assess its utility in the prediction of intention to use a condom. Unfortunately this study does not support the utility of Individualism and Collectivism above and beyond what is cited in the literature or could be achieved when differentiating groups based on ethnicity.

A wide range of self construals were identified in this study. This range of construals includes a group of participants who demonstrated simultaneous independent (Individualistic) and interdependent (Collectivist) construals either in equal

or disproportionate levels. This was demonstrated by nearly two-thirds of the sample scoring within one standard deviation from the mean. Such a scenario elicits the question, what determines the level of Individualism or Collectivism that a participant exhibits? Would their existing levels of Individualism and Collectivism change if the behavior being investigated changed? This line of research was undertaken by Fishbein and Ajzen (1975) concerning the Theory of Reasoned Action. They later contended that the relative importance of attitudes and subjective norms as predictors of intention, will vary as a function of the specific population and behavior under consideration (Fishbein and Ajzen, 1975). Key to answering the questions about the continuum of independent and interdependent self construal will be determining behavioral categories that guide a participant to reference the independent (Individualistic) or interdependent (Collectivist) self. For instance, it may be hypothesized that behaviors that involve the participation or input of another person (e.g., needle sharing) may cause them to reference their interdependent (Collectivist) self. In contrast, it may be hypothesized that behaviors that do not involve the participation or input of another person (e.g., smoking) may cause them to reference their independent (Individualistic) self. Further complicating this research would be the need to investigate how these behavioral categories are affected by varying social settings which may alter self identification (Gaertner et al., 1999 ).

Theoretically, acculturation may play an important role in enhancing independent (Individualistic) and interdependent (Collectivist) self construals. However, while Berry and Kim's (1988) four modes of acculturation have been supported in research with Korean populations they have yet to be tested using additional ethnic groups (Kim, et

al., 1994). If indeed acculturation has a significant affect on the continuum of Individualism and Collectivism identified in a given sample, then isolating its impact may improve the overall utility of Individualism and Collectivism as well as increase the percentage of variance in behavioral intent accounted for by I/C. Unlike Individualism and Collectivism, acculturation may not be applicable in all cases. However, in relevant scenarios it could play an invaluable role in assessing the impact that cultural identity has on behavioral intent and ultimately behavior.

The potential for scores to be affected by an acquiescence bias should be investigated. Agreement acquiescence is the tendency to endorse an item and its own negation (e.g., “desirable” and “not desirable”). Acceptance acquiescence is the tendency to endorse an item and its conceptual opposite (e.g., “desirable” and “unwanted”) (Bentler, Jackson, & Messick, 1971). Therefore it would makes sense conceptually to add some negatively worded items and reverse score them to control for agreement acquiescence in the self construal subscale. The literature states that because the self construal scale uses easily understandable, concrete, “content saturated” items, it would not appear to have a problem with agreement acquiescence (Paulhus, 1991). However, because of the unique relationship of independence and interdependence, acceptance acquiescence is a difficult bias to control. The independent and interdependent subscales do not form a single bipolar dimension. The fact that participants can endorse both independent and interdependent dimensions is the subject discussed earlier in this section. Thus you can not form opposite worded items unless you used “not interdependent” or “not independent “ items which would only control for agreement acquiescence. To date, the extent of the research

conducted to address this topic has focused on seeking positive and negative associations with hypothesized opposites of independent and interdependent self construal (e.g., embarrassability (Singelis & Sharkey, in press) and social anxiety (Sharkey & Singelis, 1994).

In conclusion, while the literature cites several examples of the use of IC with many different ethnic groups, further investigation of its application in the prediction of health behavior should be performed using a more diverse sample (Singelis, 1994; Triandis, et al., 1986). Future studies with diverse samples should also seek to integrate existing health belief models. For Individualism and Collectivism to be accepted as a dimension for categorizing social groups it must establish its utility in conjunction with existing health research theory. Imagine an approach to public health research that encourages participants to express their sense of awareness and their interaction with their surroundings. Participants from various racial, socioeconomic, and spiritual groups can exist within the same category, while simultaneously existing as individuals along a continuum of ideas. How valuable are these ideas? It is hoped that further research in this area will provide the answer to this important question.

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## APPENDICES

## APPENDIX A

Table 1: Gudykunst's (1994) Self Construal Scale psychometric data

Interdependent items [ <i>Cronbach alpha</i> = .74]	Sample (N = 160)			
	F1	F2	L <sub>x</sub>	MI
1. I have respect for the authority figures with whom I interact.	.49	.15	.44	0.71
2. It is important for me to maintain harmony within my group.	.31	.27	.32	5.96
3. My happiness depends on the happiness of those around me.	.48	.01	.43	0.04
4. I would offer my seat in a bus to my professor.	.25	.07	.23	0.04
5. I respect people who are modest about themselves.	.43	.15	.35	2.23
6. I will sacrifice my self-interest for the benefit of the group I am in.	.61	.07	.56	0.42
7. I often have the feeling that my relationship with others are more important than my own accomplishments.	.52	-.10	.43	1.00
8. I should take into consideration my parents' advice when making education/career plans.	.52	-.02	.46	0.52
9. It is important to me to respect the decisions made by the group.	.63	.09	.60	0.43
10. If my brother or sister fails, I feel responsible.	.58	.07	.54	1.31
11. I will stay in a group if they need me, even when I am not happy with the group.	.57	-.16	.47	2.77
12. Even when I strongly disagree with group members, I avoid an argument.	.55	-.34	.44	13.70
<b>Independent items [<i>Cronbach alpha</i> = .70]</b>				
13. I'd rather say "No" directly, than risk being misunderstood.	.10	.43	.32	0.24
14. Speaking up during a class is not a problem for me.	-.09	.55	.41	4.73
15. Having a lively imagination is important to me.	.32	.44	.48	4.49
16. I am comfortable with being singled out for praise or reward.	-.05	.46	.35	1.52
17. I am the same person at home that I am at school.	.13	.25	.10	3.17
18. Being able to take care of myself is a primary concern for me.	.19	.43	.38	1.45
19. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am.	.26	.31	.26	3.98
20. I prefer to be direct and forthright when dealing with people I've just met.	-.17	.34	.25	3.35
21. I act the same way no matter who I am with.	-.14	.66	.52	9.74
22. I enjoy being unique and different from others in many respects.	.14	.76	.74	0.01
23. My personal identity, independent of others is very important to me.	.17	.61	.57	0.36
24. I value being in good health above everything.	.35	.30	.29	5.19

