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Using Mixed Methodology to Assess High Risk Sexual Behavior and Adult Stage among Bolivian Truck Drivers

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**USING MIXED METHODOLOGY
TO ASSESS HIGH RISK SEXUAL BEHAVIOR
AND ADULT STAGE
AMONG BOLIVIAN TRUCK DRIVERS**

A Dissertation

**Submitted to the Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of**

**Doctor of Philosophy
in
Curriculum and Instruction**

by

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December 2003

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This work is dedicated to the memory of my father who passed away during the pursuit of this dissertation.

I would like to thank my mother for support. And to my children, who have put up with their father's struggle for so long.

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TABLE OF CONTENTS

LIST OF TABLES	vi
LIST OF FIGURES	viii
LIST OF EQUATIONS	viii
ABSTRACT	ix
CHAPTER 1 Introduction.....	1
Statement of the problem.....	1
Past studies with truck drivers	2
Bolivia	4
Condom use and HIV/STI outlook in Bolivia	5
Theoretical models.....	8
Mixed methodology design outline	10
Research purpose, hypotheses, and aims	12
Definition of terms.....	13
Significance of the study and limitations.....	15
Organization	16
CHAPTER 2 Literature Review	17
Significance of the problem-- truck driver behavior.....	17
Other Bolivian indicators.....	42
Adult stage theory	48
Social cognitive theory	68
CHAPTER 3 Methodology.....	74
Design	76
Participants	88
Data collection	91
Procedures	101
Statistical analysis.....	105

CHAPTER 4	Research Results	109
	Initial phases	110
	Cross-sectional survey descriptive results	126
	Cross-sectional survey-- adult stage investigation.....	140
	Cross-sectional survey-- model analysis.....	147
CHAPTER 5	Workshop Evaluations.....	159
	Evaluations	160
	Historical overview	176
CHAPTER 6	Discussion.....	187
	Major findings.....	187
	Explanations for findings.....	191
	Implications of findings	202
	Limitations	207
	Recommendations.....	210
REFERENCES	215
APPENDICES	227
VITA	329

LIST OF TABLES

Table 1	Percentage of male condom use and motivation in three occupational groups, Bolivia, 1999 (PSI, 2000)	6
Table 2	Bolivian and Santa Cruz province STI rates.....	42
Table 3	Factor analysis summary on ADST reported by Ochse et al. (1986)	64
Table 4	Theoretical workshop components	84
Table 5	Demographic characteristics of initial phase participants	111
Table 6	Demographic characteristics of Bolivian truck drivers, cross-sectional survey.....	128
Table 7	Perception of risk in the trucking occupation	130
Table 8	Type of partner, sex, and STI prevalence in Bolivian truck drivers by age group	132
Table 9	Condom use of Bolivian truck drivers by age group	135
Table 10	Cognitions pertaining to sexual behavior	136
Table 11	Reasons for perceived risk of HIV infection	137
Table 12	Social desirability by age group.....	139
Table 13	Bivariate correlations with cognitive factors and social desirability.....	139
Table 14	Factor analysis summary on ADST	141
Table 15	Stage factors T-test by age group.....	143
Table 16	Bivariate correlation among ADST and social desirability	144
Table 17	Bivariate correlations among cognitions and ADST	146

Table 18	Univariate ANOVA means and F-ratios across three condom use groups	148
Table 19	Pearson Chi-square values across three condom use groups	149
Table 20	MANOVA across three condom use groups	151
Table 21	Multivariate logistic regression factors associated with differences between no condom use and any condom use	152
Table 22	Univariate ANOVA means and F-ratios across three STI history groups.....	153
Table 23	Pearson Chi-square values across three STI history groups	154
Table 24	MANOVA across three STI history groups.....	155
Table 25	Multivariate logistic regression factors associated with differences between no STI and any STI.....	156
Table 26	Number of truck drivers who participated in the workshops.....	160
Table 27	Frequency of workshop attention responses using reflective plot cartoon	162
Table 28	Frequency of workshop attention responses using peer plot cartoon	162
Table 29	Items and highest ranking responses in evaluation by investigator.....	167
Table 30	Condom use proportions, past and present, depending on type of partner	195

LIST OF FIGURES

Figure 1	Reported AIDS cases in Bolivia, by year	44
Figure 2	Data pathways	76
Figure 3	Phases of the investigation by time.....	103
Figure 4	Proportion of STI and last STI caused by partner type, by age group.....	134
Figure 5	Scree plot for ADST factor analysis	141

LIST OF EQUATIONS

Equation 1	Sample size calculation formula	90
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ABSTRACT

Bolivia has a high STI rate and an accelerating HIV/AIDS rate. The majority of the country's newly diagnosed HIV/AIDS cases come from the province of Santa Cruz in eastern Bolivia, where this study took place. In this study, the investigator assessed the notion that Bolivian truck drivers are a bridge population of HIV transmission within heterosexual networks. This investigation determined risks of HIV/STI transmission through interviews, surveys, and workshops given to the truck drivers. Special attention was given to self reports of sexual behavior, cognitions and ego maturation stages, in order to assess risk. Mixed methodology was the research paradigm of choice, utilizing qualitative and quantitative phases. Workshops were designed, implemented, and evaluated.

Analysis was completed on survey results from 246 male truckers (aged 18 to 67). More than half (56%) of these truckers admitted to having sex with casual partners. In addition, from 30% (quantitative inquiry) to 52% (qualitative inquiry) of these truck drivers have had sexually transmitted infections. Three factors predicted condom use: Age, Outcome expectancies, and Perceived social norms. Only one factor predicted STI history: Number of sex partners. Adult stage theory did not directly impact sexual behavior.

A high risk of HIV/STI transmission has been detected in Bolivian truck drivers. This notion supports other studies involving truck drivers, and calls attention to the need for tailored health education programs for this population. Furthermore, younger truck drivers are at greater risk of HIV transmission than older truck drivers, in spite of their increased condom use.

Sexual health workshops for Bolivian truck drivers are worthwhile and can be most effective when co-managed with truck companies or unions. Counseling, testing, and follow up research programs can best be implemented through these already-existing management structures. Future programs need to emphasize other behaviors besides condom use. Workshops should also include truckers' spouses as participants. Lastly, since casual sex partners of truck drivers rarely fit the mold of a commercial sex worker, effort should be made to describe these casual partners and design subsequent workshops for them.

CHAPTER 1

INTRODUCTION

STATEMENT OF THE PROBLEM

Truck drivers are considered facilitators in transmitting the human immunodeficiency virus (HIV), or its manifestation Auto-Immune Deficiency Syndrome (AIDS), or other sexually transmitted infections (STIs). Klov Dahl (1985) recognized early in the HIV/AIDS pandemic that social structures hold consequences above and beyond the characteristics and behavior of the individuals involved. He used the term “cross-sex bridges” (Klov Dahl, p. 1210) to describe same sex relationships found in apparent heterosexual networks of people. Klov Dahl suggested that certain occupations and professions, those which link various regions to at least one urban center, are implicated in sexual disease transmission. Besides mobility, economic well-being is involved in coining the term ‘bridge’ group. Therefore, in some social settings, higher status groups are more susceptible to HIV transmission than less well-to-do groups. Klov Dahl was the first to mention truck drivers as possible bridges in the HIV pandemic, along with students and soldiers.

Morris, Podhisita, Wawer and Handcock (1996) used the term ‘bridge-population’ in a different light. These authors focused strictly on heterosexual networks. Their model of bridge population is one that provides a connection between high prevalent, female core groups such as commercial sex workers (CSW) and low prevalent, monogamous females, through the activities of mobile male partners.

In this study the investigator assesses the notion that Bolivian truck drivers are a bridge population of the latter type, within heterosexual networks. If this is true, Bolivian truck drivers may not only be more susceptible to HIV infection, but they could also be a vector of HIV transmission to others in their community. This investigation determines risks of HIV/STI transmission through interviews, surveys, and workshops given to the truckers. Special attention is given to self reports of sexual behavior, participants' cognitions, and their ego maturation stages in order to assess their risk.

PAST STUDIES WITH TRUCK DRIVERS

Many lower developing countries (LDCs) generate situations in which HIV has invaded new territory along trucking corridors. These corridors seem to harbor high risk behavior and high HIV/STI prevalence not only among truck drivers but also cargo dock/depot workers (Jackson, Rakwar, Richardson, Mandaliya, Chohan, Bwayo et al., 1997; Larcerda, Stall, Gravato, Tellini, Hudes & Hearst, 1996), and casual female partners of transport drivers (Lacerda, Gravato, McFarland, Rutherford, Iskrant, Stall et al., 1997; Nyamuryekung'e, Laukamm-Josten, Vuylsteke, Mbuya, Hamelmann, Outwater et al., 1997; Rao, K., Pilli, Rao, A. & Chalam, 1999; Nzyuko, Lurie, McFarland, Leyden, Nyamwaya & Mandel, 1997). In addition, high risk behavior in truckers, in developed countries such as the United States, has been documented (Stratford, Ellerbrock, Akins & Hall, 2000).

Empirical research first emerged in Africa, concerning the high risk sexual behavior of truck drivers as bridge populations (Carswell, Lloyd & Howells, 1989). Since then, sexual behaviors and HIV/STI prevalence of truck drivers, in Africa and Asia, have been frequently studied. For example, in Burkina Faso, 236 truckers demonstrated a 19% HIV and 9% syphilis prevalence rate. Infection was associated with young age, self-reported condom use, and genital ulcers (Lankoande, Meda, Sangare, Compaore, Catraye, Zan et al., 1998).

Likewise, a Kenyan study with 283 truckers revealed an HIV prevalence of 26%. This infection pool was associated with greater income, longer employment as a trucker, higher education, and lack of circumcision (Mbugua, Muthami, Mutura, Oogo, Waiyaki, Lindan et al., 1995).

In India, Rao and colleagues (1999) reported on results from over 5,700 truck drivers. These truckers demonstrated moderate condom use with CSW, but reported contact with many dozens of CSW per year. The married men showed a higher level of AIDS knowledge than unmarried men. However, the researchers reported a decrease in condom use with age, and an increase of alcohol use with age (Rao et al.). Similarly, Thai truck drivers reported frequent sex with both CSW and regular sex partners (Morris et al., 1996).

To date, only one study has been published concerning Latin American truck drivers and high risk sexual behavior. Lacerda et al. (1997) examined prevalence of HIV/STI in 302 Brazilian truckers. The authors reported an association between stimulant drug use, long-distance driving, and syphilis infection. Seventy-one percent of these truckers were married. Nearly 13% presented with antibodies indicating a past STI. Furthermore, STI status was associated with longer years employed as a trucker. The authors also reported high sexual activity beyond spousal contact (more than 40% of the truckers reported more than one current sex partner) and little condom use with primary partners (Lacerda et al.). These reports indicate that truck drivers may be a major factor in HIV/STI transmission, globally.

Population Services International (PSI, 2000) conducted the first research in Bolivia, issuing evidence that *transportistas* (transporters- bus or truck drivers) there may be considered bridge populations based on their behavior. Nearly a third of the transporters interviewed had multiple sex partners; about 30% admitted to having had an STI.

The rest of this chapter introduces three other themes found in the title. First, why is Bolivia selected as a region in which to conduct research? Secondly, what message should

educational programs for truck drivers contain? And lastly, why use Mixed Methodology and evaluation to arrive at those themes?

BOLIVIA

Bolivia is a moderately sized, landlocked country (about three times the size of Montana) surrounded by five other South American countries. The 2000 population was over 8,300,000 (*Instituto Nacional de Estadística* [INE], 2003). The majority of its people are Catholic (93%); ethnic groups include Quechua (30%), Aymara (25%), and 45% *Castellano* (white-mix) (Central Intelligence Agency [CIA], 1999). The 1998 life expectancy for males was 60 years. Male literacy (those aged 15 and over) registered 90% (Pan American Health Organization [PAHO], 2000).

Some economic indicators look promising. For example, the World Bank reports a gross national product (GNP) annual growth rate of 2% (PAHO, 2000). The 2001 inflation rate posted a record low of 2.0% (CIA, 2002). On the other hand, other indicators look bleak: The 2000 unemployment rate in Bolivia was 7.6%, and the 2001 GDP per capita in U.S. currency was \$2,600 (CIA, 2002). Seventy percent (70%) of Bolivia's citizens live in poverty (CIA, 2002; PAHO, 2000).

Bolivia is divided into nine *departamentos*, or provinces. The largest in area, the province of Santa Cruz, forms most of eastern Bolivia. Their 2000 population was 21.8% of the country's total (1,812,522-- INE, 2003). The various sites for this investigation were in this region, none more than 60 kilometers (km) away from the province capital, the city of Santa Cruz de la Sierra (Appendix A). Here, the ethnic proportion shifts to 20% Quechua/ Aymara, and 80% *Castellano mestizo* (mixed-- INE, 1999). Eastern Bolivia is known for its tropical forests and climate, and extensive river systems. Its economy is diverse in natural

resources: Logging, agriculture, mining, and petroleum comprise the bulk of the regional economy.

CONDOM USE AND HIV/STI OUTLOOK IN BOLIVIA

Bolivia endures a moderate to high birth rate (4.2 children per woman aged 15-49). Women in one nation-wide survey reported low contraception use in spite of moderate knowledge of contraceptive methods. For example, 86% of women of childbearing age knew of contraceptive methods, but only 48% practiced any method (Demographic and Health Surveys [DHS], 1998). Women in the same survey cited the rhythm method as the most common contraceptive method (20%), followed by sterilization (11%). Condom use ranked fifth, at a prevalence of 3% (DHS, 1998).

Condom use is meaningful to document for its dual role in family planning and HIV/STI prevention. Results from the DHS survey indicate that only 2% of Bolivian women reported using condoms during their last sexual relation; 7% of men reported such. In the province of Santa Cruz those figures stayed level for women (2%) and decreased slightly for men (5.6%-- DHS, 1998).

Which populations in Bolivia show more condom use? Younger, single, and urban men demonstrated higher levels of condom use. In addition, "valley" men (as opposed to *altiplano* [highlands] or tropical) and higher educated men were more likely to use condoms than their counterparts (DHS, 1998). There is evidence from Bolivia, too, that high risk populations use condoms more often. This can be seen from survey results with *altiplano* men in high risk occupations. Said findings are shown in Table 1.

Table 1: Percentage of Male Condom Use and Motives in Three Occupational Groups, Bolivia, 1999 (PSI,2000)

	Miners n = 398	Soldiers n = 399	<i>Transportistas</i> [†] n= 150
Condom Use	33%	46%	62%
Of those, motivations for condom use			
To avoid STI	60%	76%	41%
Family Planning	19%	12%	40%

[†]Transporters

‘STI’ may indicate any sexually transmitted infection, but is frequently used to indicate infections registered in a national or regional reporting system. In Bolivia, syphilis, gonorrhea, and HIV/AIDS¹ are reportable STI according to Bolivian Ministry of Health (MOH).

Schmunis, Zicker, Pinheiro, and Brandling-Bennett (1998) reported on Bolivia’s second place rank among eight South American countries in regards to syphilis rates. Moreover, PAHO (2000) reported that Bolivia’s syphilis and gonorrhea rates have increased since the early 1990’s. Indeed, Bolivia’s MOH (2000) confirmed a doubling of the syphilis rate in 1999, from that reported by Schmunis et al. in 1998 (36.8 versus 18.1, per 1000). Yet in some high risk populations, as in commercial sex workers (CSW), STI rates were moderately low in the mid 1990's (Levine, Ravel, Kaune, Vega, Tinajeros, Garnica et al., 1998).

Bolivia has a low HIV/AIDS rate (Caceres & Hearst, 1996; Levine et al., 1998; MOH, 2000; PAHO, 2000; Schmunis et al., 1998). For example, in 1996, the incidence rate in Bolivia was 3.7 (per million). In neighboring Brazil and Peru, the rate was 110.2 and 48.5 respectively (PAHO, 1999). At the end of 1997, Bolivia registered only 179 AIDS cases (PAHO, 1999), but that figure had more than quadrupled by the end of 2001. The 2001 HIV/AIDS case count was about 300% greater than the 2000 case count (Rodriguez, 2002a, 2002b). A better understanding of STI history in truck drivers, their condom use behaviors,

and type and number of sex partners may help explain this sudden acceleration in HIV/AIDS reporting.

Bolivia's HIV/STI rates show geographic diversity. Concerning syphilis, the province of Santa Cruz exhibited rates that were less than half of the rest of the country. Concerning gonorrhea, the province had slightly higher rates than the rest of the country. As for HIV/AIDS, the pattern was similar to gonorrhea-- about 60-65% of newly infected HIV cases were reported from the province of Santa Cruz (Ms. Tamboré, PROSIN, personal communication, 8 March, 2000; Dr. Velasquez, CENETROP, personal communication, 17 February, 2000).

To summarize, five recent developments led to concern and indicate a potential problem in Bolivia: 1) STI is high and has been increasing in recent years; 2) There is a sharp increase in the number of recent HIV cases; 3) Thirty percent of all *transportistas* in west Bolivia (province of La Paz) had CSW contact; about a third of the *transportistas* reported a past STI (PSI, 2000); 4) *Transportistas* do not consider as much condom use as a means to prevent STI compared to other high risk male groups, in Bolivia; 5) The majority of the country's newly diagnosed HIV cases come from the province of Santa Cruz; and 6) the body of literature surrounding truck driver sexual behavior implicates this profession in HIV transmission across the globe. In addition, the Bolivian government is in the process of co-developing part of the continent's first transcontinental highway, which would span from the Atlantic coast in Brazil to the Pacific coast in Chile, transversing Bolivia east to west. The potential exists for increased HIV/STI transmission along corridors that characterize the truck driving industry.

¹ In Bolivia, as in many developing countries, injection drug use (another form of HIV transmission) is nearly nonexistent. Therefore HIV is considered an STI in Bolivia.

THEORETICAL MODELS

Why do Bolivian truck drivers, in spite of more economic stability, high-to-moderate condom use, and perhaps more knowledge of HIV/STI than the general population, put themselves and their spouses at risk for HIV/STI transmission? Two theories were incorporated into this research in order to design education interventions that address the problem: Adult Development Stage Theory (ADST) and Social Cognitive Theory (SCT). The former, ADST, attempts to explain behavior according to naturally accumulating stages of maturity in men, whereas, SCT attempts to explain behavior in the individual by social, personal and cognitive influences.

Adult Developmental Stage Theory (ADST)

Erikson (1959/1980a) states that humans develop through a predetermined unfolding of personalities, in eight stages. His stages dealing with children are reminiscent of Freud's concepts. But Erikson continues to delineate stages throughout adult life. Only two of the eight stages (stages VI and VII) are relevant to the purpose of this study since they deal with adult, working men. Each stage is identified by two opposite qualities. Therefore, stage VI is termed 'intimacy-isolation'. Stage VII is termed 'generativity-stagnation'. Crises spawned by the deficient quality can be resolved through the positive quality.

The positive pole of Erikson's Stage VI is labeled 'intimacy'. Intimacy refers to the ability to be close to another person. This stage accentuates an adult relationship between two independent egos wanting to create something larger than themselves. With this closeness comes commitment, a responsibility absent in earlier stages. One common example of this type of relationship is the husband-wife team. On the other hand, Erikson's stage VII marks middle adulthood. It corresponds to an extension of love for others into the future. It represents less selfishness than the previous intimacy-isolation stage. In this stage the individual feels the need to contribute to 'future generations' or 'society as a whole'.

Erikson (1959/1980a) claims that stage theory is universal and beyond cultural bounds. Therefore, delineating these stages may be key in assessing differences in Bolivian truck driver behaviors. To do so, the investigator borrowed a tool from previous research (Ochse & Plug, 1986) to assess ADST in study participants. Results from associations between these indices and behavioral or cognitive variables may help explain, or suggest, ways to communicate safer sex messages to adult, working men.

Social Cognitive Theory (SCT)

SCT is a carefully crafted response to the failures incurred by Skinner's ideas on operant conditioning (Hogben & Byrne, 1998). The master architect of SCT, Bandura (1977, 1986), describes a triad of self-regulatory behavior, environment, and personal factors influencing the individual. The individual's actions likewise influence this triad in a give-and-take called 'reciprocal determinism'.

The first factor, self-regulatory behavior, is a reflective action under which the self evaluates itself. The second factor, the environment, offers a rich social context for development. People do not always need to experience reinforcement or punishment in order to learn, as proposed by Skinner. Instead, SCT emphasizes learning through peers or mentors by observation of vicarious experiences, or verbal persuasion, or both. The third factor suggests that cognitions can determine the course of actions emanating from an individual. Examples of such determinants are self-efficacy, attitude, outcome expectancy, and perception of social norms.

Combining ADST with SCT might explain progression from one stage to another by shifts in changing social environments or personal cognitions. A younger family man (stage VI) may seem more prone to peer or mentor influence, for example. On the other hand, a mid-life man (stage VII) may seem more independent from peer influence yet more prone to self-reflective judgment. Capturing a shift in character by measurable indices of adult stages

may have important consequences on the effectiveness of adult sex education, especially for truck drivers whose occupation places them in risky, peer-saturated environments.

MIXED METHODOLOGY DESIGN OUTLINE

The study participants were male, Bolivian truck drivers. The research plan consisted of a series of phases beginning with qualitative research methods, and culminating in a quantitative cross-sectional survey. The investigation progressed through six phases.

Phase I: An initial qualitative assessment was done through semi-structured interviews in order to scrutinize the need for such a study. Concurrent interviews occurred with managers of *sindicatos* (unions) to sort out logistics of the future phases.

Phase II: An in-depth qualitative study was done with open-ended questions to adjust terms to Spanish from a pre-existing questionnaire used on Brazilian truck drivers (Lacerda et al., 1997), and concepts developed from U.S. truck drivers (Stratford et al., 2000).

Phase III: Focus groups assessed content in which educational safe sex workshops for truck drivers were to be designed. Focus groups were held to assure representation of different ethnicities and trucking corridors in and out of the city of Santa Cruz.

Phase IV: Construction and testing of the survey tool took place, adjusted to cultural perceptions assessed from the previous phases. The survey instrument was tested to assess reliability of questionnaire items. Program logistics were field-tested.

Phase V: A large cross sectional survey took place at multiple sites, followed by educational workshops. Participants were systematically assigned to participate in one of two workshops, or a control group. The intervention workshops included a video screening, an interactive cartoon, and a condom skills demonstration. A discussion followed which related video content to risk of HIV/STI transmission, and condom use. After this was the trucker

evaluation of the workshops. The participants were finally recruited to return in two to three months to complete a post-test questionnaire.

Phase VI: Post-test survey. Attrition was expected to be 30-35%. In reality it was much worse-- 163/166 did not return-- an attrition rate of 98%. Those who returned were compensated with 20 *Bolivianos* (Bs. 20- about \$4.10) and a substantial discount for a medical checkup at a local clinic. Therefore, findings from these returning participants were not grouped with Phase V results as statistical analysis could not be conducted due to the small sample size.

Data analyses were performed. Content analysis was done on the early phase studies. In regards to the large survey results, descriptive analysis was completed to look for differences among age groups. Factor Analysis was performed to determine ADST groups. Correlational testing was done to assess degrees of association between different indices. ANOVA and Chi-Square testing was completed on a univariate level, using the outcomes condom use and STI history, to explore significant factors which associated with high-risk behavior. MANOVA was performed on cognitions which were expected to be highly correlated, and to control for type-I error. Lastly, multivariate logistic regression was completed on condom use or STI history outcomes to determine which social-economic status (SES), or cognitive factors, to emphasize in future educational design. Concerning evaluations, frequencies of responses were tallied and contents analyzed.

Different phases engaged different paradigms of research. This study utilized Mixed Methodology (both quantitative and qualitative methods) to address the aims. Qualitative and quantitative methods are not mutually exclusive; they may be complementary and used jointly to maximize research strengths and minimize research limitations (Hudelson, 1994; Tashakkori & Teddlie, 1998). In fact, this paradigm has been advocated as the optimal

method in assessing sexual behavior change (Konings, Bantebya, Carael, Bagenda & Mertens, 1995).

Six considerations compelled the investigator to use Mixed Methodology. First, the language and culture of the study population was different than the mother-language and culture of the investigator and potential bias from language/cultural differences needed to be examined. Second, intimate behavioral studies, as in sexual behavior, need to scrutinize the level of deception and agreement of terms found in study populations. Third, Mixed Methodology enhances validity because of reliance on multiple, iterative phases. Fourth, the research developed within the confines of, or lack of, other health education management schemes. The values of these organizations, or of the Bolivian Health Educators (BHE), could have influenced the course of the investigation. Mixed Methodology accepts the flux of research within multi- and/or competing value systems because it embraces a pragmatic inclination. Fifth, Mixed Methodology is a paradigm that endures threats due to changing designs, and/or sudden downsizing. Indeed, in this study, due to economical or unforeseen restraints the original aspirations of the quantitative components were compromised. And lastly, Mixed Methodology captures emerging themes effectively.

RESEARCH PURPOSE, HYPOTHESES, AND AIMS

The purpose of this study was to develop a risk profile of the Bolivian truck driver, to estimate the prevalence of high risk behaviors, to design an educational workshop that addresses the findings, and to arrive at a summative evaluation of such workshops.

The quantitative research hypotheses were: 1) ADST components do not significantly associate with cognitions pertaining to sexual behavior (self-efficacy, outcome expectancies, knowledge, attitudes, perception of social norms, or perception of risk); 2) After controlling for SES, cognitive factors (perception of risk, SCT components), and stage

components, these factors show no differences by condom use groups; and 3) After controlling for SES, cognitive factors (perception of risk, SCT components), and stage components, these factors show no differences by STI history groups.

The aims were to: 1) Discuss language and culture surrounding the study population; 2) Describe Bolivian truckers by SES, behavioral, and cognitive factors; 3) Develop an ADST scale and interpret ADST scores; 4) Determine what variables were associated with condom use and STI history; 5) Determine what variables predicted condom use and STI history, controlling for all other variables; and 6) Design an educational workshop based on pilot qualitative and quantitative assessments.

DEFINITION OF TERMS

ADST: Adult development stage theory.

AIDS: Auto-immune deficiency syndrome, caused by HIV.

Altiplano: The Bolivian highlands; the Andes mountains.

Attitude: A state of mind or set of feelings; a manner of conducting oneself in either a negative or position fashion.

Behavior: The state of a particular action; the manner of self-conduction.

Boliviano: 1) Bolivian citizen 2) Bolivian monetary unit. In 2000 \$1 U.S. = 6.2 Bolivianos; In 2002 \$1 U.S. = 7.0 Bolivianos.

Bridge population: Characterizes a mobile group associated in transmitting infection from high prevalence populations to low prevalence populations, or from high risk groups to low risk groups.

Camba: Bolivian ethnic group describing the traditional lowland, tropical people.

Chica: Bolivian slang for casual partner.

Colla: Bolivian ethnic group describing the traditional highland people.

CSW: Commercial sex worker

Generativity: The desire to invest one's life and work in forms that will outlive the self. The positive aspect of Erikson's seventh stage.

High risk: Pertaining to the higher likelihood to invoke or cause a detrimental consequence. In the case of this study, to be more likely to become infected with HIV or STI.

HIV: Human immunodeficiency virus.

Intimacy: Close personal familiarity, marked by privacy. The positive aspect of Erikson's sixth stage.

KAP: Knowledge, attitudes, and practices.

LDC: Lower developing country.

Midlife transition: The major change occurring in men between stages VI and VII, according to Levinson et al. (1978). Results in a change in perception on many fronts.

Mixed Methodology: The research paradigm which uses qualitative and quantitative research to answer research questions.

MSM: Male sex with other male(s).

NGO: Non-governmental organization.

PAHO: Pan American Health Organization, the Latin American arm of the World Health Organization.

Prevalence: Ratio of the number of existing infected or diseased cases over the total population, at a given point in time.

Prosalud: A Bolivian NGO dedicated to health care for its citizens.

PSI: Populations Services International, an international NGO specializing in marketing locally produced health products in lower developing countries, like condoms or vitamins.

SCT: Social Cognitive Theory.

SES: Social Economic Status.

Sindicato: Trucker's Union, organized on a small scale in Bolivia, usually based on type of cargo and route.

STI: Sexually transmitted infection. Primarily, but not exclusively, syphilis and gonorrhea.

Transportista: Transporter; bus drivers, long distant taxi drivers, or truck drivers.

USAID: United States Agency for International Development (developmental arm of the U.S. government).

SIGNIFICANCE OF THE STUDY AND LIMITATIONS

This investigation is vital because: 1) This was the first sexual behavior study assessing different ego maturation stages and relating them to behaviors and cognitions; and 2) This study focused preventive efforts in a country with an early, but accelerating, heterosexual, HIV/AIDS epidemic. Therefore, if any factors were found that associated with condom use or STI history, those same factors could highlight a curriculum in a safe-sex program targeted for Bolivian males. In addition, if ADST factors were found to associate with condom use or STI history, the curriculum designer could elicit particular motivations from particular stages in a participant.

The major limitation in the cross-sectional survey was attrition. This threat impacted the design of the study to such an extent that it scaled back the design. Another concern was selection bias. Participants were not randomly selected, therefore participants may not have represented the truck driving population in Bolivia. The generalizability of the study was therefore limited. However, triangulation and flexibility from Mixed Methodology addressed these limitations. The remedies to these concerns are treated in more detail in chapter three.

ORGANIZATION

The next chapter, the literature review, pinpoints the extent of the study's significance by addressing past research on related topics. The following chapter, chapter three, outlines the study's methodology. Following that are the research, then the evaluation, results. Lastly, in chapter six, the investigator discusses the findings.

CHAPTER 2

LITERATURE REVIEW

The purpose of this study was to assess high risk sexual behavior in Bolivian truck drivers, through combined qualitative and quantitative methods, and design an intervention (educational workshop) based on these findings. One aim of the study was to assess the degree of adult stage change in the truck drivers and envision how stage information may help design more effective, health education techniques.

This chapter reviews previous publications relevant to this study. The chapter has four sections. The first section reviews the significance of the problem-- the high risk sexual behavior of truck drivers. The second section discusses the current HIV/STI profile in Bolivia. The third section reviews the Erikson theory of developmental stage in adults (ADST). Lastly, the fourth section reviews social cognitive theory (SCT). Discussion of fusing ADST with SCT ensues, with the goal of designing sexual health education interventions.

SIGNIFICANCE OF THE PROBLEM- TRUCK DRIVER BEHAVIOR

This section reviews pertinent information on truck driver sexual behavior. The references chosen for this section are deemed important because they relate to one or more of the following considerations: 1) Historical interest; 2) Subject demographic, epidemiologic, and behavioral differences or similarities; 3) Results of cognitive constructs pertinent to sexual

behaviors; or 4) Latin American affiliation. This section is divided into ten subsections: 1) Truck driver demographics and behaviors in lower developing countries (LDCs); 2) Truck driver cognitions (pertinent to sexual behaviors) in LDCs; 3) U.S. truck driver studies; 4) South American truck driver studies; 5) Discussion; 6) Summary of findings: Demographics; 7) Summary of findings: HIV/STI epidemiology; 8) Summary of findings: Behaviors and partners; 9) Past interventions, and 10) Health modeling. This much is clear-- truck drivers have become one of the more scrutinized populations in HIV/STI research.

Klov Dahl (1985) was the first researcher to speculate that truck drivers would be an important group in HIV transmission. In his social network meta-analysis he coined the term “cross-sex bridges” (Klov Dahl, p.1210) to refer to bisexual men who are well-to-do professionals, mobile, and are more likely to transmit infectious diseases across broad swaths of society. In LDCs, bridge populations may join the ranks of the economic elite. Klov Dahl added that bridge groups include students, soldiers, and truck drivers.

Truck Driver Demographics and Behaviors in LDC

Carswell et al. (1989) published the first empirical study done on sexual behaviors in truck drivers, and reported on their HIV prevalence. Their study focused attention on the heterosexual threat of HIV transmission. These researchers reported a 35% HIV prevalence rate in a small sample of 68 drivers and their assistants, in East Africa. The truckers denied sexual contact with other men and injection drug use. However, they showed high commercial sex worker (CSW) contact, little condom use, and a positive correlation between age and syphilis infection (but not HIV). The age factor was interpreted as older men having greater sexual experience.

In Nigeria, Orubuloye, Caldwell, P. and Caldwell, J. (1993) demonstrated that other occupations outside of truck driving, but dependent on the truck driving industry, may be involved in HIV/STI transmission. In their sample of 258 truckers they found that 78% were married, and had an average of 14 years of driving experience. The truckers reported having higher than average incomes, and lower than average education. Furthermore, 45% of these truckers had an STI, and only 15% used condoms regularly (a little less than half never used condoms). The majority knew about HIV/AIDS, but 95% had sex outside of a primary relationship anyway. The partners of these men were not CSW in the traditional sense but were young market women trying to supplement their income through sex. The truck drivers reported an average of 6.3 current sex partners. Orubuloye et al. suggested that the large number of sexual partners is a phenomenon rooted in culture and would be nearly impossible to change, even in the face of a raging heterosexual AIDS epidemic. Any possibility of launching a successful intervention therefore lies with occupation-based investigations. Indeed, they claimed that truck drivers would make easy targets for condom education campaigns. Furthermore, according to the authors, it would be easy and inexpensive to establish a health service to examine and treat truck drivers for STI and to monitor them for HIV.

Bwayo, Plummer, Omari, Mutere, Moses, Ndinya-Achola, et al. (1994) demonstrated a 27% HIV prevalence in their sample of 501 Kenyan truck drivers and assistants, and established an association between HIV infection and genital sores from STI. Sixty-seven percent of these men were married, and 25% reported a current STI. Significant predictors to HIV infection were frequent contact with CSW (more than one per month), history of STI, and uncircumcised status. Seventy-five percent of these men reported contact with prostitutes.

Mbugua et al. (1995) reported on a similar study, again in East Africa. These authors discovered that, from their multiple regression model, uncircumcised status, higher education, more years experience as a trucker, and higher income predicted HIV infection. Twenty-six percent of their sample of 283 truck drivers and assistants were HIV positive.

Concerning Asian studies, Morris et al. (1996) revisited the notion of bridge population and calculated estimates of the number of women outside of the commercial sex industry who were potentially exposed to HIV due to the truck driving industry. Because truck drivers in Thailand often frequent CSW, the HIV exposure rate to wives and non-CSW partners (extra-marital partners) was large. Twenty-five percent of the truckers in their sample (n=330) were considered to be a bridge population (defined by having unprotected sex with CSW and non-CSW alike, both within the previous six months). The HIV prevalence of this bridge population was double (4%) the prevalence of the non-bridge population of men (2%).

Morris et al. (1996) reported that one third of their subjects had CSW contact within the last six months. The researchers noted an age difference between type of partner, however. Older truck drivers reported more non-CSW partners, younger truck drivers, on the average, reported more CSW partners. With CSW partners, about 75% of the truckers (regardless of age) reported non-consistent condom use, although younger men were a little more consistent. With non-CSW partners, 100% of truckers, in both age groups, demonstrated inconsistent condom use. These authors calculated potential exposure frequencies for wives and non-CSW partners. Surprisingly, the authors found that truck drivers were more likely to infect non-CSW partners rather than wives. Still, the figures for both types of partners were high: Per 100 truck drivers, 18 wives are potentially exposed to HIV within a six months period. Per 100 truck drivers, 20 non-CSW partners are potentially exposed. The authors ended by stating that public health

officials need to use the “occupational culture of truckers to popularize the consistent use of condoms” (p. 1270, Morris et al.).

Truck drivers in India, too, have been of concern because of a high HIV prevalence in the entire population. Verma, Misra, Dey, Islam, Rao and Lakhumalani (1994) reported results from a survey with a sample of 400 Indian truck drivers. Sixty-seven percent of the participants were married and 60% - 65% had visited CSW. STI incidence was 21% - 26%; 36% of the truckers had not heard of HIV/AIDS, and only 22% had ever used condoms.

Rao et al. (1999) reported on a sample of 5709 long distance truck drivers in India, of whom 87% had multiple sex partners and only 11% used condoms with CSW. These authors demonstrated a slight decrease in AIDS transmission knowledge with increasing age, a sharp decrease in condom use with increasing age, and an increase in alcohol consumption with increasing age. They concluded that “drivers aged over 40 were highly vulnerable, and the potential for transmission of sexual diseases by this group is the most threatening” (p.163, Rao et al.).

So far, the profile of truck drivers has been described in areas with high STI or HIV prevalence. They were described as having sex with many non-marital sex partners, many of whom were CSW. To sum up, these studies demonstrated concordance of higher risk of HIV/STI transmission with increasing age, little condom use, a higher than average income, and little knowledge of HIV/AIDS. However, the danger due to aging was explained in different ways. Older truckers may be at risk because, as they age, STI prevalence increases in their cohort (Carswell et al., 1989) and HIV transmission is associated with STI infection (Bwayo et al., 1994; Grosskurth, Mosha, Todd, Mwijarubi, Klokke, Senkoro et al., 1995), or because, as

they age, preference in type of casual sex partner changes (Morris et al, 1996), or because knowledge of HIV/AIDS is less, or because condom use is less (Rao et al, 1999).

On the other hand, two studies surfaced in which discussion of an HIV menace in younger drivers ensued (Lankoande et al., 1998; Rakwar, Lavreys, Thompson, Jackson, Bwayo, Hassanali et al., 1999). Lankoande et al. reported that age under 30 significantly contributed to the likelihood of HIV infection in a sample of 236 truck drivers, in Burkina Faso. Likewise, Rakwar et al. demonstrated that age under 25 contributed to HIV infection in their sample of Kenyan truck company workers. The idea that HIV is a relatively recent pandemic does not directly explain this phenomenon; however, the notion of age differences among men and women partners might. The authors cited research showing that, in Africa, HIV infected women are younger than men. Might not the younger truckers gain higher infection status through partner characteristics?

In Kenya, Jackson et al. (1997) published the first longitudinal study with trucking company employees. Their intervention consisted of a distribution of print media, a condom use workshop, and a counseling session upon drawing blood. Their descriptions of truck driver social economic status (SES) and knowledge of HIV were much the same as the previous studies. The authors' major results, however, showed that frequency of extramarital sex (with CSW or non-CSW) significantly declined after one year, but condom use did not change (only 51% reported ever using a condom).

Other researchers reported the opposite results after an intervention (Zhang, Li, Chen, Liu, Liang, Wang et al., 1998): In China, these researchers examined responses from 364 truck drivers in a cross-sectional, prospective study and found no change in numbers of sex partners. Rather, there was an increase in condom use, doubling in proportion from 38% before

intervention to 68% three months after the intervention. The control subjects showed no change. Interestingly, the partners to these drivers were labeled by the authors as ‘inn-girls’ and not sex workers. Caution is advised in interpretation because the study was not longitudinal; pre-to-post responses were not linked, even though controls were used. This particular study is mentioned not merely for condom use figures, but also because of the low HIV/STI prevalence rates that reflect the Bolivian environment. Chinese truckers reported a 0% HIV, 1% syphilis, and 11% gonorrhea prevalence.

Another country with zero HIV prevalence in truck drivers was Bangladesh (Gibney, Saquib, Macaluso, Hasan, Aziz, Khan et al., 2001). These researchers reported the prevalence of syphilis, gonorrhea, and chlamydia in their sample of 245 truckers (respectively 6%, 2% and 1%), and tried to link them to risk behaviors. Gibney and colleagues collected data on condom use and type of partner. Fifty-four percent of their participants had sex with CSW in the past year; 46% were married. Their mean number of sex partners in the past year was 4.6. Condom use was low-- 73% said that they had never used condoms. Seven percent reported that they had male sex with males (MSM) in the past year. In a regression model the authors demonstrated that sex with CSW in the past year was the only significant risk factor for STI transmission.

At the turn of a new millennium, Ramjee and Gouws (2002) reported on still pessimistic behavior in South African truckers. Out of their sample of 320 truckers, 66% self reported as having had a recent STI. HIV prevalence was 56%, the highest ever reported in a truck driver population. Age and HIV prevalence increased collinearly. This was not the case in the South African general population. Also alarming was the fact that at least 37% of these truckers stopped for casual sex along their route, in which 71% reported some condom use. But only 13% reported condom use with their wives. Anal sex was practiced by 42% of these men, a

practice that facilitates HIV transmission (Seage, Mayer & Horsburgh, 1993; Halperin, 1998). Interestingly, however, in statistical testing neither age, STI history, condom use, nor anal sex practices were associated with HIV infection. The only predictor of HIV infection was site of the truck stop.

One recent study in Asia (Agha, 2000) demonstrated that, of 300 Pakistani truckers interviewed, 34% admitted having had sex with female CSW. The author reported that 49% of these truckers admitted having had MSM sex. Of all studies in this review, this is the largest reported MSM figure. The younger truckers mentioned a higher rate of MSM than older truckers (54% for truckers <30 years; 45% ages 30-39, 44% >39 years), but levels of sex with female CSW rose with increasing age. Most subjects were married (83%). Agha continued to report that knowledge of HIV in his subjects was low. Condom use was also low (3-6% with non-marital partners), but higher with marital partners (8%). Agha interpreted this as evidence that condoms are considered to be more a family planning method in Pakistan, and less a means of combating disease.

For comparison reasons, a study with Bolivian truck drivers should monitor sex with types of partners, condom use, and both of these behaviors stratified by age groups.

Measures of Cognitions (pertinent to sexual behaviors) in LDC Truck Drivers

Researchers in Tanzania reported positive results in a three year intervention study concerning condom use (Laukamm-Josten, Mwizarubi, Outwater, Mwaijonga, Valadez, Nyamwaya et al., 2000), after a series of peer education sessions. The researchers found that, even though there was an increase in condom use after 18 months, there was a slight decrease after participants entered what the authors dubbed a maintenance phase (from 19 to 42 months from the onset of the study). Along with increases in condom use were increases in positive

attitude measures and perception of risk (older truckers' perception of risk increased significantly, but the risk perception of younger truckers did not). As with most studies, condom use was most frequent with casual partners and less frequent with regular partners. Those most likely to use condoms were unmarried, had children, were more educated, had a previous STI, and perceived themselves at risk. The authors claimed that condoms were associated with the notion of unfaithfulness. This notion challenges sexual health education in that condom use messages may emphasize individual health over relationship priorities, messages that should be re-examined. Another challenge addressed by the researchers would be the sustainability of such long lasting education programs.