**Note:** F1 and F2 = factor loadings for promax (oblique) rotation of 24 final items; F1 = interdependent; F2 = independent; Sample interfactor correlation = .04, subscale score correlation = .16. L<sub>x</sub> = lambda coefficients (standardized loadings) for target factors in LISREL CFA two-factor model (freely estimated factor correlation); MI = modification indexes for items in CFA (i.e., indicators of potential loadings on nontarget factor).

## APPENDIX B

**Safer Sex Scale** [White, Terry & Hogg, 1994]

1. Age: \_\_\_\_
2. Sex: \_\_\_\_
3. What is your sexual orientation? (circle one number)

homosexual					heterosexual					
exclusively		mainly			bisexual		mainly		exclusively	
1	2	3	4	5	6	7	8	9	10	
4. At the present time are you in a continuing sexual relationship?										
1 Yes					2 No					
5. If you are in relationship, how committed is it? (circle one)										
1	2	3	4	5	6	7	8	9	10	
not at all		a little		fairly		very		exclusively		
6. Have you ever had sexual intercourse?										
1 Yes					2 No					
7. How often have you used a condom in the past year?										
-3	-2	-1	0	1	2	3				
8. Did you use a condom the last time you had sexual intercourse?										
1 Yes					2 No					
9. How often, in the past, have you discussed whether to use a condom with a <u>new</u> partner?										
-3	-2	-1	0	1	2	3				
never			something			always				
10. Did you discuss whether to use condom the last time you had sexual intercourse with a <u>new</u> partner?										
1 Yes					2 No					

## Part A

11. I (circle one number)
 

-3	-2	-1	0	1	2	3
do not intend						do intend

 to use a condom over time I have sexual intercourse during the next month.
12. For me to use a condom every time I have sexual intercourse in the next month will be:
 

Very difficult	-3	-2	-1	0	1	2	3	Very easy
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13. I believe using a condom every time I have sexual intercourse during the next month would be: (circle one number on each line)

unpleasant	-3	-2	-1	0	1	2	3	pleasant
good	-3	-2	-1	0	1	2	3	bad
harmful	-3	-2	-1	0	1	2	3	beneficial
favorable	-3	-2	-1	0	1	2	3	unfavorable
foolish	-3	-2	-1	0	1	2	3	wise
unenjoyable	-3	-2	-1	0	1	2	3	enjoyable
satisfying	-3	-2	-1	0	1	2	3	unsatisfying
useful	-3	-2	-1	0	1	2	3	useless

14. Most people who are important to me think that me, using a condom every time I have sexual intercourse during the next month, is

Undesirable	-3	-2	-1	0	1	2	3	Desirable
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15. How confident are you that you will be able to use a condom every time you have sexual intercourse during the next month, is

Not at all	-3	-2	-1	0	1	2	3	Extremely confident
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16. I intend to use a condom every time I have sexual intercourse during the next month,

-3	-2	-1	0	1	2	3
Extremely UNLIKELY	Quite	Slightly		Slightly	Quite	Extremely LIKELY

17. It is mostly up to me whether or not I use a condom every time I have sexual intercourse during the next month,

Completely False	-3	-2	-1	0	1	2	3	Completely True
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18. If I used a condom every time I have sexual intercourse during the next month, most people who are important to me would:

Approve	-3	-2	-1	0	1	2	3	Disapprove
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19. How difficult will it be for you to use a condom every time you have sexual intercourse during the next month?

Not at all Difficult	-3	-2	-1	0	1	2	3	Extremely difficult
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20. How pleasant or unpleasant do you feel each of the following events would be?

	-3	-2	-1	0	1	2	3		
Extremely UNPLEASANT		Quite	Slightly		Slightly	Quite	Extremely PLEASANT		
Protecting against contracting HIV/ AIDS			-3	-2	-1	0	1	2	3
Protecting against contracting other sexually transmitted diseases			-3	-2	-1	0	1	2	3
Reducing sexual please			-3	-2	-3	0	1	2	3
Preventing you, or your partner, from becoming pregnant			-3	-2	-1	0	1	2	3

Interrupting foreplay	-3	-2	-1	0	1	2	3
Reducing the intimacy of sex	-3	-2	-1	0	1	2	3
Destroying the Spontaneity of sex	-3	-2	-1	0	1	2	3
Being offended by or offending your partner	-3	-2	-1	0	1	2	3
Providing variety in your sex life	-3	-2	-1	0	1	2	3
showing concern for your partner's well-being	-3	-2	-1	0	1	2	3

21. How much control do you have over whether you use a condom every time you have sexual intercourse during the next month?

No control	-3	-2	-1	0	1	2	3	Complete control
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22. I am very certain of my attitude towards using condoms every time I have sexual intercourse during the next month:

very certain	-3	-2	-1	0	1	2	3	very uncertain
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23. How likely do you think the following consequences will be if you use a condom every time you have sexual intercourse during the next month?

-3	-2	-1	0	1	2	3
Extremely Quite UNLIKELY	Slightly	Slightly	Quite	Extremely		LIKELY

Protecting against Contracting HIV/AIDS	-3	-2	-1	0	1	2	3
---	----	----	----	---	---	---	---

Protecting against Contracting other sexually Transmitted diseases	-3	-2	-1	0	1	2	3
--	----	----	----	---	---	---	---

Reducing sexual pleasure	-3	-2	-1	0	1	2	3
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Preventing you, or your Partner, from becoming Pregnant	-3	-2	-1	0	1	2	3
---	----	----	----	---	---	---	---

Interrupting foreplay	-3	-2	-1	0	1	2	3
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Reducing the intimacy of Sex	-3	-2	-1	0	1	2	3
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Destroying the spontaneity Of sex	-3	-2	-1	0	1	2	3
-----------------------------------	----	----	----	---	---	---	---

Being offended by or offending your partner	-3	-2	-1	0	1	2	3
---	----	----	----	---	---	---	---

Providing variety in your sex life	-3	-2	-1	0	1	2	3
------------------------------------	----	----	----	---	---	---	---

Showing concern for your Partner's well-being	-3	-2	-1	0	1	2	3
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24. How much will factors outside your control influence whether you use a condom every time you have sexual intercourse during the next month?

Not at all	-3	-2	-1	0	1	2	3	Completely
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25. I am very confident of my feelings towards using condoms every time I have sexual intercourse during eh next month:

not very confident	-3	-2	-1	0	1	2	3	very confident
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26. How likely is it that each of the following people think that you should use a condom every time you have sexual intercourse during eh next month? (Please circle X is no such person exists)

-3		-2	-1	0	1	2	3
Extremely UNLIKELY	Quite	Slightly		Slightly	Quite	Extremely	LIKELY
Your friends		X	-3	-2	-1	0	1
Your parents		X	-3	-2	-1	0	1
Your doctor/ Medical groups		X	-3	-2	-1	0	1
Your current Partner		X	-3	-2	-1	0	1
Your partner's Parents/family		X	-3	-2	-1	0	1

27. I am very certain about whether or not people who are important to me think that I should use a condom every time I have sexual intercourse during the next month:

Very certain	-3	-2	-1	0	1	2	3	very uncertain
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28. How likely is it that the people who are important you use a condom while having sexual intercourse?

Very Likely	1	2	3	4	5	very unlikely
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29. To what extent would there be agreement amongst the people who are important to you that do use a condom every time on has sexual intercourse is a good think to do?

A large Degree	1	2	3	4	5	A small degree
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30. How much do you feel that whether you use a condom every time you have sexual intercourse during the next month is beyond your control?

Not at all	-3	-2	-1	0	1	2	3	A great deal
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31. I am very confident about whether or not people who are important to me think that I should use a condom every time I have sexual intercourse during the next month:

Not very Confident	-3	-2	-1	0	1	2	3	very confident
-----------------------	----	----	----	---	---	---	---	-------------------

32. Most people who are important to me thing that I

Shouldn't	-3	-2	-1	0	1	2	3	should
-----------	----	----	----	---	---	---	---	--------

use a condom every time I have sexual intercourse during eh next month.

33. How many of the people who are important to you d o you think use a condom while having sexual intercourse?

1 none	2 few	3 some	4 most	5 all
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34. How sure are you about whether or not people who are important to you think that you should use a condom every time you have sexual intercourse during the next moth?

Very sure	-3	-2	-1	0	1	2	3	very unsure
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35. Do you intend to use a condom every time you have sexual intercourse during the next month?

Definitely PLAN TO	-3	-2	-1	0	1	2	3	Definitely PLAN NOT TO
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36. For the people who are important to you, what percentage would think that using a condom every time one has sexual intercourse is a good thing to do?

1 0%	2 about 25%	3 about 50%	4 about 75%	5 100%
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37. How sure are you of your feelings towards using condoms every time you have sexual intercourse during the next month?

Very sure	-3	-2	-1	0	1	2	3	very unsure
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38. How likely is it that each of the following factors will prevent you from using a condom every time you have sexual intercourse during the next month?

	-3 Extremely UNLIKELY	-2 Quite	-1 Slightly	0	1 Slightly	2 Quite	3 Extremely LIKELY
A condom is not available			-3	-2	-1	0	1 2 3
The cost of condoms		-3	-2	-1	0	1	2 3
You and/or your partner Decide that it is not Necessary to use a condom		-3	-2	-1	0	1	2 3
The condom breaks		-3	-2	-1	0	1	2 3
Your partner does not Want to use a condom		-3	-2	-1	0	1	2 3
You are overcome by the Situation and forget		-3	-2	-1	0	1	2 3
You have drunk alcohol or taken some other drug before sexual intercourse		-3	-2	-1	0	1	2 3
The condom is out of date		-3	-2	-1	0	1	2 3

39. How certain are you that you will be able to use a condom every time you have sexual intercourse during the next month?

Not at all Certain	-3	-2	-1	0	1	2	3	Extremely certain
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40. What do you think is the percentage of times people who are important to you use a condom while having sexual intercourse?