Perceptions of risk may vary in truck drivers. Rakwar and colleagues (1999) also showed that their subjects demonstrated a high perception of risk and an unusually high knowledge base of HIV transmission. In contrast, Pakistani truckers did not consider themselves at risk for acquiring HIV in spite of high risk behavior (Agha, 2000).

Bryan, Fisher and Benziger (2001) reported on the first health model application involving truckers (n=300), and the first investigation of this kind involving a non-Western population. Their information, motivation, and behavioral skills (IMB) model was subsequently tested. The majority of subjects (Indian truck drivers) were married (81%). Ten percent admitted to having a past STI; 2% admitting to being HIV positive. The researchers demonstrated low and inconsistent HIV/AIDS knowledge in general, but married men were a little better informed. Married participants reported a 25% condom use rate with their wives, and 41% condom use rate with non-marital partners. Ninety-six percent admitted to having sex with women outside of their marriage; 74% admitted to sex with CSW. Eleven percent of married truck drivers reported anal sex with non-spousal partners.

Concerning non-married truckers, 93% of them reported having sex partners, but 76% of these were CSW. Nineteen percent of single truck drivers reported anal sex with their partners.

Bryan et al, (2001) further demonstrated low attitudes toward condom use in their subjects, in general. The researchers found interesting attitude results by type of partner and marital status of trucker. With wives, truck drivers had negative attitudes toward using condoms (particularly affective attitudes such as “condoms do not feel comfortable”), and indifferent attitudes toward discussing condom use. With non-marital partners, married truck drivers demonstrated a more positive attitude than unmarried truck drivers toward discussing condom use, using condoms, and obtaining condoms. Indeed, married men were eight times more likely than unmarried men to have used a condom at the most recent intercourse with a non-marital partner.

Concerning model testing, Bryan et al., (2001) conducted four regression analyses. Two dealt with married truckers, and two dealt with single truckers. They used two condom use outcome variables, one with average reported condom use; the other, most recent condom use. Their independent variables were demographic, IMB, and other sexual behavior parameters. The results showed that behavior skills (condom use and negotiation skills) emerged as the most important determinant in condom use with wives. Their results with the non-marital partners showed that being married, non-Hindu, and having a positive attitude were predictors in condom use.

In concluding with Bryant et al. (2001), low knowledge and low motivation (attitudes) concerning condom use with married partners were troubling signs for a population at high risk for HIV transmission. Coupled with this was a very low perceived risk in the truckers. For example, 92% believed they had no chance of contracting HIV/AIDS in their lifetime. Lastly,

the authors stated that future research and interventions with truckers must also include parallel interventions with CSW, wives, and steady partners.

Cognitions concerning sexual behavior, such as perception of risk, attitude toward condom use, and knowledge of transmission may be useful measures when conducting a study on Bolivian truck drivers.

U.S. Truck Drivers

One publication emerged concerning North American truck drivers. Stratford et al. (2000) conducted an ethnographic study with 71 truck drivers in Florida. All participants were long-haul truckers, and all were white. The mean age was 42; they had an average of 17 years of trucking experience and spent an average of 290 days per year on the road. Most of them were high school graduates; 55% were married.

The authors described four categories of truck driver, identified by the truckers themselves. They were coined ‘highway cowboys’, ‘old hands’, ‘Christian truckers’, and ‘old married men’. The categories were not discrete, but described a continuum of behavior. Furthermore, the categories not only coincided with HIV risk categories, but also with other high risk health characteristics, such as drug abuse and accident-prone behaviors.

The first category was penned ‘highway cowboys’. These truckers were in general younger (average age 33 years), and had less work experience (though still extensive at an average of 12 years). Highway cowboys worked more days per year than the others; they spent more time and money on their vehicles. Indeed, the authors identified the sentiment that these men saw trucking as their life and not just a job. They shared a common perception that they were “real truckers” and “the last of the true, free Americans” (p.740, Stratford et al., 2000).

Eighty-two percent of the highway cowboys in the sample had on-the-road sex, primarily with CSW. Fifty-five percent never used condoms. In addition, most highway cowboys were regular drug consumers. They used a variety of stimulants (caffeine, cocaine, crystal methamphetamine) to help them stay alert while driving, and a variety of other drugs (alcohol, crack cocaine, marijuana) to help them down-time after work. No one in the sample admitted to injecting drugs, yet Stratford and colleagues (2000) identified the concern that many of their CSW partners injected drugs. Some highway cowboys shared non-injecting drugs with their CSW partners.

The second type of trucker was the 'Old hand'. Old hands averaged 46 years of age and demonstrated an average of 19 years experience as truckers (though they were on the road for fewer days per year). They demonstrated more stable sexual relationships, though many reported that when younger they were less restrained, like the highway cowboys. In fact, 45% of the old hands still reported on-the-road-sex; 63% of them never used condoms. The old hands reported less drug use, though they still reported prevalent alcohol use to help relax. The reasons they gave for a more moderate behavior were health concerns, family relations, and/or declines in personal stamina.

The third and fourth type of truck driver were labeled 'Christian truckers' and 'old married men'. These truckers exhibited conservative sexual behavior which prompted Stratford et al. (2000) to join these two categories together. Their average age was 45 years; they reported an average of 19 years trucking experience, but were on the road for fewer days per year than any other group. These participants reported no on-the-road sex; they rarely used condoms with their primary partners. These truck drivers disclosed less drug use, and with fewer types of drugs (though all depressants). Instead of ingesting drugs, the majority would downtime using video

games, TV, and socializing. Christian truckers and old married men were the truckers most likely to vocalize the sentiment that driving a truck was just a job, and not a lifestyle.

Furthermore, Stratford and colleagues (2000) described truckers' identification of four types of casual sex partner. The casual partners most often mentioned were 'lot lizards'. They were local CSW who seldom traveled outside of a trucking radius. Lot lizards were the more frequent drug abusers among truckers' sex partners and needed money to support drug habits. A perception was propagated that lot lizards were becoming younger over time, even as young as 15 years old. A second category of CSW was the 'traveling lady'-- a woman who travels with the trucker, shares rooms, meals, and sex. Traveling ladies did not solicit as much money, but they relied on intercommunications of truckers to secure desired transportation. Many of the younger traveling ladies were reported by the truckers to be runaways. A third category of sex-partner was truck stop employees, often restaurant waitresses or service station and motel reception help. These women did not solicit money for sex.

A concern noted by Stratford et al. (2000) was that the trucking business is placing more time demands on this occupation. Not only must truckers deliver cargo more rapidly than before, but they must spend longer hours doing so. The stress marshals them to use sex as a quick escape, much like drug use. On-the-road sex must be convenient and available. With this in mind, a fourth category of sex partner reported by the authors was the male CSW. Even though most of the subjects denied ever having sex with a male partner (the common perception was that a 'gay trucker' is an oxymoron), some sought male CSW because they were more available and less expensive than female CSW.

Other concerns expressed by the authors included the finding that most truckers knew about HIV risks through homosexual sex and drug injecting transmission. However, they also

denied knowing that female-to-male HIV transmission is possible (through vaginal sex). Many truck drivers claimed that condoms were ineffective in preventing infection. Many expressed a distrust with government in general and were “attracted to antigovernment conspiracy theories about HIV” (p. 746, Stratford et al.).

To summarize Stratford et al. (2000), the authors concluded that, in white North American truck drivers, as one increases trucking experience there is a consequent decrease in high risk behaviors. Younger truckers saw the occupation as a fast, adventurous lifestyle; for older truckers it was seen as a job. The authors stated that truckers themselves should be recruited and trained to design and deliver safe sex messages to other truckers. Furthermore, several categories of casual sex partner were identified, each with a unique set of behaviors. Health promotion programs need to tailor approaches according to each category.

The discussion concerning truck drivers in the U.S. indicates that the same risky behaviors exist even in developed countries, and that STI or HIV may perhaps propagate via transportation hubs as a consequence of development (business demands). The Stratford et al., (2000) study highlighted different categories of trucker and sex partner, and suggested that stress and drugs were associated on some level in risky sexual behavior. Investigation of these same measures in Bolivian truckers may be useful.

South American Truck Driver Studies

Only one published study was found on truck driver sexual behavior in Latin America. Lacerda et al. (1997) was the lynchpin between studies reviewed so far and conception of an intervention design involving Bolivian truckers. These authors studied behavior and HIV/STI status in 300 truck drivers who picked up cargo in the large port city of Santos, Brazil, outside of São Paulo. Lacerda et al. reported that: 1) The city of Santos exhibited the highest AIDS

incidence in South America between 1989 and 1995; 2) CSW in Santos demonstrated a moderately high HIV and STI prevalence rate (at 8% and 10% respectively); 3) there existed many forms of prostitution in the area; and, 4) HIV transmission had shifted primarily to a heterosexual mode of transmission.

The subjects surveyed by Lacerda et al. (1997) had a mean age of 38 years. Seventy-one percent were married; 52% had an education level of less than eight years; 70% of them had been working for ten years or more as truck drivers. Furthermore, 90% of these truckers worked alone; their salary was about five times higher than the average Brazilian citizen. About half of them spent up to one month or more away from home.

The study's findings included disease prevalence-- HIV presence in Brazilian truckers was low-- only 1%. On the other hand, STI prevalence was moderately high, at about 10%. Nearly half (47%) of the truckers reported that they had an STI at least once in their life (the most frequent reported STI was gonorrhea at 38%).

Lacerda et al. (1997) reported on three partner types. First, was a primary partner such as a spouse, or a woman with whom the trucker had children; second, a steady partner; and third, a casual partner with whom the trucker had short term sexual relationships. Casual partners included CSW, 'road girls', and other men's wives and acquaintances. As with other studies, the researchers showed that truckers were more likely to use condoms as the commitment of the relationship diminished. That is, condoms were used more with casual partners than with married partners.

Forty percent of these truck drivers divulged that they had more than one current sex partner. They reported an average of four different sex partners within the last six months. Twenty-one percent reported having sex with CSW, 16% with other men's wives, and 14% with

road girls. About one quarter (24%) disclosed having sex with another man. This Brazilian MSM figure is the second largest ever reported among truck driver studies (Agha [2000] reported the highest).

The results from Lacerda et al. (1997) are consistent with other studies concerning condom use and types of female partners. Condom use was high (54%) with casual partners (CSW, other married women, road girls), decreased to 45% with steady partners, and sharply dropped to 6% with spouses. Therefore, as demonstrated before, there is a significant potential of HIV transmission to the truckers' spouses and their unborn children.

Concerning drug use, no participant acknowledged injecting drugs. However, a stimulant dubbed 'rebite' was used by 43% of the truckers in conjunction with alcohol, to help them stay alert while on the road. The researchers' analysis revealed that rebite was associated with longer experience as a trucker. It was also associated with harder drug use and history of STI infection.

To summarize, Brazilian truck drivers demonstrated high STI rates and high multiple sex partner contact. Evidence from Lacerda et al. (1997) pointed to the eminent possibility of HIV transmission into the trucking workforce, and their families, in Brazil. But, with this study, one runs into a reoccurring argument against such a possibility. Lacerda and associates indicated that condom use between CSW and truckers is relatively high (even though the authors lamented the lack of evidence of condom use with other types of casual partners). Therefore, one asks, how real is the threat of HIV transmission if condom use truly is high? This is one theme that will be investigated in the present study.

The strengths of the Lacerda et al. (1997) study included: 1) Using a questionnaire based on previous research with truck drivers; 2) Piloting the instrument and procedure; 3) Closely examining types of sexual partners with whom truck drivers may socialize; 4) A high

participation rate of 92%; and, 5) Linking STI and HIV infection status with reports of behavior.

The limitations of this study included: 1) No intervention was offered, only referrals; 2) It was not longitudinal; and, 3) The recruitment scheme was non-random (but the authors claimed that a 92% participation rate revealed generalizable results).

Two salient points are raised from the Lacerda et al. (1997) investigation. First, heterosexual/ homosexual boundaries may not be clearly delineated. Second, if extramarital heterosexual behavior is suspected, CSW contact may not be the sole concern. Rather, there may exist other categories of casual sex partner that should be targeted.

Population Services International (PSI) is a non-governmental organization (NGO) dedicated to the health of people in developing countries. PSI has been active in Bolivia since 1995. From November 1998, to December 1999, PSI conducted a study on five, high risk male populations, in western Bolivia (PSI, 2000). The five, high risk groups were police, soldiers, migrant farm workers, miners, and *transportistas* (transporters-- long and short distance bus drivers and truck drivers). The outcomes were knowledge, attitudes, and condom use practices (KAP). The intervention means were through educative videos, also produced by PSI (1999) and funded by United States Agency for International Development (USAID). The results were distributed to USAID, but unpublished.

One finding illuminating the PSI (2000) study was that, in these men, knowledge of HIV/STI transmission, and positive attitude toward condom use, increased after intervention. Another finding from the PSI study showed that in spite of increased knowledge and attitude, condom use decreased. Unfortunately, there were methodological discrepancies between the groups, making interpretation of results difficult. That is, these findings could only be generalized in the police, soldier, and miner groups because they had baseline information with

which to draw comparisons. This finding could not be generalized to *transportistas* or migrant farm workers.

Concerning Bolivian *transportistas*, 48% were married and 45% finished *intermedio* education (education through age 12-- PSI, 2000). PSI reported that more *transportistas* than any other group engaged in sex with CSW (about a third of the subjects), and that more *transportistas* than any other group reported higher condom use with CSW. PSI cited, too, that within the *transportistas* sample, condom use (during last sexual relationship) was highest with CSW (66%), condom use with stable partners ranked second (41%), and condom use was lowest with non-CSW casual partners (35%). A moderately high number of *transportistas*, nearly two thirds (62%), used condoms at least once.

The PSI (2000) report repeatedly verified that knowledge was high in the *transportista* group: 94% had heard of condoms (48% through radio, 45% TV); 86% had heard of AIDS (63% through TV, 47% radio); 81% knew there was no cure for AIDS; 79% had heard of other STI (45% through colleagues, 43% TV). Forty-seven percent of the *transportistas* said that one could contract HIV through CSW contact, and 92% said transmission may occur through sex without condoms. Knowledge of transmission was also high with 73% knowing of congenital transmission, 82% blood transfusion, and 82% needle sharing. The PSI *transportistas* demonstrated success in naming types of STI. Sixty-four percent of the participants named gonorrhea as an STI, 60% named syphilis, 45% named chancroid, but only 36% labeled AIDS an STI. Still, this figure relating HIV to STI was higher than reported by other groups evaluated by PSI (miners 29%, migrant farm workers 21%, soldiers 21%, and police 14%).

Attitude about HIV/AIDS in Bolivian *transportistas* was mixed: Fifty-eight percent of the *transportistas* said they would go to a doctor if infected (8% said they would use natural

herbs instead); 57% said that a colleague with AIDS should leave the workforce “*por temor al contagio*” (for fear of contamination; p. 31). In addition, nearly half of the truckers (47%) admitted they were at risk for HIV infection.

The strengths of this study included sufficient numbers of participants, and pilot testing the survey instrument and the videos. The limitations of the PSI study were: 1) Two groups, *transportistas* and migrant farm workers, did not have baseline data; 2) Pre/post tests were unlinked in the other three groups (miners, soldiers, and police); 3) The selection of subjects was not randomized; 4) There was a lack of information on non-volunteers in which to assess selection bias; 5) The definitions of partner types were not available; and 6) There lacked demographic information in which to assess possible confounders.

In addition, two caveats need to be addressed: First, these high risk groups were highland or *Colla* populations. The tropical lowland truckers of eastern Bolivia may show different results; Second, there is evidence of social desirability taking place in the PSI (2000) study, which was never assessed. This occurs when the subject is prompted to answer what the questioner wants to hear. For example, in the miner, soldier, police group there existed baseline information and post test information with those who did not witness videos. These pre/post controls should have revealed similar results with each other; if there were differences this would be attributable only to background contamination. In asking the subjects about condom use with CSW and non-CSW-casual partners all of the earlier survey responses were much higher than the later survey responses-- two to 18 times higher. This indicates that either earlier queries were asked in a different manner while using the same questions (response bias), the subject was prompted to answer differently at different times (social desirability), or there were other

concurrent events which acted as ‘negative influences’. This last possibility is not a likely event in the face of increasing knowledge.

Lastly, data by age groups were reviewed. A slight age difference was found in condom use between men grouped 21 to 35 years and men grouped 36 to 54 years. In behavior with non-CSW casual partners, both younger and older truck drivers reported higher proportions of condom use than with other partners. In behavior with CSW, both younger and older *transportistas* reported moderately high proportions of condom use. However, in behavior with stable partners, the younger men reported more condom use (52%) than older men (35%) (PSI, 2000). Considering that the major motivation for using condoms in this study was for contraception purposes (39%) as opposed to disease prevention (34%), it is not difficult to see a possible explanation for this difference. It is harder to explain, from the perspective of older *transportistas* (with a high knowledge base, a moderate perception of risk, and with 41% of the older men in contact with CSW during the last six months) why they would put their stable partner at risk for infection.

Summary

Truck driver populations from twelve countries are represented in this review. These studies show that truck drivers are an established high risk group in HIV and STI transmission in both developing and developed countries. HIV prevalence in truck drivers has been mixed; high in Africa, moderate in Asia, low in China and South America. Gibney et al. (2001) and Zhang et al. (1998) reported zero HIV prevalence in their trucker participants. But Ramjee et al. (2002) reported the highest HIV prevalence in truckers, at 54%, in South Africa. The prevalence of other STI reported in truck drivers ranged from 6% in Bangladesh (Gibney et al., 2001) to 66% in South Africa (Ramjee et al., 2002).

There were some interesting findings with social economic status (SES). Concerning income, Mbungua et al. (1995) demonstrated an association between higher income and HIV prevalence in truck drivers. Brazilian truck drivers reported an estimated salary that is five times greater than the average citizen (Lacerda et al., 1997). Nigerian truckers also reported a higher income (Orubuloye et al., 1993). Concerning education, Mbungua et al., showed an association between higher education and HIV prevalence. Laukamm-Josten et al. (2000) demonstrated a positive association between education and condom use. Indeed, in their model, these researchers found that unmarried status, having children, and having a higher education contributed to satisfactory condom use (Laukamm-Josten et al.). By contrast, Bryan et al. (2001) found that a lower education in their participants contributed to less HIV/STI transmission.

From the review about truckers in the U.S. it is clear that this occupation engaged in stressors inducing high risk behavior (Stratford et al., 2000). Stress as a gateway to high risk sexual behavior was not an issue in any other study, possibly highlighting a major difference between developed and undeveloped cultures.

To what extent is drug use involved in truck drivers' lives? Illicit drugs, particularly injection drugs, have been extensively documented as culprits in HIV/AIDS transmission across the globe. From the review of the studies above, injecting drug use in truck drivers was virtually non-existent. Still, drug use as a possible gateway to high risk sexual behavior merits summary across this spectrum of studies. Stratford et al. mentioned drug consumption as a means to relax or escape from work for truckers in the U.S. 'Highway cowboys' share non-injecting illicit drugs with CSW, who are also associated with drug injection; 'old hands' demonstrated an increase in alcohol use. Rao et al. (1999) mentioned high alcohol consumption associated with a decrease in

condom use in older truckers, in India. Lacerda et al. (1997) documented an association between the stimulate 'rebite' and STI infection, in Brazil.

Concerning casual sex, Bryan et al., (2001) reported that 96% of their truck drivers had sex with various types of casual sex partner. Orubuloye et al., (1993) gave of figure of 95% of truck drivers engaging in sex outside of marriage. Rao et al., (1999) showed a 87% rate of truckers who had multiple sex partners. CSW contact has been documented in every truck driver study, most often with very high rates of contact. This review revealed that a range from 25% of truck drivers (Radwar et al., 1999) to 75% of truck drivers (Bwayo et al., 1994) have sex with CSW.

Condom use rates with truck drivers were reported from nine of 19 studies reviewed above, with a range between 4% (Carswell et al., 1989) to 72% (Laukamm-Josten et al., 2000). Condom use with CSW ranged from lows of 3% (Agha, 2000) to 83% (Morris et al., 1996; Rakwar et al., 1999). Obviously, the truckers' long absences from home coupled with myriad cultural, financial, and sexual expectations among human relationships paint a complicated picture. Therefore one cannot avoid discussion of other types of non-marital partners and condom use when discussing truck driver sexual behavior. In terms of condom use with non-CSW casual sex partners a range given from this review fell between 0% (Morris et al.) to a high of 45-54% (Lacerda et al., 1997; Rakwar et al., Stratford et al., 2000).

The majority of truck drivers from all studies were married, except with *transportistas* in Bolivia (PSI, 2000). Condom use with married partners ranged from 6% (Lacerda et al., 1997) to 41% (PSI, 2000), but only eight of the 19 studies reported condom use measures with married partners.

It is clear that truckers discriminate their use of condoms; condom use with CSW is highest, then it drops off with other partners and reaches a low point with wives, in general. For example, research from PSI (2000) on Bolivian *transportistas*' last sexual encounter demonstrated that condom use was highest (66%) with CSW, and lowest with casual non-CSW partners (35%) then rose slightly with stable partners at 41%. By comparison, Brazilian truck drivers demonstrated a 54% condom use rate with casual partners, 45% with steady (non-marital) partners, and a mere 6% reported condom use with primary partners (Lacerda et al., 1997).

Studies that reported age differences in truck drivers show different measurements and mixed results. In terms of disease prevalence, one study cited an increase in age associated with syphilis infection (Carswell et al., 1989); another demonstrated an increase in age associated with HIV infection (Ramjee, 2002). However, some studies documented higher HIV infection risk with younger men (Lankoande et al., 1998; Rakwar et al., 1999). One study demonstrated more CSW contact with younger drivers, and more non-CSW casual sex partner contact with older drivers (Morris et al., 1996). By contrast, one study showed a tendency to increased CSW contact as one aged (Agha, 2000). Some research showed less condom use by older men (PSI, 2000; Rao et al., 1999), but that depended on the type of partner (Morris et al.). Another study showed a slight increase in risk perception in older drivers (Laukamm-Josten et al., 2000).

Concerning anal sex (with any partner), only four of 19 studies posted results concerning this practice. They demonstrated a range in their truck driver populations of 1% (Bwayo et al., 1994) to 42% (Ramjee et al., 2002).

Agha (2000) showed that 49% of his subjects, in Pakistan, engaged in MSM practices at least once. On the other end of the spectrum, Carswell et al. (1989) reported that 0% of their

subjects, in Kenya, reported this practice. In the midrange were Brazilian truckers, at 24%. There was no information on Bolivian *transportistas* and MSM. Again, only four of the 19 studies reviewed above collected this information. Of those four, there were no details on potential reporting biases generated from a self-reporting format.

Interventions and Modeling

Of the 19 truck driver studies reviewed here, only four reported interventions. Three of the four collected pre and post measurements with which to assess impact on intervention. Laukamm-Josten et al. (2000) demonstrated that attitudes towards condoms increased, and risk perception increased slightly, but that knowledge decreased after their intervention. These researchers coincidentally measured an increase of STI in their subjects. This may be explained by a heightened awareness in health due to the interventions, thus increased willingness to report and better reporting of STI. The Bolivian study (PSI, 2000) reported another unexpected outcome, that knowledge increased in their subjects after an intervention, but condom use decreased.

Only two of the 19 studies offered health models with which to frame outcomes. Morris et al (1996), defined “bridge population” and “non-bridge population” and divided their subjects into one of two of those categories. They concluded that 25% of their truckers fit into the category of “bridge population” (defined as having both CSW and non-CSW sex partners within the last six months) which made them more likely to become HIV positive. They made a series of recommendations in their discussion, including: 1) Target younger men with sexual health interventions; 2) Target truck drivers with educational interventions but also consider them as a means to promote education; and 3) Promote safer sex skills to young women outside the sex industry.

Bryan et al. (2001) applied an IMB model to their subjects and demonstrated that married truckers showed improved attitudes towards condoms only with CSW, but poor overall attitudes toward condom use with wives. They also reported low perceived risk. The authors' recommendations included: 1) Continued intervention efforts with truck drivers; 2) Parallel interventions with CSW, and 3) Development of educational intervention with spouses of truck drivers.

Though there is no paucity in truck driver studies about high risk sexual behavior, science has barely touched upon the complex cultural contexts and social contracts binding different types of sexual relationships engaging the truck driver. More over, practically no health education models have been tested with which to try to deal with the problem.

A clear definition of 'casual partner' was lacking in many studies making it hard to compare across studies. In addition, a mega-analysis would be difficult because of different definitions of condom use. Some authors reported 'ever used' condom use. Others reported 'used in the last year', or 'last three months', or 'last month'. Still others used the construct 'consistent' condom use, or 'condom use during last sex act'. Even if the studies used a standard reporting format on condom use, this skill may not be a true indicator of decreasing risk in sexual behavior. It is not clear if other measures of risk, such as increased visits to health clinics, or a decrease in sex partners, have been as (or more) successful in decreasing risk of HIV infection (Aral & Peterman, 1996). For example, Jackson et al. (1997) reported a decrease in number of sex partners and no change in condom use after an intervention. By contrast, Zhang et al. (1998) demonstrated the exact opposite—an increase in condom use but no change in number of sex partners. Which intervention was more effective?

This investigator was prompted from the literature to assess, in Bolivian truck drivers:

- Types of partners classified by the truckers.
- Sexual behavioral indicators other than condom use.
- Stress or any drug use association.
- Age differences.
- Truck drivers only and not *transportistas*.
- MSM and anal sex measures.
- Social desirability.

Lastly, the investigator would need to introduce a model with which to assess cognitions pertaining to sexual behavior, and possible determinants interacting with cognition.

OTHER BOLIVIAN INDICATORS

This section examines the environment of Bolivian truck drivers in terms of HIV/STI epidemiology in Bolivia. Furthermore, the section attempts to report on behaviors of other high risk populations within Bolivia.

HIV/STI Profile in Bolivia

Concerning STI, Schmunis et al. (1998) reported on Bolivia's relatively high syphilis rate (18.1 per 1000) in the early 1990's. Bolivia ranked second of eight South American countries in terms of syphilis prevalence, and was twice the rate compared to one of Bolivia's closest neighbors, Peru. Since then, syphilis and gonorrhea rates in Bolivia have increased (PAHO, 2000). Bolivia's Ministry of Health (MOH, 2000) confirmed a doubling of the syphilis rate, in 1999, from that reported by Schmunis et al. (36.8 vs 18.1 per 1000-- Table 2). Figures since year 2000 were unavailable.

Table 2: Bolivian National and Santa Cruz Province STI rates*

	National			Province		
Year	1997	1998	1999	1997	1998	1999
Syphilis	33.2	32.2	36.8	13.4	15.5	14.7
Gonorrhea	68.1	65.6	67.8	72.4	75.7	59.7

*per 1,000 (MOH, 2000)

On the other hand, compared to her neighbors, Bolivia posts a low, but increasing, HIV/AIDS rate (Caceres et al., 1996; Levine et al., 1998; MOH, 2000; PAHO, 2000; PAHO, 2003; Schmunis et al., 1998; UNAIDS, 2003). For example, the 1996 HIV incidence rate in Bolivia was 3.7 (per million). In neighboring Brazil and Peru the rate was 110.2 and 48.5 respectively (PAHO, 1999). Five years later, PAHO (2003) reported an incidence of 6.8 for Bolivia, 17.9 for Brazil, and 24.7 for Peru. Partially through 2001, according to the PAHO, Bolivia registered only 349 AIDS cases. Yet the Joint United Nations Programme on HIV/AIDS estimated 4,600 living HIV afflicted individuals in Bolivia by the end of 2001 (still meager compared with other countries). But, one cannot help noticing a closing gap with neighboring countries when looking at incidence trend data.

Though AIDS case reporting began in Bolivia in 1984 (UNAIDS, 2003; Wright, 2000) HIV/AIDS surveillance mandated from MOH evolved throughout the 1990s. The nascent reporting system still faces many obstacles. Some of these obstacles are: 1) HIV reporting as opposed to AIDS reporting is new and covers many more cases that are often clandestine; 2) A lack of case definition standardization from one reporting source to another; 3) More than one agency claiming authority for reporting in Bolivia (for example, between the national Laboratory system that does HIV testing, and MOH; 4) Little or no reporting from private physicians; 5) HIV infected residents of Bolivia may travel out of the country to receive treatment (because antiretroviral therapy cannot be found in Bolivia), and are thus unknown to Bolivian surveillance authorities; and 6) Underreporting due to delays in reporting from local to international health authorities, or because of a lack of resources due to Bolivia's LDC status.

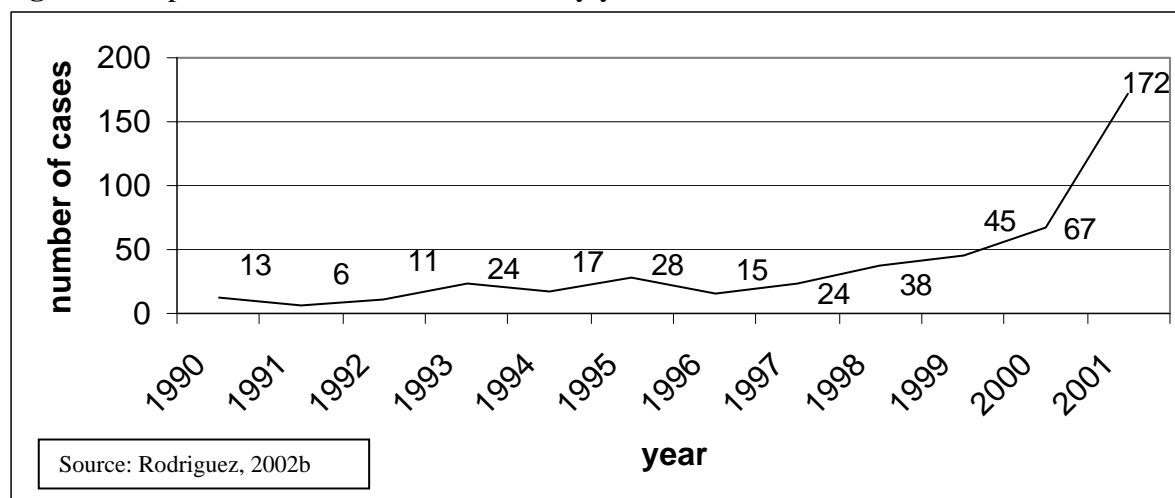
An obstacle is illuminated with this example: though PAHO reported 349 cases in Bolivia partially through year 2001, MOH reported 740 cases through October 2001 (Escobar,

2001b; Ms. Tamboré, PROSIN, personal communication, 15 Nov, 2001). This discrepancy may be explained by a delay of information from one health authority to another.

PAHO (2000) estimated that at the end of 1997 as few as 7% of HIV/AIDS cases were actually reported in Bolivia. If that is the case, then there may have been as many as 7,000 HIV infected individuals in Bolivia, through June of 1999, perhaps thousands more through the new millennium. One French NGO in Santa Cruz estimated there are over 5,000 HIV infected individuals in the province of Santa Cruz alone (Fernandez, 2002).

One thing is certain, Bolivia is witnessing a spike in reported HIV/AIDS cases in recent years. By mid-year 2002, MOH had reported 848 cumulative cases (Rodriguez, 2002a). Even the 2001 number of 172 reported cases shows an increase of 300% over the number reported in 2000. The origins of this alarming trend are visualized in Figure 1.

Figure 1: Reported AIDS cases in Bolivia, by year



Bolivia demonstrates HIV/AIDS and STI geographic diversity. This may be important because different areas may exacerbate the spread of HIV more rapidly than others, due to varied high risk behaviors within one country. This phenomenon has been documented in Columbia (Garcia-Bernal, Klaskala, Castro, Zhang & Baum, 1997), where the prevalence of HIV is greater

in the tropical areas than in the highlands. Concerning syphilis in Bolivia, the province of Santa Cruz exhibits rates that are less than half of the rest of the country. Concerning gonorrhea, the province has slightly higher rates than the rest of the country (excluding 1999 data). Likewise with HIV; about 60-65% of newly infected HIV cases come from the province of Santa Cruz (Escobar, 2001b; Ms. Tamboré, PROSIN, personal communication, 8 March, 2000; Dr. Velasquez, CENETROP, personal communication, 17 February, 2000).

HIV Transmission information is sketchy in Bolivia. But there are indicators with which to compare and contrast. For example, at a fundamental level one could examine the male to female ratio of cases for any year. An MSM-driven epidemic would elicit a high male to female ratio. On the other hand, a strictly heterosexual epidemic would elicit a 1:1 ratio. The most recent postings for Bolivia show wide swings in information, from a ratio of 4:1 in 1998 (PAHO, 1999), to a ratio of 2:1 for year 2000, to a ratio of 7:1 for year 2001 (PAHO, 2003). One local health authority reported a male/female ratio of 3:1 in Bolivia (Dr. Cronenbold, PROSIN, personal communication, 31 July, 2000; El Deber, 3 April 1999). Within the province of Santa Cruz, that ratio is reported to be 2:1 male to female infected persons (Ms. Tamboré, PROSIN, personal communication, 8 March, 2000). If considered reliable information, this is evidence that the HIV/AIDS epidemic is slightly more heterosexual in the tropical province compared to the rest of the country.

UNAIDS (2003) demonstrated that 60% of HIV infected males reported in 2001 were heterosexual, 38% were homosexual. However, there is considerable lack of standard agreement, in Bolivia, of the definition of heterosexuality, bisexuality, and homosexuality, which complicates reporting (Wright & Wright, 1997). Lastly, only one of 62 (2%) cases reported in 2001 was through intravenous drug use (UNAIDS, 2003).

The obstacle of competing local health authorities can also distort modes of transmission information. For example, one CENETROP (one of the national laboratories) employee claimed that newly diagnosed HIV cases were traveling Bolivians who became infected in other, high prevalent countries (Dr. Velasquez, CENETROP, personal communication, 17 Feb, 2000). On the other hand, another national health expert claimed that these cases do not travel, that HIV is in the general population in Bolivia, and that it is affecting younger and younger people (Ms. Tamboré, PROSIN, personal communication, 8 March, 2000, 6 July, 2000).

These statements indicate that HIV/AIDS transmission and trend information remains unstable, probably due to reporting problems and/or biases in reporting systems. Two pieces of information remain clear, however: 1) STI rates are high in Bolivia, and 2) Bolivia is undergoing a recent and accelerated increase in HIV/AIDS cases. This adds urgency to the purpose of this present study as both facts may severely impact the lives of Bolivian truck drivers and their spouses.

Commercial Sex Workers (CSW)

In the same year that the first study on African truck drivers was published (Carswell et al., 1989) another study about transmission modes of HIV/STI in Brazil, was also published, though not from truck driver data. Lennholm (1989) reported that, from his survey in Brazil, up to 60% of men admitted to the query of whether they have ever had sex with another man. Lennholm predicted that HIV would spread, in Brazil, along major highways from bordellos, particularly through bisexual men. The inference that CSW and their future heterosexual clients were at risk was established.

CSW are considered high risk populations. CSW in Bolivia, however, posted moderately low, and declining, STI rates (Levine et al., 1998). These researchers reported STI rates over a

period of four years, using prospective surveys in CSW. Syphilis went from a prevalence of 15% in 1992 to 9% in 1995; gonorrhea dropped from 26% to 10% in the same time span. HIV prevalence in CSW was below 1% in 1992, and was not tracked by the Levine et al. study. Incidentally, CSW in Montero (50 km north of Santa Cruz), were reported to have a 10% STI prevalence in year 1999 (Dr. Fernandez, CARE, personal communication, August, 2000).

Prostitution in Bolivia is illegal, but tolerated. This ambiguity may spawn a range of special circumstances in which CSW work. For example, CSW in the Levine et al. (1998) study were 'registered' because it was an MOH financed project, from which they were mandated to resolve issues of ill health (registration gives CSW some benefits like free health services). The authors failed to address this bias-- there was no indication on how many CSW were unregistered in the Levine et al. study, if any¹.

Another bias incurred, due to the Levine et al. (1998) design, was the fact that it was only a single-site study. A third bias incurred as a result of sampling from a limited work environment. Levine et al. reported that their intervention covered only brothel-based CSW. But, in Santa Cruz, a majority of CSW chose not to work in brothels to avoid alcohol consumption obligations (Fudge, 1998). In sum, the Levine et al., study reported successful health interventions in their CSW sample, but biases inundating the study prevented it from achieving any degree of external validity.

¹ One CARE ethnographic study at a different urban, Bolivian site indicated that 83% of CSW were unregistered, mostly to avoid police harassment (Diaz, 1999). A former PROSIN health worker mentioned that the majority of CSW are unregistered, again, to avoid conscription with police (Wright, 2000).

As with HIV/AIDS reporting in Bolivia, there is variation in reporting among CSW in Bolivia. PAHO (2001) reported that, among CSW tested in the city of Santa Cruz in 1998, 0.3% were found to be HIV positive. There is evidence that the CSW HIV rate in Santa Cruz was closer to 4% (*El Deber*, 1999). Nonetheless, one assumes a higher HIV rate in CSW than with other women. For comparison purposes: A 0.5% HIV prevalence was reported in non-CSW, pregnant women (USAIDS, 2003) from another Bolivian city in 1997. The true HIV prevalence in Bolivian CSW is probably underreported.

This section summarizes the HIV/STI epidemiologic environment found in Bolivia, showing that STI are high and HIV is rapidly increasing. More over, the transmission group information is questionable, supporting the notion that the national HIV/AIDS surveillance system in Bolivia is still immature, making trends difficult to monitor and estimation questionable.

This section also examines infection rates of HIV and STI in Bolivian CSW. HIV rates in CSW were low. STI rates in CSW seem moderate, but sampling from a representative population of CSW remains a challenge. If Bolivian truck drivers frequent casual sex partners, then it would behoove this investigator to distinguish type and locations of casual partners who are in contact with truckers. It would also be useful to delineate occupational-geographic information (route, site) and differentiate questions directed at truckers between perceptions of STI versus perceptions of HIV.

ADULT STAGE THEORY

This next section previews adult stage theory by one of its more famous founders, Eric Erikson (1902-1994). This section first describes his theory, then describes the same theory

from a different perspective through Levinson, D., Darrow, Klein, Levinson, M. and McKee (1978). Limitations in both parties are then presented. Following is evidence from other researchers that supports adult development stage theory (ADST). This is followed by an outline of a revised Erikson model, which segues with social cognitive theory, and launches this present study.

Erikson

Humans develop according to innate changes based not only on a biological ground plan, but also social prompts. Therefore, Erikson (1959/1980a) uses the term ‘biological’ in a broad sense; it includes social interactions leading to change in an individual. Social life begins with each individual birth. Erikson names this developmental, social-biologic process ‘epigenesis’. The developmental process continues in adults. More specifically Erikson states, “epigenesis is the gradual unfolding of personality through phase-specific psychosocial crises” (p. 128, Erikson, 1980a). In order to satisfy his/her needs an infant, adolescent, or adult lives through particular crises, eventually superceding them.

Erikson’s (1959/1980a) descriptions of childhood psychological development are analogous to Freudian psychosexual stages (oral, anal, latency, etc.). Likewise, Erikson borrows Freudian terms to explain his theory of adult development, yet he describes a different framework concerning adolescents and adults. Erikson places great emphasis in critically examining historical and community contexts in order to grasp adult development. For example, he states that psychoanalysis cannot alone chart the human life cycle-- he welcomes anthropology and education as two other fields from which to borrow scientific evidence and incorporate into a development schema.

Erikson (1959/1980a) would deny saying that society imprints behavior onto any individual. Rather, society influences the manner of each individual grappling with each stage of growth. His theory describes a psychological process that works in conjunction with the biological and social processes to complete human existence. The framework of behavior is based on internal personality development, dubbed 'ego synthesis'. Ego synthesis is the process of successful alignment of all previous stages. It is always at work and not assigned to any particular stage.

Though Erikson has been accused of being too narrow in scope by studying only upper class males (Giele, 1980), his more eclectic background and field of study helped contribute to his theory of epigenetic stages, having grown out of work with children under the tutelage of Ana Freud (Boeree, 1999), North American Indians, and the study of World War II soldier morale shaped by extreme living conditions, particularly submarine crew experiences (Erikson, 1980a).

Framework of Erikson's model

Erikson describes eight major stages that humans undergo with epigenesis (1980a). Assumptions that build upon this model are: 1) Each stage must be experienced in sequential order before the next stage; and 2) Each stage exists in some form before its “decisive and critical time” (p. 55, Erikson, 1980a). Therefore, stages are related to each other. Each stage comes to ascendance and then meets a crisis. Dealing successfully with a crisis in each stage indicates maturity, growth in self-esteem and self identity, and eventual progress to the next stage. Unsuccessful resolution of a crisis heralds in delay in graduating to the next stage, and unresolved attempts in dealing with crises.

The first four stages are reserved for the development of children, are Freudian in description, and will not be treated in this study. Only the sixth and seventh stages are reserved for scrutiny here, as this study deals with adult, working males. The preceding stage, however, is important to mention as Erikson spends considerable energy in describing it. It is the stage of adolescence.