1 0%	2 about 25%	3 about 50%	4 about 75%	5 100%
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41. How definite are you about whether or not people who are important to you think that you should use a condom every time you have sexual intercourse during the next month?

Not very definite	-3	-2	-1	0	1	2	3	very definite
-------------------	----	----	----	---	---	---	---	---------------

42. In general, how much are you willing to do what the following people want you to do?

NOT AT ALL	1	2	3	4	5	6	7	VERY MUCH
Your friends	X	1	2	3	4	5	6	7
Your parents	X	1	2	3	4	5	6	7
Other family	X	1	2	3	4	5	6	7

members

Your doctor/ medical groups	X	1	2	3	4	5	6	7
Your current Partner	X	1	2	3	4	5	6	7
Your partner's Parents/family	X	1	2	3	4	5	6	7

43. Would you say there is consensus amongst the people who are important to you about whether using a condom every time one has sexual intercourse is a good thing to do?

Very Likely	1	2	3	4	5	Very unlikely
----------------	---	---	---	---	---	------------------

44. How definite are your ideas towards using condoms every time you have sexual intercourse during eh next month?

Not very Definite	-3	-2	-1	0	1	2	3	very definite
----------------------	----	----	----	---	---	---	---	------------------

45. Please cross out any of the statements with which you strongly disagree:

Using a condom is extremely enjoyable.  
 Using a condom is very enjoyable  
 Using a condom is fairly enjoyable.  
 Using a condom is neither enjoyable or unenjoyable.  
 Using a condom is very unenjoyable.  
 Using a condom is extremely unenjoyable.

46. How often do you worry about the possibility of contracting AIDS?

-3	-2	-1	0	1	2	3
Not at all			Sometimes			Frequently

47. The threat of AIDS is not something that concerns me.

Strongly Agree	-3	-2	-1	0	1	2	3	Strongly disagree
-------------------	----	----	----	---	---	---	---	----------------------

48. How concerned are you that you might contract AIDS?

Very concerned	-3	-2	-1	0	1	2	3	Not at all concerned
----------------	----	----	----	---	---	---	---	----------------------

49. I frequently worry about contracting AIDS.

Completely True	-3	-2	-1	0	1	2	3	Completely false
--------------------	----	----	----	---	---	---	---	---------------------

50. How likely is it that you may catch AIDS from a sexual partner?

Very likely	-3	-2	-1	0	1	2	3	very unlikely
-------------	----	----	----	---	---	---	---	---------------

51. How likely is it that one of your heterosexual friends may catch AIDS from a sexual partner?

Very unlikely	-3	-2	-1	0	1	2	3	very likely
---------------	----	----	----	---	---	---	---	-------------

52. What do you think are your chances of catching AIDS from a sexual partner?

Very high	-3	-2	-1	0	1	2	3	very small
-----------	----	----	----	---	---	---	---	------------

53. There is very little chance of me catching AIDS.



## APPENDIX C

## SELF CONSTRUAL SCALE [Gudykunst, 1994]

Indicate the extent to which you agree or disagree with the following statements:

- [7] Strongly agree
- [6] Agree
- [5] Somewhat Agree
- [4] Neither agree nor disagree
- [3] Somewhat disagree
- [2] Disagree
- [1] Strongly disagree

1. I have respect for the authority figures with whom I interact.
2. It is important for me to maintain harmony within my group.
3. My happiness depends on the happiness of those around me.
4. I would offer my seat in a bus to my professor.
5. I respect people who are modest about themselves.
6. I will sacrifice my self-interest for the benefit of the group I am in.
7. I often have the feeling that my relationship with others are more important than my own accomplishments.
8. I should take into consideration my parents' advice when making education/career plans.
9. It is important to me to respect the decisions made by the group.
10. If my brother or sister fails, I feel responsible.
11. I will stay in a group if they need me, even when I am not happy with the group.
12. Even when I strongly disagree with group members, I avoid an argument.
13. I'd rather say "No" directly, than risk being misunderstood.
14. Speaking up during a class is not a problem for me.
15. Having a lively imagination is important to me.
16. I am comfortable with being singled out for praise or reward.
17. I am the same person at home that I am at school.
18. Being able to take care of myself is a primary concern for me.
19. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am.
20. I prefer to be direct and forthright when dealing with people I've just met.
21. I act the same way no matter who I am with.
22. I enjoy being unique and different from others in many respects.
23. My personal identity, independent of others is very important to me.
24. I value being in good health above everything.

## APPENDIX D

### **Consent Form Sexual Decision-Making Project**

I agree to take part in research titled "Theory of Planned Behavior: Are there differences in the Predication of Intention to Use a Condom in Individualistic and Collectivist Groups", which is being conducted by Mr. Luther Brewster a doctoral candidate in the Department of Health Promotion & Behavior at the University of Georgia [(706)542-3313] under the direction of Dr. Stuart Fors in the College of Health and Human Performance at the University of Georgia [(706)542-3313]. I will complete a questionnaire dealing with sexual beliefs and decision-making processes. I will not be asked to undergo any form of physiological or medical testing.

The purpose of this study is to determine the unique decision making processes, specifically related to condom use, engaged by college undergraduates. There are no reasonably foreseeable physical discomforts or risks associated with this study. There is not likely to be any direct benefit to me, but knowledge gained from this study may contribute to a better understanding of how sexual decisions and consequences affect a person's health status.

My participation in the study will be anonymous. The data will be summarized and reported only in group form. Information that is gathered about me will not be reported to anyone outside the research project in a manner that personally identifies me. I may ask questions about this project of the researcher. I understand that I may refuse to participate in this study, and if I do choose to participate I may stop at any time. If I refuse to participate or decide to stop, I will not be penalized and will not lose any benefits to which I am entitled. I can ask to have information related to me returned to me, removed from the research records, or destroyed.