Erikson's (1959/1980a) strategy to describe the human spectrum of development dovetails in adolescence (stage V) and either returns back to outline childhood, or moves forward to express adulthood. The nexus in adolescence integrates past, present, and future with various environmental considerations, into one identity. Indeed, this stage is called *Identity vs. Identity diffusion*. He describes it as a "psychosocial moratorium" (p. 175, Erikson, 1980a) where individual identity can begin to integrate the previous four stages. Identity development engages social ideology identification, an identification that will guide the individual throughout adulthood. Significant relations here include peer groups and models of leadership. 'Identity diffusion' is the label for the crisis in this stage. For example, it is not uncommon for the adolescent to "merge pathetically to leaders" (p. 135, Erikson) in which they surrender to an adult ideologue. Yet the energy expended in social experimentation, fantasizing, and introspection will quickly amend this digression. Furthermore, the identification taking place at this stage is gestalt-like: Not only does the adolescent develop an identity by integrating all previous identities, but he/she alters them in order to make a "coherent whole" (p. 121, Erikson). As the adolescent develops into an adult and continues to develop, he/she takes this new identity and extracts from it impressions of citizenship, manhood (or womanhood), and professional prowess.

Ego identity (the psychosocial spotlight of adolescence) is the culminating self-esteem to maintain continuity of the self for the self, and continuity of the self for a group of people. It emerges to the forefront in stage V, but continues to act throughout life. In ego identity, therefore, confidence emerges and with it the conviction that one is arriving, albeit slowly, at the dreams of the future. These dreams need not be complex and can be universally generalized. Erikson quotes Freud in what a complete person should hope (dream) to do well: “*Lieben und arbeiten* [to love and to work]” (p.103, Erikson, 1980a). Ego identity should not be confused with ego synthesis. As mentioned before, ego synthesis is the process of successfully aligning all previous stage experiences

Stage VI

The entrance into the working world is an important step in ego identity. It heralds in the loss of childhood and youth. It marks the beginning of the sixth stage-- *Intimacy versus Isolation*. The notion of work surfaces to govern character, and not only as a means to sustain self and others, but also to be productive in it; that is, to grow within work. It is sustaining the ability to save and plan for the future, including the pursuit of leisure time for love or other activities.

The ability to love is extremely important in adult development. The label *Intimacy* in stage VI refers to intense personal relations with another. However, Erikson emphasizes that sexual intimacy does not necessarily indicate the beginning of this stage. Younger married couples may be hindered at obtaining complete intimacy by trying to resolve crises of earlier stages. Therefore, neither co-habitation nor marriage necessitates intimacy. Intimacy is a broader term of love recognition touching upon devotion. It is “a fusion with another individual who is both partner... and guarantor of one’s continuing identity” (p. 134, Erikson, 1980a).

Along with this is recognition of partner delineation. That is, in choosing a partner one concurrently repudiates other potential partners.

Stage VII

Stage VII marks a different preoccupation with the future. It is not, however, planning for the future between a couple. Erikson defines stage VII as “the interest in establishing and guiding the next generation” (p.103, Erikson, 1980a). It is the stage of *Generativity versus Stagnation*. Patterns of respect for education and tradition develop during stage VII. Stage VII often comes about naturally from production and care of offspring, but Erikson warns that mere child rearing does not beget generativity. He states that danger lurks in an immature parenthood. Young parents may not have successfully completed the previous intimacy stage, which would prevent a smooth transition into generativity.

Stage VIII marks the last stage of adulthood. Stage VIII is *Integrity versus Despair*. It is not part of this study design, but should be mentioned to round out the frame within which this study is set. It is the acceptance of one’s complete life cycle, including its failures as well as successes.

A final note about the last three stages pertains to the absolute integration of society in furthering adult development. The crises that each stage assumes and the alternatives to crisis (isolation [VI], stagnation [VII], and despair [VIII]) can only successfully resolve themselves by social participation.

The investigator assessed ADST constructs in Bolivian truck drivers. This is the first study attempting to determine if stage associates with either cognitions pertaining to high risk sexual behavior, or the behaviors themselves. If verified, it may have far-reaching consequences in the way educators tailor health and disease prevention programs.

Levinson

Levinson et al. (1978) built upon Jung and Erikson to form their stage theory. These researchers claimed they did not start with a theory of developmental periods, but a theory evolved as empirical evidence accumulated. They summarized their results about adult development after interviewing 40 working U.S. adult males, aged 35 to 45, from various occupations. They chose biography as their means of investigation because it is multidimensional (biography is a task, a method, a theory, and a product). The concept of a universal, male, midlife transition emerged from their research.

According to the authors, Jung stipulated that age 40 begins a process of individuation. Before age forty, life is unbalanced with many aspects of it neglected or suppressed. After age forty, the individual seeks balance. The Levinson team integrated Jung's ideas of individuation and archetypes into their own conclusions. Concerning archetypes, Levinson et al. (1978) describe four sets of polarities that exist in the human psyche. A personality may engage in different portions of a polarity set at different moments in one's life. Yet elements from both poles, from all four sets, are never completely extinguished (or resolved) in the lifetime. The polarity sets are: 1) young/old, 2) male/female, 3) destruction/creation, and 4) attachment/separateness. According to Levinson and colleagues, the polarities are more balanced at middle adulthood than any previous period.

Levinson et al. (1978) describe a series of eras which lay out the entire life course. Eras last about 20 years each. There are four: Childhood/adolescence, early adulthood, middle adulthood, and late adulthood. Additionally, Levinson and colleagues describe transition periods in which the eras may overlap. The duration of overlap depends on the individual but are fairly

uniform. Eras that concern this study are early and middle adulthood. The overlap period between those two eras is called the 'midlife transition'.

Early adulthood roughly spans the ages 20-45. Middle adulthood is the period that spans ages 40-64. They overlap by about five years, from age 40 to 45 (the midlife transition). The Levinson team was very stringent in fixing the transition periods at no more than five years. In other words, every man ends early adulthood by age 45, but not prior to age 40.

Levinson et al. (1978) claimed that a transition is not dependent on any one familial, biological, or social event. A transition incorporates all aspects of living and is precipitated by a mixture of biological/physiological functioning, a change in generational perspective, or a sudden evolution of career or enterprise. "This shift... will not be revealed by the study of concrete variables or events" (p. 23, Levinson et al.). Instead, what heralds in the midlife transition is a "culminating event" (p. 31, Levinson et al.), which is different for everybody, yet represents the life culmination of success or failure.

In addition to eras of development are sub-eras, or periods. Periods differ from eras because they are defined by tasks. They alternate between stable periods and transitional periods. The stable periods last six to seven years. The tasks within a stable period are dedicated to building a perceived life-structure, to enhance it and to make choices that reaffirm it. The transitional periods last four to five years. The tasks within a transition period are largely structure changing and evaluative, tasks which question and explore other structure possibilities. They are frequently times of crisis or conflict.

Though the word 'period' may conjure up images of chronological staging, Levinson et al. (1978) claimed that periods are not linear stages, but are rather like an evolutionary branching. It may help to imagine the stable periods as vertical growth or progress, and the

transitional periods as a horizontal, psychological groping. Indeed, the vertical progress image, prevalent in one's 30's, reverberates strongly in a ladder image. This ladder image will be mentioned later. Still, order underlies the entire life structure of a man not because one can predict what will happen, rather because one can describe the kinds of unfolding tasks one must undergo. But, like anything, tasks may be approached and accomplished well or poorly.

Early adulthood, according to Levinson et al. (1978) is the era of greatest biological abundance and, in contrast to Erikson, greatest psychological contradiction and stress. The beginning of this era marks a man trying to gain recognition from his parents and extended family in order to demonstrate that he, too, is a man and an equal. Thus begins his journey to pay societal dues, to expend energy in raising children, to labor in order to support a family, or to struggle to gain a more prominent employment position. Levinson et al. concurred with Jung that this is an era of repression and that a man ignores or hides his own personal interests and drives in order to conform to society's demands.

Male relationships are important in early adulthood. The authors delineate perceptions about types of male relationships in this age group. First, 'peers' are men who fall within the same age group, plus or minus six to seven years. Second, a 'mentor-apprentice' relationship is like an "elder sibling" (p. 27, Levinson et al., 1978) relationship. It carries a difference of eight to fifteen years between the individuals in question. Here, experience is recognized and counsel sought, but there is a shift away from friendship. Differences in authority pervade this elder sibling relationship, yet it is saturated with trust on both ends. Lastly, a 'generational' relationship places two men at least twenty years apart in age. The younger man has less trust toward the older man, as he perceives him as part of an unproductive establishment.

Important decisions are made in the early adult era. Marriage, for example, often arrives in a man's 20's or 30's. Levinson et al. (1978) mentioned that the decision to marry comes not only from love and affection, but also for a need to have a more stable and balanced life. Though the researchers agree with the gravity of committing to marriage, they placed occupational choices as more central in a man's life (Levinson and colleagues place more emphasis on work than with Erikson). The weight of occupational choice cuts across all education levels. In the Levinson et al. scheme, an occupation is called the medium in which a young man defines and pursues his dreams. "A man's work is the primary base for his life in society" (p. 19, Levinson et al.). At the end of young adulthood a man tends to gauge his success in life by visualizing an attained height on a mental, vertical ladder. The rungs of the ladder are laden with work imagery. This ladder metaphor is not taken lightly by the Levinson researchers. Several of their subjects used it in describing their lives.

To address tasks: Levinson et al. (1978) cut the early adulthood era into two stable periods, separated by an age-30 transition. The first period is 'entering the adult world', and lasts from about 22 to 28. It has a "transient, rootless quality" (p. 58, Levinson et al.) whereby the young man experiments in alternative relationships and choices, avoids strong commitments, and maintains an adventure in life. However, the young man also may desire the need to create a stable life structure, while perceiving a contradiction in these tasks. Marriage may descend on him not from love, but from a desire to integrate contradictions in order to stabilize.

The 'settling down period' corresponds to ages 33 to 40. It is a time of investment in the major life structure choices. Preoccupation with one's job plays heavily here. This is the period in which to realize youthful goals (imagined as culminating steps on a ladder), and to set a

timeline in which to achieve the highest goal. The settling down period carries a sense of urgency and seriousness. It is a time of finding one's niche in society.

This life structure, however, may come to be seen as an illusion and may crumble as one crosses over into different periods. Confusion may appear to the man in his 30's as he concurrently conducts tasks to become more independent. This contradiction becomes acute in the 'later settling down period', from ages 36 or 37 to 40 or 41. At this point in time a man may feel that he has not accomplished enough and that his surroundings are unfairly restricting him. Mentoring relationships become unpleasant and "stormy" (p. 147, Levinson et al., 1978).

One of the most important-- and most controversial-- contributions of this study is the demarcation between early and middle adulthood as clearly defined eras (Levinson et al., 1978). The authors claim that the midlife transition is a universal and predictable change (unfortunately it is often tumultuous). The midlife transition is age-linked, and takes place between ages 40 and 45. Of the men in their sample who had completed the midlife transition, there was variation of only a few years regardless of occupation.

At about this time a man makes judgments on the success or failure of his 'ladder'. However, it is more than just eyeing the top rung; it goes beyond an evaluation of one's placement on the ladder. It is as if the man begins to evaluate the ladder itself. The midlife transition is a struggle with perceptions of the self and the world. A man's entire life comes under scrutiny: "[Men] question nearly every aspect of their lives" (p. 60, Levinson et al., 1978) at this time. A man may experience failure although others see him as successful. Or, he may experience alienation along with his own perception of his vertical success. While in the transition period he pauses to try to find meaning or value in previous failure or success. If the man perceives overall failure he is apt to experience a 'midlife crisis' (borrowing from Erikson's

terminology) and must try to deconstruct his present illusions and rebuild his life. The midlife transition invokes a sense of loss with the past, a break with the past, and “reflection” (p.30, Levinson et al.).

Levinson et al. (1978) emphasized that this change is not a pleasant passage, nor a “cool intellectual process” (p. 199, Levinson et al.). Indeed, according to the researchers, a man may expect a moderate to severe crisis, even multiple crises, during this transition. They mention that 80% of the men in their sample who went through the transition experienced agonizing struggles.

The springboard into these tumultuous reflections occur by an unpleasant marker or culminating event, such as a divorce, a death in the family, a career or geographic move, or regret at not understanding ones own maturing children. The event itself does not induce the transitional phase; its significance depends on its place on the life structure timeline. The closer to age 40 this event (or, the initiation of the transitional phase), the more significant it will be. However, not everyone can identify a marker event.

There are three tasks that the man must address in this transitional phase. The first is evaluating and terminating his early adulthood, and breaking with his past. The second is to face the contradictions in his life by beginning to resolve polarities in his psyche. The third is to modify the present life structure. These tasks have various consequences, one of which is a heightened sense of doubt and humility. The humbled man evaluates himself, then works on changing the self-world interface. Even if there is little alteration in his philosophy or meaning of life, his integrity (or lack of integrity) may change dramatically. The man experiencing middle adulthood becomes more responsive to all family and friends. Another consequence is the recognition that the neglected part of oneself seeks expression.

The Levinson researchers echo Erikson by stating that fatherhood does not necessarily imply entering into the generative phase. Levinson et al. (1978) explain-- more succinctly than Erikson-- that being a father is merely raising children. However, being generative is to “assume the responsibility for a new generation of adults” (p.29, Levinson et al.). That is, reciprocally taking advice from and giving advice back to adult colleagues. In addition, to become generative a man must experience stagnation as well as generativity. Experiencing stagnation is recognition in weakness and vulnerability. This recognition leads to empathy and compassion, supporting motives for entering into mentoring roles as the senior member (per Levinson et al.).

It is easy to see how Levinson et al. (1978) borrowed from Erikson’s stage VII to describe what they call the beginning of middle adulthood. It is primarily this connection which enables this study’s investigator to articulate a revised Erikson model that is coherent, consistent, and based on empirical data.

Limitations of Erikson and Levinson

Four limitations of Erikson stand out. One is the assumption of sequential linear order of the stages. Erikson does not consider the possibility of experiencing concurrent developmental stages, even though he mentions that seeds of each stage exist in every earlier stage. He does, however, refer to overlap. Theoretically, for example, Erikson posits that younger adults will never experience stage VI before stage VII. This assertion appears to make sense by the mere collinear nature of aging and experience, but Erikson offers no evidence to back it up. This limitation should not, however, change the impetus behind this study. That is, in spite of a little or considerable overlap of stages, one will likely experience a stage VI crisis and resolution before experiencing a stage VII crisis and resolution. Incidentally, there is evidence that, insofar

as stage development exists, one can simultaneously experience crisis and growth from stages V, VI, or VII (Ochse et al., 1986).

The second limitation to Erikson is his hesitation to offer clear markers of adult stage graduation. He hints at marriage or a first job to demarcate stage V from VI. Child rearing may separate stage VI from VII. Yet Erikson offers no guarantee of intimacy in marriage, nor guarantee of generativity in becoming a parent. Though predictive in nature, Erikson's theory never offers a timeline. One knows not when stage change occurrences may strike. Other authors are more precise in this matter than Erikson. Gould (1980), for example, as well as Vaillant and Milofsky (1980), assert that one's later 20's demarcate a sense of competence through work, heralding in change. Also, Levinson et al. (1978) mention that younger adult men depend more on mentors for advice, than older adult men. The transition in discarding mentors may demarcate a boundary between stage VI and VII, around age 40.

The third limitation is that Erikson's language speaks entirely of the male experience. He never addresses the possibility that women may experience adulthood differently. Subtle ego and developmental differences between the sexes could effectively annul the building blocks of his theory. This limitation, however, does not change the focus of this study since it deals exclusively with males.

The last limitation is Erikson's denial of culture as the engine behind ego development in adults. For example, Kotre (1984) embraces the premise of ADST but denies its universality, saying that what appears to be a generative stage is merely a cultural/biological setting. He argues that generative sentiment is disappearing in western culture mainly due to two changes in western lifestyles, namely: 1) The contraception revolution of the 1960's and 1970's, and 2) The postponement of death in the 20th century through medical advancement and health awareness.

Both of these cultural changes have conspired to diminish generative concern. That is, people experience more years of life than ever before and many more years without children to allow one to pursue more narcissistic activities.

There are five problems with the Levinson et al. (1978) stage theory. First, the authors claimed that their model is age-linked, but not age dependent. This is not clear, especially since they endorsed the beginning of the midlife transition to distinctly appear at age 40 or 41. Secondly, Levinson and colleagues were very precise at aligning their midlife transition as the initiation of Erikson's stage VII, sometime between age 40 and 45. However, they were less precise at placing Erikson's Stage VI within any period of their own; the authors had a tendency to dismiss its timing entirely.

Third, Levinson et al. (1978) strayed from Erikson by not including a discussion of types of society or culture into their analysis. While admitting that society influences the choices a man makes, the researchers ignored further discussion of society and explained their theory through the analysis of individual choice.

Fourth, Levinson et al. (1978) spoke of an appreciation in ambiguity among relationships, regarding the middle adulthood phase. They also mentioned the development of precise boundaries between self and the world during this phase. It is not clear, however, how one can simultaneously grow more definite and more ambiguous; the Levinson team did not fully address this.

And lastly, Levinson et al. (1978) have developed a detailed theory of adult development for men, including a late adulthood phase. However, one may question their use of the term empirical evidence. No one in their sample reached the age of 55; only 15 reached the age of 45.

How could they expect to explain a complete, detailed theory, backed by a small or null sample size at one end of the stage time-line?

Other Empirical Support for ADST

Ochse et al. (1986) reported on using a personality development index based on Erikson's theory, in a sample of 1,859 South Africans. The authors cited that previous research did not consider a multicultural setting. They claimed that their study was the first which considered more than one ethnicity and language, and included adults of all ages. Furthermore, Ochse et al. produced a reliable, Erikson-specific tool in which to test both intimacy and generativity phases. The authors began with 182 items in their instrument and through a process that included two pilot tests, a rigorous translation, theory construct scrutiny from several judges, and reliability testing they narrowed the instrument down to 76 items. The tool assessed seven of Erikson's eight stages; the missing stage not considered was the last stage, integrity (Stage VIII).

The Ochse et al., (1986) study validated Erikson's theory of personality development. In a factor analysis the intimacy and generativity scales loaded highly and distinctly in both black and white South Africans. However, loadings emerged in opposite order of stage depending on the ethnicity, and the white subjects revealed two other, stronger components than predicted by Erikson (the black subjects showed only one stronger component). Table 3 summarizes these researchers' findings concerning ADST. Ochse et al. found evidence that white South African women, in particular, followed development patterns closely described by Erikson, by both sequence and timing.

In general, South African blacks did not adhere well to the entire stage pattern set forth by Erikson. Their well being scores did not correlate highly with the positive stage components,

and they did not seem to follow the sequence of stages as much as the whites. The authors proposed that this was due to any combination of: 1) Blacks had much higher social desirability

Table 3: Factor Analysis Summary on ADST reported by Ochse et al. (1986)

Ethnicity	Total # factors	Factor #	Variance	Interpretation using ADST
White (n=1475)	7	3	12%	intimacy vs isolation (VI)
		4	7%	generativity- positive aspects (VII)
Black (n=384)	4	2	23%	generativity vs. stagnation (VII)
		3	8%	intimacy vs. isolation (VI)

scores which confounded their development scores; 2) English was not their mother language, complicating instrument interpretation; and/or, 3) Blacks were fewer in number, and with alpha set at .01 the power to detect significance was greatly reduced.

An unexpected factor outside of the stage VI - stage VII scheme (in both races) emerged and accounted for most of the variance (53% variance in whites, 46% variance in blacks). In both ethnicities this underlying component was negative in self-image and ego. The authors explained this as a global personality construct. They suggested that this other factor is probably residue from early stage components which underlie later stage development. This explanation does not contradict Erikson.

Ochse et al. (1986) suggested some modifications to the Erikson theory. First, their analysis indicated that intimacy (stage VI) and generativity (stage VII) developed in parallel for the men in both races. They expressed the idea that preoccupation with work may engage the generativity stage earlier than Erikson set forth².

² This notion was also mentioned by Vaillant et al. (1980), who proposed a 'career consolidation' stage between intimacy and generativity.

Secondly, the identity stage (stage V) seemed to have peaked after the manifestations of intimacy and generativity. Ochse et al. (1986) stated that neither of these two modifications contradict Erikson. Concerning parallel development of any two stages, the authors said that, according to Erikson, all personality components, “develop to some extent throughout life, even before their critical stages” (p.1246, Ochse et al.), and therefore develop in parallel. Concerning the later peak in identity, the authors warned against misinterpretation of Erikson’s distinction between the identity stage and ego identity. Ego identity is global and functions throughout life. Ego identity reevaluates self-esteem at every stage and buttresses self-esteem as experiences come and go. The other component, identity, identifies only the fifth of eight stages and is more temporal. The Ochse team mentioned that their data may be illuminating the global construct, ego identity.

Lastly, Ochse et al. (1986) included a social desirability index to filter out responses that were reported ‘true’ due to what the subject thinks the researcher wants to hear. The authors claimed that, “Individuals who score high on Erikson’s personality components are also likely to score high on a scale measuring social desirability- not necessarily because they wish to ‘fake’ good, but perhaps because they really believe good of themselves and their social image” (p.1248, Ochse et al.). The authors demonstrated that South African blacks reported high social desirability compared to whites. This investigator notes that social desirability may demonstrate differences across ethnicities or genders within the same cultural setting, and should be assessed in any model relating ego or cognition to intimate behavior.