For questions or problems about your rights please call or write: Chris A. Joseph, Ph.D., Human Subjects Office, University of Georgia, 606A Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address [IRB@uga.edu](mailto:IRB@uga.edu)"

## Appendix E

### Recruitment Script

Hello,

My name is Luther Brewster and I am a doctoral student in the Department of Health Promotion and Behavior here at the University of Georgia.

Your instructor (or advisor) has granted me permission to ask you to complete an anonymous questionnaire regarding the attitudes of University students. The information will be used to fulfill the requirements of my dissertation thesis and will be strictly confidential.

Upon providing me with a completed survey you will be asked to draw one ticket from this bag which will make you eligible to win a \$10.00 gift certificate that can be redeemed at any Warehouse Records.

If you are willing to complete a survey please raise your hand and I will give you a consent letter to read and keep and then you will be given a questionnaire and a scantron. You will need to use a pencil or a black ball-point pen to complete the survey. If you do not have either raise your hand and I can provide you with one.

Now who is willing to complete a questionnaire?

Thank you!

## APPENDIX F

**Culturally Based Intention to Use A Condom PILOT survey**

Indicate the extent to which you agree or disagree with the following statements:

1	2	3	4	5
Strongly Agree	Slightly Agree	Neither Agree nor disagree	Slightly disagree	Strongly Disagree

1. I have respect for the authority figures with whom I interact.
2. It is important for me to maintain harmony within my group.
3. My happiness depends on the happiness of those around me.
4. I would offer my seat in a bus to my professor.
5. I respect people who are modest about themselves.
6. I will sacrifice my self-interest for the benefit of the group I am in.
7. I often have the feeling that my relationship with others are more important than my own accomplishments.
8. I should take into consideration my parents' advice when making education/career plans.
9. It is important to me to respect the decisions made by the group.
10. If my brother or sister fails, I feel responsible.
11. I will stay in a group if they need me, even when I am not happy with the group.
12. Even when I strongly disagree with group members, I avoid an argument.
13. I'd rather say "No" directly, than risk being misunderstood.
14. Speaking up during a class is not a problem for me.
15. Having a lively imagination is important to me.
16. I am comfortable with being singled out for praise or reward.
17. I am the same person at home that I am at school.
18. Being able to take care of myself is a primary concern for me.
19. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am.
20. I prefer to be direct and forthright when dealing with people I've just met.
21. I act the same way no matter who I am with.
22. I enjoy being unique and different from others in many respects.
23. My personal identity, independent of others is very important to me.
24. I value being in good health above everything.
25. I have respect for my sexual partners.
26. I will sacrifice my self-interest, and use a condom, for the benefit of my partner.
27. I should take into consideration my parent's advice when deciding whether I should use a condom.
28. It is important to me to respect my partner's request for us to use a condom.
29. If my sister or brother does not practice safe sex, I feel responsible.
30. I will stay in a sexual relationship, even though my partner does not want us to use a condom.
31. Telling my partner that I think we should use a condom is not a problem for me.
32. The likelihood that we will use a condom is the same at my home as it is at my partner's home.
33. My primary concern is the benefit using a condom has for me.
34. I prefer to be direct and forthright when negotiating whether we should use a condom.
35. I use or ask to use a condom no matter who I have sex with.



36. I value the benefits of using a condom above everything.

37. Age: \_\_\_\_\_

38. Sex: \_\_\_\_\_

39. At the present time are you in a monogamous relationship?

1. No
2. Yes, less than 2 months
3. Yes, more than 2 months but less than 6 months
4. Yes, more than 6 months but less than 1 year
5. Yes more than 2 years

40. What is your ethnicity?

1	2	3	4	5	6	7
African	African	Hispanic	Non-Hispanic	Asian	Asian	Native American
	American		White	American		Pacific Islander
Other _____						

41. I

1	2	3	4	5	6	7
Do not intend						Do intend

to use or have a condom used every time I have sexual intercourse during the next month.

42. For me to use or have a condom used every time I have sexual intercourse in the next month will be

Very difficult	1	2	3	4	5	6	7	Very easy
----------------	---	---	---	---	---	---	---	-----------

I believe using a condom every time I have sexual intercourse during the next month would be:

43. Unpleasant	1	2	3	4	5	6	7	Pleasant
44. Good	1	2	3	4	5	6	7	Bad
45. Harmful	1	2	3	4	5	6	7	Beneficial
46. Favorable	1	2	3	4	5	6	7	Unfavorable
47. Foolish	1	2	3	4	5	6	7	Wise
48. Unenjoyable	1	2	3	4	5	6	7	Enjoyable
49. Satisfying	1	2	3	4	5	6	7	Unsatisfying
50. Useful	1	2	3	4	5	6	7	Useless

51. Most people who are important to me think that I should use or have a condom used every time I have sexual intercourse during the next month, is

1	2	3	4	5	6	7
Undesirable						Desirable

52. How confident are you that you will be able to use a condom every time you have sexual  
concourse during the next month?

1 2 3 4 5 6 7

Not at all confident Extremely confident

53. I intend to use or have a condom used every time I have sexual intercourse during the next month.

1 2 3 4 5 6 7  
Extremely unlikely Extremely likely

54. It is mostly up to me whether or not I use or have a condom used every time I have sexual intercourse during the next month.

1 2 3 4 5 6 7  
Completely false Completely true

55. If I use or have a condom used every time I have sexual intercourse during the next month most people who are important to me would:

1	2	3	4	5	6	7
Approve					Disapprove	

How pleasant or unpleasant do you feel each of the following events would be?

1	2	3	4	5	6	7
Extremely	Quite	Slightly		Slightly	Quite	Extremely
Unpleasant						Pleasant

## 56. Protect Against contracting HIV/AIDS

57. Protecting against contracting other sexually transmitted diseases

## 58. Reducing sexual pleasure

59. Preventing you, or your partner, from becoming pregnant

60. Interrupting foreplay

61. Reducing the intimacy of sex

62. Destroying the spontaneity of sex

63. Being offended by or offending your partner

64. Providing variety in your sex life

65. Showing concern for your partner's well-being

66. How much control do you have over whether you use or have a condom used every time you have sexual intercourse during the next month?

1	2	3	4	5	6	7
No control						Control

67. I am very certain of my attitude towards using or having a condom used every time I have sexual intercourse during the next month:

1	2	3	4	5	6	7
Very uncertain						Very certain

How likely do you think the following consequences will be if you use or have a condom used every time you have sexual intercourse?

1	2	3	4	5	6	7
Extremely Unpleasant	Quite	Slightly	Slightly	Quite	Extremely Pleasant	

68. Protect Against contracting HIV/AIDS

69. Protecting against contracting other sexually transmitted diseases

70. Reducing sexual pleasure

71. Preventing you, or your partner, from becoming pregnant

72. Interrupting foreplay

73. Reducing the intimacy of sex

74. Destroying the spontaneity of sex

75. Being offended by or offending your partner

76. Providing variety in your sex life

77. Showing concern for your partner's well-being

78. How much will factors outside your control influence whether you use or have a condom used every time you have sexual intercourse during the next month?

1	2	3	4	5	6	7
Not at all						Completely

79. I am very confident of my feelings towards using or having a condom used every time I have sexual intercourse during the next month:

1	2	3	4	5	6	7
Not very confident						Very confident

How likely is it that each of the following people think that you should use a condom every time you have sexual intercourse during the next month: (Please mark 0 if no such person exists)

1	2	3	4	5	6	7
Extremely Unlikely	Quite	Slightly		Slightly	Quite	Extremely Likely

80. Your friends

81. Your Parents

82. Other family members

83. Your doctor/ medical groups

84. Your current partner

85. Your partner's parents/ family

86. I am very certain about whether or not people who are important to me think that I should use or have a condom used every time I have sexual intercourse during the next month:

1	2	3	4	5	6	7
Very certain						Very uncertain

87. To what extent would there be agreement amongst the people who are important to you that to use or have a condom used every time one has sexual intercourse is a good thing to do?

1	2	3	4	5	6	7
A large degree						A small degree

88. How much do you feel that whether you use or have a condom used every time you have sexual intercourse during the next month is beyond your control?

Not at all	1	2	3	4	5	6	7	A great deal
------------	---	---	---	---	---	---	---	--------------

89. I am very confident about whether or not people who are important to me think that I should use or have a condom used every time I have sexual intercourse during the next month:

Not very confident	1	2	3	4	5	6	7	Very confident
--------------------	---	---	---	---	---	---	---	----------------

90. Most people who are important to me think that I ...

1	2	3	4	5	6	7
Should not						Should

... use or have a condom used every time I have sexual intercourse during the next month.

91. How sure are you about whether or not people who are important to you think that you should use or have a condom used every time you have sexual intercourse during the next month?

1	2	3	4	5	6	7
Very sure						Very unsure

92. Do you intend to use or have a condom used every time you have sexual intercourse during the next month

1	2	3	4	5	6	7
Definitely plan to						Definitely plan not to

93. How sure are you of your feelings towards using or having a condom used every time you have sexual intercourse during the next month?

1	2	3	4	5	6	7
Very sure						Very unsure

How likely is it that each of the following factors will prevent you from using or having a condom used every time you have sexual intercourse during the next month?

1	2	3	4	5	6	7
Extremely Unlikely	Quite	Slightly		Slightly		Quite Extremely Likely

94. A condom is not available

95. The cost of condoms

96. You and/ or your partner  
decide that it is not  
necessary to use a condom

97. The condom breaks

98. Your partner does not want  
to use a condom

99. You are overcome by the  
situation and forget

100. You have drunk alcohol or  
taken some other drug  
before sexual intercourse

101. The condom is out of date

102. How certain are you that you will be able to use or have a condom used every time sexual intercourse during the next month?

1	2	3	4	5	6	7
Not at all certain						Extremely certain

103. How definite are you about whether or not people who are important to you think that you should use or have a condom used every time you have sexual intercourse during the next month?

1	2	3	4	5	6	7
Not very definite						Very definite

104. How would you say there is consensus amongst the people who are important to you about whether using or having a condom used every time one has sexual intercourse is a good thing to do?

[illegible]

105. How definite are your ideas towards using or having a condom used every time you have sexual intercourse during the next month?