Concerning the integrity of the index, Ochse et al. (1986) reported very reliable results for the entire instrument and adequate reliability for the subscales representing Erikson’s stages. The Cronbach alphas for the subscales ranged from .65 to .83, and scored .93 for the total scale.

Furthermore, they reported on moderate validity of the instrument. Criterion-based validity was indicated by significant positive correlations between the subscales and a measure of well-being for white subjects. That is, successful resolution of stages were accompanied by well being or positive self-esteem. Further details of this instrument's reliability and validity are discussed in chapter three.

The Ochse et al. (1986) research is pertinent to use with Bolivian truck drivers for four reasons. First, it was the first stage theory study with sufficient sample size of older participants (ages 25-39 n= 480; above age 39 n=459). Second, it was tested across different languages (Afrikaans and English); the authors demonstrated that there were no significant differences in the index stratified by language. Third, the instrument was used to uncover new information when tested in different cultural conditions. Fourth, the reliabilities of the stage subscales and global scale were adequate to good. Therefore, the Erikson ADST index, developed by Ochse et al., shows great potential for use in economically challenged countries, among multi-cultural settings, in Spanish, and with younger as well as older truckers.

The Revised Erikson model

Despite the differences between Erikson and other, above mentioned researchers, they all strike similar poses. For example, Erikson (1959/1980a, 1980b), Levinson et al. (1978), Ochse et al. (1986), and Vaillant et al. (1980) express three similar views: 1) There is an underlying, natural process in human development; 2) This development is universal; and 3) Every man undergoes alternating periods of growth and non growth (though Vaillant et al., does not call them periods). Two teams of researchers statistically tested these ideas (Ochse et al.; Vaillant et al.). Another team supported these views through qualitative methods (Levinson et al.).

The investigator incorporates the previous research outlined above, and refers to a revised Erikson model. For the purposes of this study only two stages are scrutinized, with only one transition or break between them. Seven considerations are addressed here in order to integrate into one model. They are repeated here to frame the revised model:

A revised Erikson model assumes that adult development unfolds in stages-- adults gain a new outlook due to new and different dispositions in their development. A revised Erikson model deals only with men. A revised Erikson model assumes at least one major transition in a working man's life, but does not state exactly when. A revised Erikson model articulates that before this transition, intimacy with another supports his *raison d'être*, but peer and mentor modeling is an important mode of learning in this stage. The model articulates that after the transition peer or mentor modeling is shed and learning becomes more reflective and empathetic, even compassionate, whereby consequences to a larger community are considered. A revised Erikson model is not concerned with the causes of this transition, nor of the causes of other stages. The integrated model simply posits different shifts in perspective and consequent different learning potentials in adult men. Lastly, the revised Erikson model transcends cultural differences.

Segues to Social Cognitive Theory, and Directions for this Study

For the purposes of this research the investigator utilizes a broad definition of cognition, following Bandura (1977, 1986), whereby cognition includes experience, memory, imagination, vicarious experiences, forethought capacity, and self-regulation. Indeed, this swath of mental capacity is so ample as to include perceptions of what society may be thinking of oneself. That is, the social environment is also an active part of an individual's cognitive abilities. Still, beyond cognition there may be other, affective dimensions of human existence which rouses one

more towards acceptance of an educational message over another, or induces one behavior over another. ADST may illuminate these influences. ADST is based on ego development and not cognitive development (Vaillant et al., 1980). For this reason, ADST is a part of this current research.

ADST asserts that the individual passes through stages of life throughout adulthood, much like an embryo undergoes generalizable stages in its development. It remains, therefore, to adhere to a social theory that explains the mechanisms in socialization and consequent relation to behaviors. Social Cognitive Theory may help bridge developmental theory to social behavior theory.

SOCIAL COGNITIVE THEORY

Bandura (1977, 1986) is credited with establishing Social Cognitive Theory (SCT). In it, he proposes that learning and actualizing a behavior has social as well as personal consequences. SCT states that people are not powerless objects at the mercy of the environment, nor are they absolutely free to do as they please. Rather, one's life proceeds and changes in an interplay between three factors: Personal behavior, cognitive processes, and environmental influences. Each factor can influence the other two, but no fundamental causal pathway is inferred. One can select, organize, and transform any factor to impinge on any other factor. This feedback triad is called 'reciprocal determinism'.

Bandura (1977, 1986) examines the complexities of personal cognitive factors. Cognition does not necessarily imply reason, though rationality is one component in cognition. Other components in cognition include experience, memory, imagination, vicarious experiences, forethought capacity, and self-regulation.

Concerning experience, learning through this venue harkens back to simple stimulus-response models. This type of learning is based on trial and error. Yet Bandura (1977, 1986) goes further by invoking symbolism. People can transform experiences into symbols, via memory, and thus into internal models that serve for future action (Bandura, 1986). But people do not remember everything they have experienced, nor do they re-enact everything they remember. Bandura (1977) summons at least two other roles from which behavior adjusts itself through memory. First, prior external announcements, before behavior enactment, may engage memory and increase attention. Learning is more effective if the learner is reminded in advance about possible benefits. Secondly, mental rehearsal is an important aid to memory retention.

The bulk of learning derives from vicarious learning, or model observation, according to Bandura (1977). Lifestyle, perception of norms, language, and culture are largely learned through modeling. There are two systems of learning through model observation. One system is verbal, one is image-based. Bandura notes the acquisition, efficiency and speed of verbal learning. Image-based learning, however, plays an important role in early development and in situations where “behavior patterns... do not lend themselves readily to verbal coding” (p. 26, Bandura, 1977). Sexual behavior, because of the many cultural taboos placed upon it, may therefore lend itself better to imagined learning and retention. Bandura notes the powerful influence of imagery as a learning tool (visual media) even for adults, as it tends to boost attention. Furthermore, those “...whose conceptual and verbal skills are underdeveloped are likely to benefit more from behavioral demonstrations than from verbal modeling” (p.40, Bandura, 1977).

Verbal modeling, on the other hand, aides learning as a response guide. For example, in learning a sexual behavior, ‘locker-room talk’ may be a better guide for younger men than visual

learning through media because of the heightened socialization of the situation. That is not to say that the learning is always correct-- one can partake in erroneous learning especially in environments of high social expectations.

People do not pattern their behavior after one single source in vicarious learning, nor do they absorb all the favored attributes of one chosen model. Furthermore, recognition to consider a new behavior is not generalized across types of people, but across facets of life. For example, there is no reason to expect someone who is innovative in adopting a new food to be equally innovative in adopting a new mode of transportation.

Concerning forethought capacity, Bandura (1977, 1986) emphasizes that people have control of their future through thought. By recalling memories of model observations or past experiences, and perceiving them as future consequences of behavior, one can transform them into current motivators of change towards goals. Symbols again are invoked: Motivators are cognitive symbols. Symbols are captured as either visual or verbal representations. Ultimately, engaging ones forethought is the same as engaging expectation. This leads into a discussion of self-regulation and outcome expectancies.

In regards to self-regulation, Bandura navigates through one of his more complex notions of SCT. Self-regulation involves self reflection, judgment, and self-efficacy. Self-regulation is not mere will power. People need the means (practice) for exercising control over themselves, as well as the intent. The success or failure of competent self-regulation depends on four things: 1) Mood states, 2) attention or inattention, 3) consistency in self-monitoring, and 4) reliable self observations. People set standards of behavior for themselves (outcome expectancies, or anticipated benefits) then respond to their expectations through self-monitoring. People are able

to create their own consequences and correctly exercise control over their thoughts, feelings, and actions (Bandura, 1986).

Lastly, Bandura (1986) emphasizes the importance of society in influencing one's cognition through self-regulation. If one has little experience in controlling moods, or is inconsistent in self-monitoring, is an inaccurate self-observer, or is facing a new situation, then most likely one's perception of the reactions of one's acquaintances will engage standards in which to judge the self through future action.

The last component of self-regulation is self-efficacy. Self-efficacy is the belief that one is capable of successfully adopting a beneficial behavior, or the belief in its degree of ease or difficulty. There has been an abundance of empirical research supporting self-efficacy's importance in behavioral schemes (for example, Gagnon & Godin, 2000; Wulfert & Wan, 1993), to the point of social scientists fusing it into other models (for example, Buunk, Bakker, Siero, van den Eijnden & Yzer, 1998; Polacsek, Celentano, O'Campo & Santelli, 1999).

Knowledge is not considered a major component in cognition in which to affect behavior, according to SCT. It may be useful, however, as an awareness of one's progress in self evaluation (Bandura, 1986).

SCT can be applied across cultures. Bandura (1977) admits differences of behavior adoption patterns by different cultures, but only in terms of rates of change. He notes that different cultures may admit different pressures of behavior adaptation, leading to slower or faster rates of diffusion. On one hand, therefore, a simple cognition may induce consideration to change behavior; on the other hand, the culture will facilitate or hinder diffusion of that consideration.

How is this discussion of SCT relevant to the current research? Clearly, the stimulus behind the introduction into SCT is interest in changing behavior. Understanding a model based on reciprocal determinism would help the investigator to arrive at an educational design with which to change behavior. And yet one must also understand how cognition components associate with each other and with adult stage before a discussion of program design ensues.

In this study ADST interfaced with SCT; ADST guided intervention content whereas SCT will guided intervention delivery. Cognition measures (SCT) in this study included knowledge, outcome expectancies, attitude (motivation), self-efficacy, and perceptions of social norms. Behavioral components rounded out Bandura's model. They included drug use, type of sex, types of partner, condom use, and reports of STI.

To recapitulate, reciprocal determinism is the interplay of environment, behavior, and cognition on choices one embarks upon, as well as situations one encounters. Bandura (1977) sees two stages in the acquisition of new behaviors: 1) Adopting the new behavior; and 2) Applying the new behavior. Most likely, the decision to adopt is made via a broad media source through the image of a popular, social figure. In contrast, the decision to apply a new behavior will derive from personal contact with local models. A clear cognition of the advantages of application is reached (vicarious reinforcement) when one applies a new behavior. In application, positive messages are more effective than negative appeals (vicarious punishment). Concerning sexual health, therefore, a message of fear (for example, infection procurement) is not as effective as a message of health promotion.

In conclusion, one can follow a practical application for sexual health interventions by imposing a SCT model to them. A list of the applications include: 1) Announcing positive messages, 2) modeling, 3) determinant reinforcement (using many methods rather than just one),

4) giving advance benefit notice, 5) engaging initial consideration phase through media, 6) offering a follow up, application phase through personal persuasion (vicarious reinforcement), 7) using visual messages (attention booster for low verbal ability populations, good for message retention), and 8) facilitating verbal modeling as a response guide.

The next chapter, the methodology section, shapes the information gleaned from truck driver studies, the HIV/STI profile of Bolivia, the theories of adult stage and social learning, and presents an operational plan in which to address the purpose and aims of the study.

CHAPTER 3

METHODOLOGY

This chapter describes the methodology of the study. It presents sections pertaining to research hypotheses, aims, ancillary questions, the design of the study, the description of the participants, data collection methods, procedures, and analysis.

The purpose of this study was to develop a risk profile of the Bolivian truck driver, to estimate the prevalence of high risk behaviors, to design an educational workshop based on these findings, and to arrive at a summative evaluation of such workshops. To do so the investigator sought to determine current sexual behaviors in Bolivian truckers, their cognitions pertaining to sexual behavior (perception of risk, social cognitive theory [SCT] constructs), their stage development (ADST constructs), and variable intercorrelations with social economic status (SES). This investigation used qualitative and quantitative research methodologies to arrive at, and deliver, a viable intervention design.

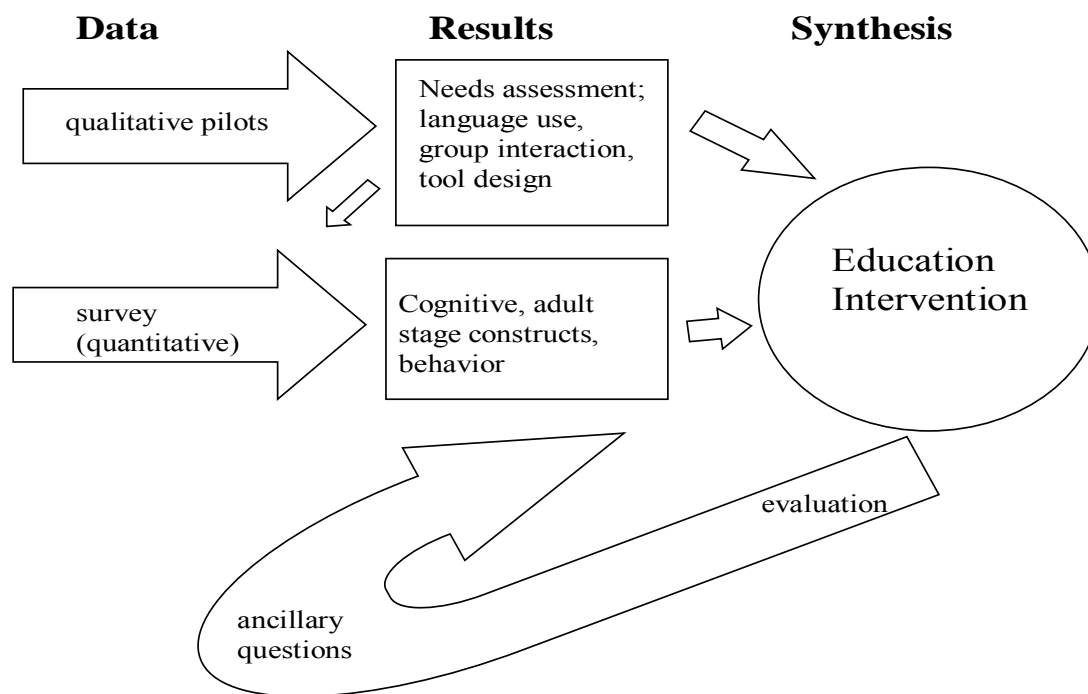
Three phases of the investigation were exploratory and qualitative in nature. Another two phases of the investigation were based on surveys and quantitative methods. The aims of the study were addressed by both qualitative means and statistical inference (quantitative means). In addition, education workshops were conducted and evaluated. Therefore, there was an evaluation component to the study, but considered separately from the research methods. The ancillary questions were answered through formative evaluative findings.

The research aims were: 1) Discuss language and culture surrounding the study population; 2) Describe Bolivian truckers by SES, behavioral, and cognitive factors; 3) Develop an ADST scale and interpret ADST scores; 4) Determine what variables were associated with condom use and STI history; 5) Determine what variables predicted condom use and STI history, controlling for all other variables; and 6) Design an educational workshop based on qualitative and quantitative assessments.

The hypotheses were threefold: 1) ADST components do not significantly associate with cognitions pertaining to sexual behavior. There is no other study in the literature to suggest directionality of these relationships, therefore an equivocal null hypothesis is proposed; 2) After controlling for SES, cognitive factors (perception of risk, SCT components), and stage components, these factors demonstrate no differences by condom use groups; and 3) After controlling for SES, cognitive factors (perception of risk, SCT components), and stage components, these factors demonstrate no differences by STI history groups. For hypotheses #2 and #3, the literature suggests a mix of different significant outcomes, even contradictory if looked at collectively. Therefore, equivocal null hypotheses are proposed. The ancillary questions were: 1) How did participants, Bolivian Health Educators (BHE), truck company/*sindicato* (union) managers, and the investigator appraise the workshop as a whole? 2) How did participants respond to different messages in the workshops? 3) How did the workshops affect the participants' behavior and attitude after several months passed? What components in the workshops helped them remember particular messages? What were the remembered messages? 4) How could the education intervention improve according to the participants, BHE, managers, and investigator?

Figure 2 represents these components in relation to one another according to the data, the results, and the final product-- an educational workshop.

Figure 2: Data Pathways



DESIGN

Description

There were six phases to this study. Five phases were research components; one, an evaluation. This study utilized Mixed Methodology (both quantitative and qualitative methods) to address the research hypotheses and aims. Qualitative and quantitative methods are not mutually exclusive means of investigation. Some sources state that qualitative and quantitative methodologies to research are complementary and may be used together to maximize research strengths and minimize research limitations (Hudelson, 1994; Tashakkori et al., 1998).

Notions that characterize qualitative research state that: 1) It is an approach to describe culture and behavior from the point of view of those being studied; 2) It places an emphasis on a comprehensive setting, and 3) It is flexible and iterative. On the other hand, quantitative research is attractive because: 1) It allows statistical inference from smaller samples to larger populations; 2) Relationships between variables can be measured and therefore assessed; 3) Design may be easier and quicker to implement; and 4) Results can be better compared across time and geographic gaps (Hudelson, 1994). Mixed Methodology has formative roots in triangulation, that is, in seeking convergence of results. As such, Mixed Methodology enhances validity (Tashakkori et al., 1998).

Six considerations compelled the investigator to use Mixed Methodology: First, the language and culture of the study population were different than the mother-language and culture of the researcher and knowledge based on assumptions behind language/cultural differences needed to be examined. Second, an intimate behavioral study, as in sexual behavior, needs to scrutinize the level of deception and agreement of terms found in its study population. Third, Mixed Methodology enhances validity because of reliance on multiple, iterative phases. Fourth, the research developed within the confines, or vacuum, of other health education management schemes. The values of competing organizations, or of BHE, could have influenced the course of the investigation. Mixed Methodology accepts the flux of research within multi- and/or competing value systems because it embraces a pragmatic inclination. Fifth, Mixed Methodology is a paradigm that endures threats due to changing designs, and/or sudden downsizing. Indeed, in this study, the original aspirations of the quantitative components were compromised due to economic and unforeseen restraints. And sixth, Mixed Methodology is able to effectively capture emerging themes.

Six phases were designed to supercede one another to address the aims of the study. The first study phase assessed the need to intervene in the proposed location (qualitative). This was done through a series of semi-structured interviews with a small sample of truckers (n=12). Concurrently, a series of interviews was accomplished with administration personnel in private trucking companies and unions. The purpose of this phase was to assess gaps, if any, between health care practices, reported illness or health problems, and services offered to truckers.

A second phase assessed the use of language, and subject matter that may have influenced communication (qualitative). The sample size for this phase was ten. A third phase assessed messages and group interaction in order to design and conduct a successful intervention (qualitative). This was accomplished through a series of four focus groups (n=17). The strategy here was to maximize heterogeneously on ethnicity, to assure that no isolated pocket of ideas or concerns from Bolivian truckers was missed.

A fourth phase piloted a survey tool to assess logistics of planning a sustained, larger survey that preceded a workshop. This phase also tested the reliability of items in the questionnaire (quantitative) from a sample of 32 truck drivers. Validity of the previous phases was also scrutinized. The fifth phase launched the large survey and utilized the final questionnaire product (quantitative) with a large sample of Bolivian truck drivers (n=246). An educational workshop followed immediately, then recruitment for a post-questionnaire follow-up.

In spite of Mixed Methodology's wide scope, there was yet another component to this investigation, concerned with the merits of the workshop. Evaluation seeks to focus on how well a program works (or fails), and how the interrelationships work rather than on outcomes (Patton, 1990). Evaluation asks if a program is worthwhile in spite of bias, value, or outcome constraints.

This phase was not concerned with generalizing the intervention for other settings, but rather with improvement of that specific intervention (Patton; Popham, 1993). Only process (formative) evaluation was involved at this point in time. Formative evaluation is free from objective or goal-based language and is therefore a suitable tool in which to probe for reactions emanating directly from participants in this study (Popham). The sixth phase, therefore, was a series of evaluations from various stakeholders, including the post-questionnaire participant responses.

Location and Sites

The principle participant recruiting location was from an urban area in Bolivia-- Santa Cruz de la Sierra (2001 population = 1,135,526 [INE, 2003]). The abridged name, Santa Cruz, is the capital of the province of Santa Cruz, and is the largest city in Bolivia (Appendix A). It has a large industrial/agricultural-based economy.

The city of Santa Cruz was an important site to consider due to ongoing construction of a highway between São Paulo Brazil, and Santa Cruz Bolivia¹. Bolivia and her neighbor to the north and east, Brazil, are trade members in Mercosur². At the time of this study, trade between the two countries was nonrestrictive and accelerating, with a trend to import Brazilian domestic products into Bolivia and exportation of Bolivian raw materials into Brazil (Friedland, 1996). The Brazilian side of this corridor is already paved and in heavy use. Paving the Bolivian side is on-going. Train tracks parallel this highway on both sides of the border. On the Bolivian side,

1 Recall that the city of Santos, Brazil, adjacent to São Paulo, exhibited the highest AIDS incidence rate in the entire continent, during the years 1989 to 1995 (Lacerda et al., 1997).

2 Mercosur is a South American trade agreement dedicated to free trade and diminishing tariffs between countries, much like NAFTA in North America. It came into existence in 1995. Brazil was one of four original members. Bolivia joined in 1996 (Kotabe, 2003).

the train is the traditional means of passenger transport to and from the city of Santa Cruz, to the border town Puerto Suárez.