1	2	3	4	5	6	7
Not very definite						Very definite

106. Have you ever had sexual intercourse?

1                      2  
Yes                      No

107. With whom do you have sex?

1 Exclusively Men      2 Exclusively Women      3 Both Men & Women

## APPENDIX G

**Culturally Based Intention to Use A Condom Survey**

Indicate the extent to which you agree or disagree with the following statements:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Strongly Agree</b>	<b>Slightly Agree</b>	<b>Neither Agree nor disagree</b>	<b>Slightly Disagree</b>	<b>Strongly Disagree</b>

1. I have respect for the authority figures with whom I interact.
2. It is important for me to maintain harmony within my group.
3. My happiness depends on the happiness of those around me.
4. I respect people who are modest about themselves.
5. I will sacrifice my self-interest for the benefit of the group I am in.
6. I should take into consideration my parents' advice when making education/career plans.
7. Having a lively imagination is important to me.
8. I am the same person at home that I am at school.
9. I prefer to be direct and forthright when dealing with people I've just met.
10. I act the same way no matter who I am with.
11. I enjoy being unique and different from others in many respects.
12. I will sacrifice my self-interest, and use a condom, for the benefit of my partner.
13. I should take into consideration my parent's advice when deciding whether I should use a condom.
14. The likelihood that we will use a condom is the same at my home as it is at my partner's home.
15. My primary concern is the benefit using a condom has for me.

\*\*\*\*\*

16. Age: 1. 18 2. 19 3. 20 4. 21 5. 22 or older

17. Sex: 1. Male 2. Female 3. Transgender

18. At the present time are you in a monogamous relationship?

1. No
2. Yes, less than 2 months
3. Yes, more than 2 months but less than 6 months
4. Yes, more than 6 months but less than 1 year
5. Yes more than 2 years



19. What is your ethnicity?

1                      2                      3                      4                      5  
 African          African          Non-Hispanic      Asian          Asian  
 American                   White                   American

Other \_\_\_\_\_

20. Have you ever had sexual intercourse?

1                      2  
 Yes                      No

21. With whom do you have sex?

1                      2                      3                      4  
 Exclusively Men      Exclusively Women      Both Men & Women      Does not  
 apply

22. My level of intention to use or have a condom used every time I have sexual intercourse during the next month.

1                      2                      3                      4                      5  
 Do not intend                      Do intend

to use or have a condom used every time I have sexual intercourse during the next month.

23. For me to use or have a condom used every time I have sexual intercourse in the next month will be

1                      2                      3                      4                      5  
 Very difficult                      Very easy

24. How definite are your ideas towards using or having a condom used every time you have sexual intercourse during the next month?

1                      2                      3                      4                      5  
 Not very definite                      Very definite

25. How confident are you that you will be able to use a condom every time you have sexual intercourse during the next month?

1	2	3	4	5
Not at all confident				Extremely confident

26. I intend to use or have a condom used every time I have sexual intercourse during the next month.

1 2 3 4 5  
Extremely unlikely Extremely likely

27. If I use or have a condom used every time I have sexual intercourse during the next month most people who are important to me would:

1	2	3	4	5
Approve				Disapprove

28. How much control do you have over whether you use or have a condom used every time you have sexual intercourse during the next month?

1	2	3	4	5
No control				Complete Control

29. I am very certain of my attitude towards using or having a condom used every time I have sexual intercourse during the next month:

1		2		3		4		5
Very certain								Very uncertain

\*\*\*\*\*

**I believe using a condom every time I have sexual intercourse during the next month would be:**

30. Unpleasant	1	2	3	4	5	Pleasant
31. Good	1	2	3	4	5	Bad
32. Harmful	1	2	3	4	5	Beneficial
33. Favorable	1	2	3	4	5	Unfavorable
34. Foolish	1	2	3	4	5	Wise
35. Unenjoyable	1	2	3	4	5	Enjoyable
36. Satisfying	1	2	3	4	5	Unsatisfying
37. Useful	1	2	3	4	5	Useless

\*\*\*\*\*

**How pleasant or unpleasant do you feel each of the following would be related to condom use?**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Extremely Undesirable Desirable</b>	<b>Slightly Undesirable</b>	<b>Neither</b>	<b>Slightly Desirable/Undesirable</b>	<b>Extremely Desirable</b>

38. Protect Against  
contracting HIV/AIDS

39. Protecting against  
contracting other sexually  
transmitted diseases

40. Reducing sexual pleasure

41. Preventing you, or your  
partner, from becoming  
pregnant

42. Interrupting foreplay

43. Reducing the intimacy of sex

44. Destroying the  
spontaneity of sex

45. Being offended by or offending  
your partner

46. Providing variety in  
your sex life

47. Showing concern for your  
partner's well-being

\*\*\*\*\*

**How likely do you think the following consequences will be if you use or have a condom used every time you have sexual intercourse?**

- | <b>1</b>   | <b>2</b>                     | <b>3</b>                            | <b>4</b>                   | <b>5</b>                    |
|--|------------------------------|-------------------------------------|----------------------------|-----------------------------|
| <b>Extremely<br/>Unlikely</b>  | <b>Slightly<br/>Unlikely</b> | <b>Neither<br/>Unlikely/ Likely</b> | <b>Slightly<br/>Likely</b> | <b>Extremely<br/>Likely</b> |
| 48. Protect Against<br>contracting HIV/AIDS                                  |                              |                                     |                            |                             |
| 49. Protecting against<br>contracting other sexually<br>transmitted diseases |                              |                                     |                            |                             |
| 50. Reducing sexual pleasure   |                              |                                     |                            |                             |
| 51. Preventing you, or your<br>partner, from becoming<br>pregnant            |                              |                                     |                            |                             |
| 52. Interrupting foreplay  |                              |                                     |                            |                             |
| 53. Reducing the intimacy of sex   |                              |                                     |                            |                             |
| 54. Destroying the<br>spontaneity of sex                                     |                              |                                     |                            |                             |
| 55. Being offended by or offending<br>your partner                           |                              |                                     |                            |                             |
| 56. Providing variety in<br>your sex life                                    |                              |                                     |                            |                             |
| 57. Showing concern for your<br>partner's well-being                         |                              |                                     |                            |                             |