Like many Latin American cities, Santa Cruz developed by means of a series of concentric roads around the oldest neighborhoods, cathedrals, and local government buildings, immediately surrounding the principle plaza. At the time of this study, downtown Santa Cruz was defined as any structure within the first three rings (avenues). The river *Pirai* prevents rapid growth to the west at the fourth ring. As to the other compass points, eight rings comprised the entire city-proper (Appendix B), though the city's planners have more concentric avenues surveyed and laid out, but not paved. The entire city is approximately 15 km in diameter (about one km per ring).

Three large highways intersect the city ring-avenues (Appendix B): First, the northern highway connects to Warnes and Montero, and from there branches either towards the *altiplano* (highlands) or to Brazil. The second highway heads directly east to Puerto Suárez (591 km from Santa Cruz), and then into Brazil. Pailón, a town 50 km east of Santa Cruz on this highway, was dubbed the “Soy capital of Bolivia (INE, 1999)” and reflects the agricultural dependence within the entire province. At the time of the study this part of the highway was under considerable development. The third highway leads southwest out of the city, is the traditional route to and from the *altiplano*, but also branches 20 km from the city whereby one can travel either directly south into Argentina, or towards the *altiplano*. This latter route crosses the *Chapari* valley region, infamous for cocaine production and distribution, and consequently is a nest of military troops and civil strife due to the U.S. backed ‘war on drugs’.

A variety of truck stops were identified for this study, within and around the city of Santa Cruz, all of them on one of the three major highways just described. All truck stops were within residential areas.

The second and third proposed municipalities were those towns of Warnes and Montero, about 30 and 50 km north of Santa Cruz, respectively (Appendix A). They are semi-urban, rapidly growing towns. The combined 2001 populations of these towns were 53,231 (INE, 2003). The area encompassing Warnes and Montero is also noted for its agriculture and transportation-based economy. At the time of the study, these towns were undergoing tremendous demographic change as immigration from the *altiplano*, and neighboring countries, accelerated.

The several truck stops within one large municipality (city of Santa Cruz), plus two other municipalities, were sought to capture the ethnic, route, cargo, and SES variety of participants in east Bolivia, for better representation of the entire province.

Stop #1, in Santa Cruz on the eighth ring east, was on the developing highway to and from Brazil (Appendix B). It has been used in recruiting participants for all phases of the study except phase IV. This stop was close to two large slaughterhouses, one municipal and the other private. Soy, timber, sugarcane, and cattle were the main cargo items along this route. Stop #2 was the town of Montero, used for phases I and II. Stop #3 was used for Phases I and IV. This was a large, urban, open market³ in Santa Cruz. Truckers using this truck stop were likely to haul produce from *altiplano* farms. Stops #1, #4, and #5 were planned as principle sites for phase V because of their proximity to a series of health clinics controlled by a local non-governmental health organization (NGO) called Prosalud (Appendix C). Stops #6, #7, #8, and

3 A serosurvey of market women was done in stop # 3 revealing five out of 92 women infected with

#9 were added later to Phase V in order to recruit fresh participants. Stop #8 was located about 20 km southwest of Santa Cruz where local inhabitants refer to it as “La Guardia”, but is not a separate municipality. This stop lends a semi- urban environment.

More over, five interviews with truck company or union representatives took place throughout the city of Santa Cruz, independent of participant truck stops.

Participant Interview Setting

At most stops permission was asked of company/union managers before interviewing began. Sometimes, the investigator had to draft a letter of request (Appendix D) to the company or union. In some instances, these managers helped announce the study’s intent to truckers before interviews began.

Participants were approached while in close proximity to their vehicles, either while working on them, resting nearby, or awaiting cargo transport clearance. Interviews began once participants gave consent to talk. The majority of participants were interviewed by trained BHE. BHE did not know the theoretical framework underlying this study and were therefore blinded to the research aims and hypotheses.

Intervention Setting

The workshop setting was a simple room lent from trucking company or union property. The rooms served primarily as break, snack, or wait areas. Each room accommodated a minimum of six people. Tables, chairs and electricity outlets were provided in these rooms.

At least three interviewed participants precipitated the investigator’s decision to hold a workshop. Often, other people joined the workshop without having been interviewed. Often, too, targeted participants left during the course of the workshop; the majority of them were then

considered controls. Participants may have had to wait while BHE interviewed enough participants to begin the intervention, but the longest wait was no more than 40 minutes.

Intervention Equipment

The workshop room required four to eight chairs and at least one table; only stop #9 did not have tables or chairs. A 220 volt 19" or 27" television and compatible VCR were used to show a video. Other educative equipment included a wooden, model penis on which to demonstrate condom skills, print material handed out at the end of the workshop, pencils, and an estimated 20 condoms per workshop.

Intervention Methods

Two intervention themes, labeled peer-based and community-based, were offered to participants after Phase V interviews. The content and language were based on results from the first three phases (needs assessment, language assessment, and focus groups). Adult Development Stage Theory (ADST) and Social Cognitive Theory (SCT) framed the workshop design. Specifically, ADST supplemented the intervention content, SCT drove the intervention delivery. The interventions were therefore empirically and theoretically based.

The peer-based intervention theme corresponded to the intimacy stage; the community-based intervention to the generative stage. The workshops alternated between a peer-based or community-based theme. Usually, only one workshop was offered per day so theme assignment alternated daily. The workshop components which incorporated ADST and SCT are represented in Table 4.

The video was borrowed from an international NGO with several years experience in marketing health products in Bolivia (Population Services International [PSI], 1999). The video was eight minutes in length. It was designed to encourage condom use in Bolivian men. The

Table 4: Theoretical Workshop Components

workshop component	ADST interface	SCT interface	estimated time of completion
Video		√	8 minutes
Cartoon	√	√	7 minutes
Condom use demonstration		√	10-15 minutes
Discussion	√	√	10 minutes
Evaluation		√	3 minutes
Distribution of materials	√		2 minutes
Total:			40-45 minutes

video's protagonist is a truck driver. He is seen in the beginning driving alone and reflecting on his divorce and consequent female partners, through monologue. He recalls that he has had a sexually transmitted disease. Midway through the video he develops a relationship with a woman and she discusses proper condom use. Her condom use monologue lasts one minute and ten seconds and includes both contraception and disease prevention as motivations. Afterwards, the couple is seen traveling together in his truck, talking, with baby booties dangling from the rear view mirror. After seven minutes have passed the plot switches to a scene whereby the protagonist travels alone again and reflects on life and death. The video concludes with his words: *La vida es igual que una viaje* (Life is like a journey-- PSI, 1999).

This video was developed from focus groups, of which results were not available to the investigator; it was never evaluated (Ms. Silvana Rasende, Prosalud, personal communication, 13 August, 2001). The video was used in an *altiplano* study with *transportistas* (transporters-- PSI, 2000). PSI fashioned a series of similarly produced videos featuring different social strata; each video had a discussion guide (PSI, 2000b). The investigator borrowed the PSI discussion guide from the *transportista* video and modified it for the discussion component in the workshop.

Research shows that cartoons used in health promotion efforts may enhance a particular message by being more in tune with culture, being more persuasive, being an efficient means of

story telling, being more memorable, and tapping into sub-populations with low-literacy levels. (Lalonde, Rabinowitz, Shefsky & Washiendo, 1997; Wang & Burris, 1994). Therefore, a cartoon component was added to the workshop to engage the participants' attention (Appendix E). The cartoon was co-designed and drawn by a student artist with ideas generated from focus group findings. The cartoon was four frames and fit on a single 8" X 11" sheet of paper for ease of photocopying. It featured the point of view of a truck driver. The fourth frame was void of dialogue/monologue, but a bubble existed in which the participant was encouraged to write a completion phrase to the drama. There were two types of cartoons. One corresponded to a peer-based theme and the other to the community-based theme. Both alluded to sexual relations and condom use.

Following the cartoon was a demonstration on condom use. A BHE re-iterated the correct steps in condom use while demonstrating with real condoms on a penis model (donated by Prosalud-Bolivia). The BHE questioned participants at each step. The BHE then asked for a volunteer to repeat the steps and, using a condom and the model, asked the participant to show the other participants correct condom use. This method was used to engage the modeling component of SCT.

Discussion followed the condom use component of the workshop. Research demonstrates that discussion about sexual health following video viewing significantly enhances condom acquisition (O'Donnell, L., SanDoval, Duran & O'Donnell, C., 1995). Therefore, a 15 minute discussion followed the viewing to: 1) Address low knowledge found in a study of Bolivian *transportistas* on condom use in the La Paz province (PSI, 2000); 2) Demonstrate correct condom use; and 3) Address how the video may have engaged their attention. A ten item discussion guide was generated to match the video but which also complemented ADST ideas

(Appendix F). For example, in the peer-based workshop some questions focused on loneliness and intimacy. In the community-based workshop some questions focused on changes in, and contributions to, a community. Three notions alternated between peer-based and community-based themes (items #1, #6, and #9).

A three minute participant evaluation followed (Appendix G). This included nine likert-based questions, on a scale of one to five, concerning formative evaluation of the workshop and usefulness of the workshop components. Examples included: “I had to wait a lot before participating in the workshop”, and “This workshop is worth it”. The last question asked for general comments. The evaluations were not linked to particular truck drivers, and therefore not linked to the major quantitative survey.

Lastly, a two minute enrollment period ended the workshop. Enrollment of participants in this scheme served the dual purpose of motivating them to return and registering them for follow up without using personal identifiers. Reimbursement tickets with participant identification numbers, unlinked to personal identifiers, were distributed and participants registered to return to one of three clinics in Santa Cruz, in two to three months, to take a follow up questionnaire about their attitudes and behaviors (Appendix H). One unique identification number was printed on the front of the ticket; on back of the ticket was a list of times and the places whereby the participant could take the follow up questionnaire (participants recruited from northern sites also received maps highlighting directions to a clinic). The unique identifier was based on a unique, random number and month and year of the participant’s birth, and was therefore key in preventing the ticket from being passed to other truckers who did not participate.

A billfold calendar highlighting the months for follow up was also distributed, along with condoms, referrals, and other information, as needed (Appendix I). Messages on the calendar and reimbursement ticket were developed from focus groups. There were two types of calendars which corresponded to the peer-based or community-based intervention theme.

Motivation Incentives

A challenge to this study was to prevent attrition in a highly mobile population. Incentives were offered to reduce attrition, but designed to avoid spurring selection bias. Therefore, recollection messages and incentives were announced and distributed after the workshop. Also, there were messages of compensation on the reimbursement ticket. Incentives included: 1) Cash reimbursement, and 2) A discount for a general physical examination at one of three earmarked clinics in Santa Cruz. More specifically, returning participants were compensated Bs. 20 (about \$2.90) for their time in participating only after completion of the follow up questionnaire, and participants received a discount on a physical examination (from Bs.15 to Bs. 3, an 80% savings) if they wished to undergo the examination.

One month before the follow up post test, brightly colored recollection messages geared towards reimbursement (and not condom use) were repeatedly posted on walls inside the trucking companies/unions who participated and donated workshop space. These small posters carried simple messages like “Remember the Bs. 20”, and “Pay-back dates? Look at your ticket” (Appendix J).

Controls received the same print media and incentives to complete a follow up questionnaire, in two to three months.

PARTICIPANTS

Participant Population

The term ‘participants’ in this study referred solely to truck drivers. Health educators, other health specialists, or truck company/union representatives, though sources of information for logistical or ancillary purposes, were not participants.

All but one participant in this study were Bolivian. The majority were Catholic. Though the majority were thought to be *mestizo* (mixed-- 90%), there existed a non-racial, class distinction that Bolivians emphasized, causing some mistrust and division. *Collas* were referred to as highlanders and *Cambas* were lowland people who had the reputation of being both more “laid-back” and “entrepreneurial” (p. 257, Murphy, 1997). An initial assumption of the study was that the majority of truckers interviewed on the east side of Santa Cruz would be *Colla*, and on the west side, *Camba*. This assumption was key in selecting the stop-sites during the initial phases.

Exclusion criteria applied to participants below the age of 18, transporters of passengers, and truckers driving vehicles of less than six wheels (short distance trucking may have involved a different working environment than long distance driving).

Sample Size and Recruitment of Participants

1. Needs assessment phase

This was a qualitative assessment of safer sex knowledge, attitudes, practices, and reports of past HIV/STI infections. There was no sample size requirement based on its qualitative nature. Patton (1990) recommends that thematic saturation is achieved. This could be achieved with a sample of eight to ten participants. Nonetheless, twelve participants for this first phase were enrolled by heterogeneous convenience sampling (Tashakkori et al., 1998). This scheme

therefore elicited maximum heterogeneous responses: Three participants in an urban site concerning sexual behaviors, three participants in an urban site concerning health access and personal finances, three participants in a semi-urban site about sexual behavior, and three participants in a semi-urban site about health access and personal finances.

2. Language assessment phase

This was another qualitative component in which ten participants were interviewed for assessment of terminology in discussions about sexual behavior. An attribute of location (urban or semi-urban) defined the bounds in selecting these participants. Once the sites were established the participants were convenience sampled. No sample size requirement was necessary.

3. Focus group phase

In order to achieve equal numbers of participants from different ethnicities, an attribute of location (east or west side of Santa Cruz) defined the groups in heterogeneous convenience sampling. Four focus groups (two featuring *Collas*, two with *Cambas*) were held, including 17 participants who were not involved in the earlier phases. Again, there was no sample size requirement based on its qualitative nature.

4. Reliability testing phase

In order to test a survey tool and program logistics, 32 participants were recruited from one site using convenience sampling.

5. Large survey phase

This investigation was conceived as a pre/post community trial design. The study invoked a standard sample size calculation for controlled trials (Equation 1; Daniels, Fanders, Eley & Boring, 1993), where π are proportions of the expected treatment and control groups, and z is the value for either type I or II error (z for alpha at .05 is equal to 1.96; for beta at .80 is

equal to -0.84). PSI (2000) reported that 62% of truck drivers in the state of La Paz have used condoms.

Equation 1: Sample Size Calculation Formula

$$n = \left(\frac{Z_{\alpha} \sqrt{2\pi_c(1-\pi_c)} - Z_{\beta} \sqrt{\pi_t(1-\pi_t) + \pi_c(1-\pi_c)}}{\pi_t - \pi_c} \right)^2$$

A more conservative estimate for the control group is 40%. Thus if the proportion of condom use is expected to double to 80% in the intervention group, a sample of 23 participants per each arm is necessary.

Attrition was considered. Rakwar et al. (1997) reported a dropout rate of 31% among trucking company employees over a period of one year. This study conceived of a follow up questionnaire after only two to three months from the first questionnaire. Nonetheless, the investigator used the Rakwar et al. attrition rate of 31%. With two groups at 23 participants each, plus participants to replace those lost to follow-up, not less than 62 truckers (none of whom participated in the first phases) were sought for interventions (31 per intervention group). The control group required an additional 31 participants. In all, this quantitative component to the investigation was projected to interview at least 93 truckers (62 intervention and 31 control).

This sample size estimation fit well with other analytical estimates. For example, following a traditional MANOVA experimental design with an estimated eight independent, and three to five dependent variables, with power at .80 and alpha at .05, and moderate effect size, an estimated sample size of 110 participants is appropriate (Stevens, 1996).

Intervention participants were enrolled and assigned to intervention group by alternating convenience sampling. Truck drivers were approached while working, resting, or waiting near their vehicles. A cluster of the first three volunteers for interviews initiated consideration to

conduct a workshop, which proceeded immediately after the questionnaire surveys. If workshops were not feasible because of less than three participant interviews, then those participants already interviewed were assigned as controls. Participants were also assigned as controls if their work required immediate attention.

6. Evaluation phase

The selection of participants for evaluative purposes was determined from the previous phase, in selection for education workshops. Those who volunteered to participate in one of two workshops were offered the chance to evaluate the workshop. There were no sample size requirements for evaluation processes.

Population, Sample Size, and Recruitment of Other Subjects

Five Truck company or union managers were involved in addressing phase I concerns. Several more managers were involved in recruiting participants for all phases. All of the truck company or union representatives were Bolivian men and women, and most likely better educated and better salaried than the participants. Many had claims to some ownership in the company, or were related to owners of the company.

Truck company or union managers involved in this study were convenience sampled (Patton, 1990). No sample size requirement was necessary for this component.

DATA COLLECTION

Qualitative

1. Needs assessment interviews

A semi-structured qualitative interview, covering 13-14 questions (beyond the ice-breaker questions), took place to assess the need of offering a safe sex education workshop

specifically for truck drivers. Heterogeneous, convenience sampling (Tashakkori et al., 1998) was used where half those interviewed were found in urban sites and half in semi-urban sites. Likewise, half of those interviewed were asked about sexual practices and half on health care access and personal finances (Appendix K).

Permission to record the conversation was asked. A team of two health education workers asked the questions, one of whom was a BHE. Both field workers took notes for content analysis.

In addition, five trucking companies or unions were convenience sampled and their managers were asked questions from a semi-structured list. About half of the questions dealt with salaries, payment structures, and cargo schedules, and half with health benefits or health education. The answers were recorded in a notebook.

2. Language assessment interviews

An open, unstructured, qualitative interview took place to pilot language used by truckers in speaking of sexual behavior. Consent was obtained before questions were asked. One BHE conducted the interviews. Participants were interviewed either alone or in groups; groups tended to reinforce local idioms, which was encouraged.

3. Focus groups with participants

Focus groups were conducted to capture reactions on health messages, and to validate themes found from the previous two phases. Consent was asked before proceeding. Photocopies of drawings from two published pamphlets (Channing L. Bete Co., 1992; SexSalud, 1998) as well as a list of over 45 short health messages culled from the city HIV program (Ms. Melvy Quiroz, personnel communication, PROSIN, March 2000) were passed to each participant along with a pencil and an index card. Participants were told to pick the best three messages and write

them down, along with their age, on the card. Discussion on their choices ensued. Matching their choices to ideas of drawings for print development was achieved.

A focus group guide was used (Appendix L). Two monitors facilitated the discussions. The lead monitor was a BHE who asked the majority of questions and directed the discussion. Both monitors took notes. Discussions were recorded. Expected time of discussion was 65 minutes.

4. Validity and reliability

Qualitative methods use ‘transferability’ and ‘representativeness’ (Tashakkori et al., 1998) as the analogue to external validity. Confidence in transferability is inherent in the heterogeneous convenient sampling technique for interviews.

Internal validity for qualitative methods in this study is addressed through four techniques (Tashakkori et al., 1998). First, a confirmation audit assumes that the product of inquiry is internally coherent, or interpreted correctly. Five academic advisors determined this in the proposal defense, all of whom hold Doctors of Philosophy degrees in either the health or education field. Second, peer debriefing was done with a neutral health specialist (Appendix M). This process is much like ongoing psychoanalysis for the investigator through which to explore future obstacles and illuminate unstated aspects of the study. Third, prolonged engagement was used in which BHE, instead of the investigator, engaged the cultural bonds of trust for participant engagement. Lastly, there was data triangulation, in which participant, BHE, and investigator perceptions were confirmed with each other and with quantitative survey results.

Qualitative reliability was assessed using two techniques. One was a dependability audit, a continuing evaluation process with advisors. The second was a reflexive journal which was used extensively along all points of the study (Tashakkori et al., 1998).

Quantitative

Instrument

The questionnaire (Appendix N) used for this study was a fusion of several indices. The instrument's core was based on a questionnaire used with truck drivers in Brazil which assessed demographics, attitudes, knowledge, and risk information such as drug use, condom use with type of partner, and frequency of condom use (Lacerda et al., 1997). Lacerda et al. did not report a reliability figure for any index.

Parts of the questionnaire were supplemented. For example, the indices for attitudes concerning HIV testing, ADST, social desirability, and perceived social norms were added. The attitude index concerning condom use was replaced.

BHE produced for the participant, while interviewing, an 18-inch blow-up of the likert scale and choices clearly and boldly labeled, for both the ADST and social desirability assessment. Team members referred to this as the “graphic”. This was done to aide participants’ judgment by visually grasping the set of response choices presented to them. This strategy was applied to a behavioral survey of commercial sex workers (CSW) in Puerto Rico and was deemed a successful strategy for improving response validity (Ms. Luz Lopez, Center of Investigations and Social Medical Evaluation, School of Public Health, University of Puerto Rico, personal communication, 1999).

Independent variables

Demographic	
age	(interval)
ethnicity	(nominal)
salary	(ordinal)
education level	(ordinal)
marital status	(nominal)
religion	(nominal)
residence	(nominal)

Occupational	
time on road	(ordinal)
extent of travel	(ordinal)
years work experience	(ordinal)
site of interview	(nominal)
work status	(nominal)
work company	(nominal)
union membership	(nominal)
Adult Stage	(ordinal)
Cognitive	
knowledge	(ordinal)
attitude condom use	(ordinal)
attitude HIV testing	(ordinal)
perceived risk	(ordinal)
self-efficacy	(ordinal)
outcome expectancy	(ordinal)
perceived social norms	(ordinal)
social desirability	(ordinal)
Behavioral	
drug use	(nominal)
number of sex partners	(interval)
type of casual sex partner	(ordinal)
anal sex	(nominal)

Outcome measures (dependent variables)

Condom use	(ordinal and nominal)
STI history	(ordinal and nominal)

Validity and reliability

Phase IV assessed the reliability of instrument indices. All phases scrutinized external and internal validity.