\*\*\*\*\*

**How likely is it that each of the following people think that you should use a condom every time you have sexual intercourse during the next month:  
(Please mark 5 if no such person exists)**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Extremely Unlikely</b>	<b>Slightly Unlikely</b>	<b>Slightly Likely</b>	<b>Extremely Likely</b>	<b>No person exists</b>

58. Your friends

59. Your Parents

60. Other family members

61. Your doctor/ medical groups

62. Your current partner

63. Your partner's parents/ family

\*\*\*\*\*

**How likely is it that each of the following factors will prevent you from using or having a condom used every time you have sexual intercourse during the next month?**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Extremely Unlikely</b>	<b>Slightly Unlikely</b>	<b>Neither Unlikely/ Likely</b>	<b>Slightly Likely</b>	<b>Extremely Likely</b>

64. A condom is not available

65. The cost of condoms

66. You and/ or your partner  
decide that it is not  
necessary to use a condom

67. The condom breaks

68. Your partner does not want  
to use a condom

69. You are overcome by the

situation and forget

70. You have drunk alcohol or  
taken some other drug  
before sexual intercourse

71. The condom is out of date

## APPENDIX H

**Collectivists and Individualists comparative mean values for Self Construal and items***Table 1. Mean values of Collectivist and Individualist on self construal scale items.*

	Collectivist Mean (N = 168)	SD	Individualist Mean (N = 165)	SD
Interdependent items				
Respect for Authority	1.44*	.66	1.22	.46
Harmony within Group	1.69*	.79	1.35	.61
Respect Modesty	2.76*	1.14	2.11	.90
Happiness depends on group	1.77*	.74	1.57	.74
Sacrifice Self-Interest	2.47*	1.14	2.02	.89
Consider Parents' Career Advice	1.97*	.99	1.61	.63
Sacrifice Self and Use Condom	1.41*	.59	1.24	.55
Consider Parents Advice on Condoms	1.48	.86	1.70	.97
Independent items				
Imagination Important	1.85*	1.06	1.80	.85
Same Person Home and School	1.63*	.97	2.55	1.12
Forthrightness importance	1.70*	.78	2.64	.95
Act the same despite accompaniment	2.13*	.98	3.20	1.01
Importance of Uniqueness	1.46*	.62	1.87	.80
Condom Use Same Everywhere	1.35	.79	1.52	.90
Condoms Benefit Me	1.58*	.96	1.92	1.09
*Statistically significant at .05 level				

## APPENDIX I

Collectivists and Individualists comparative mean values for Theory of Planned Behavior construct items.

*Table 1 Mean values for Collectivist and Individualist for Theory of Planned Behavior construct items.*

	Collectivists Mean	SD	Individualists Mean	SD
How Definite About Using Condom?	3.64	1.5	3.83	1.5
Attitude Toward Condom Use	2.19	1.6	2.24	1.6
Belief Pleasant	3.34	1.4	3.49	1.3
Belief Good/Bad	1.99	1.4	1.77	1.2
Belief Harmful/Beneficial	4.42	0.1	4.50	1.1
Belief Favorable/Unfavorable	2.42	1.6	2.31	1.5
Belief Foolish/Wise	4.20	1.3	4.45	0.0
Beliefs Unenjoyable/Enjoyable	3.20	1.5	3.36	1.3
Beliefs Satisfying/Unsatisfying	2.68	1.4	2.51	1.3
Beliefs Useful/Useless*	2.00	1.4	1.70	1.2
Beliefs Protect Against Aids	4.49	1.1	4.68	0.3
Beliefs Protect Against STDs	4.48	1.1	4.69	0.9
Beliefs Reduced Sexual Pleasure	2.31	1.2	2.35	1.1
Beliefs Prevent Pregnancy	4.67	0.9	4.76	0.8
Beliefs Interrupt Foreplay	2.65	1.2	2.65	1.1
Beliefs Reduce Intimacy of Sex	2.45	1.1	2.36	0.9
Beliefs Destroy Spontaneity of Sex	2.65	1.1	2.61	1.0
Beliefs Offending Partner	2.78	1.0	2.73	.99
Beliefs Variety in Sex Life	3.27	1.1	3.21	1.1
Beliefs Concern for Partner Well Being	4.36	1.1	4.50	0.3
Outcome Eval Protect Against AIDS	3.87	1.0	3.97	1.0
Outcome Eval Protect Against STDs	3.87	1.4	4.01	1.0
Outcome Eval Reduced Sexual Pleasure	3.39	1.3	3.37	1.2
Outcome Eval Prevent Pregnancy	4.10	0.3	4.26	0.2
Outcome Eval Interrupt Foreplay	3.30	1.2	3.41	1.2
Outcome Eval Reduce Intimacy of Sex	2.95	1.3	3.08	1.1
Outcome Eval Destroy Spontaneity of Sex	3.22	1.2	3.28	1.1
Outcome Eval Offending Partner	2.43	1.3	2.41	1.2
Outcome Eval Variety in Sex Life	2.89	1.2	2.87	1.1
Outcome Eval Concern for Partner Well Being	4.17	0.3	4.31	0.1
Attitude Toward Behavior Index	3.02	.33	3.01	.30
Subjective Norm Index	2.39	.92	2.53	.89
Intention to Use Condom (DV)	3.62	1.2	3.77	1.1
Perceived Control Index	4.07	.91	4.05	.93

\*p<.05