Concerning reliability, to assess attitudes of condom use in this study, several items were borrowed from an instrument already written in Spanish and available through the University of California in San Francisco (UCSF, 2000). That instrument crafted 25 items with a “true”, “false”, “I don’t know” format. In phase IV reliability testing, this index demonstrated an alpha of .79. With the two poorest items removed, the internal consistency reached .83. Examples of

these inquiries included “Do you think that a condom can prevent a sexual infection?” and “Do you think a condom diminishes sexual pleasure?”

Attitudes of using condoms are distinct from attitudes of getting tested for HIV. Since the first qualitative assessment revealed that participants held to erroneous information on testing, the decision to include an attitude section about HIV testing in the questionnaire, and introduce this subject into the workshop, was appropriate. Items from Tagle, Gerald, Bing, Nguyen, Soto and Harris (1993) supplemented items in this study’s instrument concerning attitudes on HIV testing. Items included “The testing center is too far” and “You are not afraid of a positive result”. The format was converted into a “yes”, “no”, “I don’t know” format. Tagle et al. reported no reliability. In the first round of instrument testing (phase IV) the internal consistency on nine items was only .30. After removal of two questions (“It not necessary that you take a test”, and “you feel uncomfortable finding other people you know at the testing center”) the alpha on the seven remaining items increased to .49, but remained poor overall. This may introduce erroneous interpretation if attitude of HIV testing surfaces significant from other analysis.

Erikson’s (1959/1980) stage theory was tested by researchers who assessed adult stages, well being, and social desirability from a sample of 1,859 black and white South African men and woman (Ochse et al.,1986). The authors reported pilot reliabilities of .70 for the subscale items representing intimacy (Erikson’s stage VI) and .65 for generativity (stage VII), and a reliability of .93 for the total scale. Ochse et al. used a zero-to-three likert scale format with zero indicating “never applies”, and three “applies very often”. Ochse et al. items included, “I wonder what sort of person I really am” (identity- 19 items), “I feel that no one has ever known

the real me” (intimacy- eight items), and “I feel that, in the long run, children are more a burden than a pleasure” (generativity- ten items).

The Ochse instrument gets a boost from research by Cohen, Chartrand and Jowdy (1995). They used their instrument in assessing career indecision and ego identity, in a study involving 423 participants from southeastern U.S. colleges. Their internal consistency estimates of the instrument were found to be adequate: Reliability scores ranged from .69 to .88 (the identity subscale produced the highest reliability). The Ochse instrument appears viable for research in several different settings (these authors concluded that Erikson’s ego identity scheme was related to career decision difficulties that individuals experience).

The present study enhanced the ADST component by adding four items to the intimacy sub-index and four items to the generativity sub-index. These eight additional items borrowed language from Levinson’s theory (Levinson et al., 1978) of pre and post midlife crisis (corresponding to Erikson’s stage VI and VII). Likewise, five items were dropped from the Ochse et al. (1986) index because they appeared redundant with other items in the scale. In the phase IV instrument testing the internal consistency was .49 for the intimacy stage. After dropping two items (“You are not a leader”, and “You like to think you are competing when you work”) the alpha coefficient on the six remaining items rose to .60, marginally acceptable. Concerning the generative stage, the internal consistency was .60. When two items were dropped (“I like to see development on my work route”, and “I want to understand cultures from other countries”) the alpha increased to .75, which is acceptable. The internal consistency for the entire index was .73. After elimination of three of the four poorly scoring items mentioned above, the alpha coefficient for the entire index climbed to .80.

In addition, Ochse et al. (1986) used a 17-item social desirability component in their instrument (in a zero-to-three likert scale format). Social desirability assesses acquiescence bias (Tashakkori et al., 1998) of participant responses to what the researcher would like to hear. Bolivian truck drivers in previous research reported contradictory behaviors which may have indicated social desirability (PSI, 2000). Sample statements in the present tool included, “I hide the fact that I have made a mistake”, and “I am equally polite to everyone”. Ochse et al. did not report a reliability score for their social desirability index. This study assessed the index in phase IV with ten items and converted to a one-to-six likert scale format. Internal consistency equaled .65, and with the items “If necessary, I lie” and “I often think of the good luck of others” deleted, the alpha on the eight remaining items jumped to .74, showing adequate reliability.

Social cognitive theory states that humans learn from, and influence, the social environment surrounding them (Bandura, 1977/1986). For truck drivers, their occupation constitutes a formidable social web which may induce stronger bonds than found in families. Therefore, an instrument to measure perceived social norms was borrowed from O’Leary, Goodhart, Jemmott and Boccher-Lattimore (1992). These researchers reported a reliability figure of .71 within their six items, based on a four-point likert scale. The investigator of the present study reformatted responses to a “true”, “false”, “I don’t know” format. In the phase IV reliability testing this index revealed an alpha of .71. With the deletion of the poorest ranking item, the alpha coefficient rose to .75. Examples from this index included: “Very few truckers in Bolivia change their behavior because of HIV/AIDS” and “The majority of truckers carry condoms”.

Concerning external validity, a sufficient sample size was attained for the phase V survey in order to draw suitable, generalizable conclusions.

Concerning internal validity, the study relied on four experts to preview the questionnaire for content validity (Appendix M). Statistical construct validity (both convergent and discriminate validity) was assessed by comparing correlations between similar and dissimilar indices. For example, high correlation was seen between oblique stage constructs (convergent) and little correlation was demonstrated between varimax stage constructs (discriminate). Furthermore, the study was double blinded (Tashakkori et al., 1998), that is, neither BHE nor participants knew of the hypotheses. A social desirability index was used to assess the extent of response bias on outcomes. This index was analyzed to check correlations with cognitive and stage indices (good results are achieved if they do not correlate-- Cone et al., 1993). Potential confounders were identified and controlled for by MANOVA and regression modeling. Lastly, the study sought a comparative control group design for phase V. This would have blunted history, selection, and contamination threats to validity (Mohr, 1992), and would have increased sensitivity of test results.

Evaluations of the Education Workshop

Participants

Evaluation shares common bonds to research in culling data and transforming them into useful information. However, where research is more focused on the truth of the matter, evaluation can be thought of as getting to the worth of a program. Popham (1993) put it this way:

Both researchers and evaluators are attempting to secure additional knowledge, but the use to which they wish to put this knowledge differs. Researchers want to draw conclusions. Evaluators are more interested in decisions (p.11, Popham).

Like research, evaluation can be quantitative or qualitative or mixed. One of the components to this study (phase VI) was a formative evaluation given to participants

immediately after participating in an education workshop. This was done to assess the value of each section of the intervention (video, discussion, skills reinforcement). The ratings followed a five-point likert scale for nine items, with a range of one (definitely not) to five (definitely yes). Example items included “I had to wait too long before participating in the workshop” and “This workshop was worth it”. In addition, there was a space for open-ended comments (Appendix G). This evaluation was anonymous and not linked to the quantitative survey tool.

The participants also evaluated, or monitored, their attention in the workshop by completing an interactive cartoon about condom use (Appendix E). Again, this engagement was anonymous and not linked to the quantitative survey tool.

BHE, truck company/union managers, and the investigator

Evaluations were completed on 4% (9/236) of the survey interviews (phase V) by observation from the investigator using a five item five-point-likert scale. Example items included “The interviewer seems nervous” and “The trucker seems sincere”. There was also a section to include general observations and comments.

Furthermore, 30.6% (11/36) of the workshops were evaluated by the investigator to look for consistency in message delivery. This format reflected the formative evaluation given to participants, and used a zero-to-five likert scale on nine items. The last section was reserved for general comments.

All seven of the BHE working on the project for phases V and VI were asked to evaluate the program about a third of the way through the program. Their comments were considered in order to fine-tune the program as it progressed. They were asked eight open-ended questions. Lastly, truck company/union managers were offered a chance to evaluate the workshops. Seven

of thirteen (53.9%) returned responses that consisted of a six-item, five point likert scale section, and a section consisting of five open questions.

PROCEDURES

Ethical Considerations

UNO Human Subjects committee

All methods and testing procedures were submitted to the Human Subjects Review Committee at the University of New Orleans (Appendix O). Permission was sought September 14, 2000. Permission was granted by Dr. Michael Stanford on October 3, 2000 (Appendix P).

Bolivian Ministry of Health (MOH)

All methods and testing procedures were submitted to the HIV/STI unit at the Bolivian Ministry of Health. The investigator's initial contact was in May, 1999. Initial response was in October, 1999. Verbal approval and organization assignment was received April 12, 2000. Official permission was granted by Dr. Vico Rivas from MOH, on April 24, 2000 (Appendix Q).

Aide confidentiality contract

Before interviewing began, all BHE signed a form stating that they would stay neutral throughout the study, work in a professional manner, and keep all participant information confidential (Appendix R). Consent forms were stored in a secure, locked area.

Participant consent

Participation was voluntary. Participants in the first qualitative component were asked for written consent before participation (Appendix S). In subsequent phases, verbal consent was elicited. Before consent was granted, a general goal to better the health of the community was

stated to the participants, along with what was to be expected from them. All computer data entries and updates with participant information were anonymous and unlinked to consent forms.

Debriefing and availability of research findings

Bolivian counterparts identified from MOH, key personnel from other health organizations who aided in the implementation of this study, and the HIV/STI Program Director at MOH, were given regular updates. After the investigator's defense the study's findings will be made available to MOH (as stipulated by agreement), to USAID-Bolivia, PSI-Bolivia, and to Prosalud managers.

Participants were free to contact the investigator or any BHE during the study. In addition, participants in the large survey were given referrals, when asked, to specific clinics which offered supplemental information or medical aid.

Timeline

Figure 3 shows the study's components in time.

Limitations and Delimitations

Threats to internal validity - qualitative

Qualitative methods naturally elicit internal validity since the words of participants are carefully considered. The interviewer himself is the instrument in qualitative methods (Patton, 1990). Therefore, in qualitative studies, the threats to validity occur when the researcher is inexperienced or lazy. Training was achieved with the BHE interviewers to guard against these threats.

Threats to external validity - qualitative

External validity in qualitative methods is moot. Qualitative methods are meant to uncover detail, not to generalize (Patton, 1990).

Figure 3: Phases of the Investigation by Time

Qualitative Phase I (needs assessment)										
Qualitative Phase II (language assessment)										
Qualitative Phase III (focus groups)										
Quantitative Phase IV Questionnaire development (reliability)										
Quantitative Phase V BHE recruiting and training, media design and production, large survey										
Evaluations Phase VI										
	spring 2000	summer 2000	fall 2000	winter 2000- 01	spring 2001	summer 2001	Fall 2001	winter 2001- 02	spring 2002	summer 2002

Threats to internal validity - quantitative

In spite of the many checks on validity, some threats to internal validity remained. The validity threats pertinent to the quantitative phases included contamination and subject attrition (Mohr, 1992). Attrition was by far the greatest of the two threats in this study. In theory, attrition is considered a bias resulting in different completion rates for one group over the other for reasons unknown to researchers. In reality, attrition impacted this study to the extent of changing the purpose of the study. Conclusions based on the participants' follow up responses could not be interpreted with confidence due to an extremely small sample size of follow up participants. Instead, a summary of the few follow up responders was moved to the evaluation chapter.

The lesser threat, contamination, can be referred to as treatment or intervention contamination. This describes a situation in which either one or the other intervention themes have not been delivered consistently, or extraneous influences interfered with one group but not the other. Concerning the first scenario, a group discussion may be difficult to control in spite of having a pre-selected list of topics to cover that corresponded to workshop themes (Appendix F). Even though BHE were coached to remain objective one may have inadvertently offered a personal view on a situation in response to participants' comments. Discussion may have elicited different levels of enthusiasm, thus affecting cognition processes. In addition, different gestures and body language from BHE may have influenced direction of the discussion, and vice versa. For this reason, every effort was made to insure that one individual, the BHE team leader, led the workshops and directed the discussions.

Concerning the second type of contamination, extraneous influences such as other media or other condom use interventions, existed. For example, PSI had interviewed truck drivers and conducted interventions in the *altiplano* (PSI, 2000). In the Santa Cruz province another NGO, ProSalud, directed periodic sexual health education sessions to truck drivers in Puerto Suárez, a border town on the Santa Cruz - São Paulo highway (Mr. Carlo Ramirez, ProSalud, personal communication, 3 February, 2000). Likewise, CARE maintained education, condom, and negotiation skills training to CSW groups in Montero, a town heavily populated by truck drivers (Dr. Luis Fernandez, personal communication, 3 August, 2000).

Threats to external validity - quantitative

External validity threats included pretesting and implementation for the quantitative components of this study (Tashakkori et al., 1998).

Pretesting may have a carryover effect in which the pretest influences the outcomes as much, or more, than the intervention. Since attrition was so high, however, the threat due to pretesting became a moot point.

Social desirability, also known as implementation or participant reactivity, is a bias resulting from participant anticipation and expectation to answer questions in a certain way based on their perceptions of what will please or displease the interviewer. Some procedures were meant to control this, namely providing preliminary information regarding the importance of the study, appealing to the participant's sense of objectivity, and creating trust by using BHE. Assessing a social desirability index also helped determine the extent of this problem.

Lack of serology testing

No seroprevalence assessment was done to verify self-reports of STI.

Risks

There were no monetary or safety risks involved in this study. But what risks existed when type I or type II error was committed? There may have been educational risks. A type I error, a false positive, would suggest that the study demonstrated differences with predictors when there really were none. A type II error, a false negative, would assume that the study results showed no differences with predictors when there really were. Either error may lead to a misallocation in education resources, assuming that any resources exist and that findings from this study will be used in the future.

STATISTICAL ANALYSIS

This section pertains to the analysis strategies used with phase IV and V data. Epi Info 6.04 was used for descriptive analysis (phases IV and V). The phase IV reliability tests were

performed with SPSS-PC 9.0. SPSS-PC 10.0 was utilized for descriptive, factor analysis, ANOVA, Chi-square testing, MANOVA, and logistic regression (phase V). Frequencies, ranges, and distributions were examined on all variables. Furthermore, a check on normal distribution of independent variables was accomplished. If normal distribution was violated, a transformation was achieved.

Hypothesis #1

Step one

A factor analysis explored components within the ADST scale in both varimax and oblique modes. This was done to: 1) Verify any intimate or generative constructs found within this population; 2) Discover new constructs and try to relate them to ADST; and 3) Interpret and prioritize the importance of each construct. Ochse et al. (1986) suggest an oblique rotation because Erikson's stages should be interrelated.

Stevens (1996) mentions that the Kaiser criterion is the most widely used in factor analysis. This is when the eigenvalue is set at one and loadings above that are used in interpretation. It is accurate when the "number of variables is <30 and the communalities are >.70, or when N>250 and the mean communality is $\geq .60$ " (Stevens, p. 367). However, Stevens also mentions the Scree test as a valid alternative when some Kaiser conditions are not met. The Scree test is the plot of the eigenvalues against components (in order), and allows one to discard components that level off gradually.

Critical values for significant loadings are given by Stevens (1996) as .326 or above on sample sizes of 250. The investigator of this study used a more conservative figure of .400.

Step two

Once the ADST factors were identified they were treated as predictor variables along with all others for hypotheses #2 and #3, described below.

*Hypothesis #2 and #3**Step one*

Frequencies, distributions, and statistical testing were achieved between predictors and two age groups of participants, to scrutinize differences in which ADST may have been supported.

Step two

ANOVA (with continuous variables) or Chi-square (with categorical variables) analysis was conducted univariately to identify potentially significant predictors. Type I error was corrected through Bonferroni techniques.

Step three

Pearson correlation coefficients were examined for two reasons: 1) To assess convergent construct validity (expected high correlation) between redundant behavioral variables, and to assess discriminate construct validity (expected low correlation) between dissimilar variables; and, 2) To assess the effect of social desirability on the indices.

Step four

In addition, a MANOVA was conducted on condom use and STI history groups with variables that showed significance in the ANOVA univariate testing. This was done to assure that intercorrelations were taken into account. The assumptions of MANOVA include 1) independence of observations, 2) normal distributions, and 3) the covariance matrices for the dependent variables are equal. Stevens (1996) suggests using an alpha of .10 in the social

sciences. In addition he suggests correcting for type I error by using the Bonferroni method (if number of predictors are less than seven) and running the analysis as often as needed by grouping the predictors. However, the current study adhered to an alpha of .05.

Step five

Confounding was controlled for by logistical regression analysis. The candidate variables that emerged significant from MANOVA and Chi-square testing were tested together to examine adjusted odds ratios, and to finalize the predictor list. The outcomes remained condom use and STI history, but were collapsed to a dichotomous variable.

The next chapter, the research results, reports the research findings from this study.

CHAPTER 4

RESEARCH RESULTS

The following chapter presents and analyzes the participants' responses from the various research components of the study. Data from a total of 351 truck drivers were used in analyses (71 in phases I through IV, and 246 in phase V). This chapter is divided into two major sections. The first section highlights the findings from the first four phases and is concerned with the first aim. The first aim was to describe Bolivian truck drivers by cultural, social economic status (SES), behavioral and cognitive factors that pertain to sexual health. This section is presented chronologically, according to phase.

The second section describes findings from the large cross-sectional survey. The second section itself has several parts; in general, it is divided into descriptive analysis and statistical analysis. This section addresses aims two through five, and concludes the study's hypotheses. Aims two through five are: Describe Bolivian truckers by SES, behavioral, and cognitive factors, develop an adult development stage theory (ADST) scale and describe and test ADST scores, determine what variables are associated with condom use and STI history, and determine what variables predicted condom use and STI history, controlling for all other variables.

INITIAL PHASES

This section discloses qualitative and quantitative data from 71 Bolivian truck drivers, of whom 39 participated in qualitative interviewing, and 32 completed a quantitative survey (phase IV). Characterizations emanating from qualitative research include descriptions of culture, as well as behavior from the point of view of those being studied, and an emphasis on comprehensive health issues (Tashakorri et al., 1998). Three different qualitative methods were used for this section. In chronological order they include: 1) Twelve needs assessment interviews from a semi-structured tool (April - May, 2000) at three different sites (one in Montero and two within the city of Santa Cruz); 2) Ten language assessment interviews from naturalistic, open discussions (November - December, 2000), also at three sites (one in Montero and two in the city of Santa Cruz); and 3) Focus groups concerning messages and group interaction, with 17 participants (May - June, 2001), also at three sites. All of the focus group sites were in the city of Santa Cruz. In addition; 4) Results from a quantitative pilot survey, from 32 other participants who interviewed at one site in the city (July - December, 2001), are included in this section. Table 5 shows the demographic characteristics of these initial phase participants.

Needs Assessment - Phase I

The mean participant age was 35 years (range 23 - 47). The majority of participants were married (83%). The average number of years as a trucker was 11 (range 4 - 19). Those with children averaged having 3.3 children-- below the national average of 4.3 children per household (DHS, 1998).

Information from this first phase revealed an average net salary of \$363¹ per month (range \$208 - \$672). The average income reported here was four times higher than the Bolivian per capita income (U.S. State Dept., 2001), but about 30% to 40% of a Bolivian truck driver's salary was consumed in overhead costs and fees. International drivers were the highest wage earners (average \$582), but were in the minority (17%). Province drivers were the next highest paid (\$361/month), followed by national drivers (\$275/month). No difference was detected in salary by ethnicity.

Table 5: Demographic Characteristics of Initial Phase Participants

	Needs Assessment Phase I (n=12)	Language Assessment Phase II (n=10)	Focus Groups Message Assessment Phase III (n=17)	Survey Logistics Assessment Phase IV (n=32)
Age				
18 - 36	8 (66.7%)	7 (70.0%)	2 (11.8%)	14 (43.8%)
37 and above	4 (33.3%)	3 (30.0%)	2 (11.8%)	18 (56.7%)
Unknown	0	0 (0.0%)	15 (76.4%)	0 (0.0%)
Ethnicity				
Colla	9 (75.0%)	5 (50.0%)	8 (47.1%)	19 (59%)
Camba	3 (25.0%)	5 (50.0%)	9 (52.9%)	13 (41%)
Marital status				
Married	10 (83.3%)	0 (0.0%)	0 (0.0%)	21 (65.6%)
Single, Divorced, Widowed	2 (16.7%)	0 (0.0%)	0 (0.0%)	11 (34.4%)
Unknown	0 (0.0%)	10 (100.0%)	17 (100.0%)	0 (0.0%)
Years experience as trucker				
0-4	2 (16.7%)	0 (0.0%)	0 (0.0%)	12 (37.5%)
5-10	3 (25.0%)	0 (0.0%)	0 (0.0%)	7 (21.9%)
>10	5 (41.7%)	0 (0.0%)	0 (0.0%)	12 (37.5%)
Unknown	2 (16.7%)	10 (100.0%)	17 (100.0%)	1 (3.1%)

¹ Most salaries were reported in local currency then converted to dollar amounts at the May, 2000 exchange rate of 1 dollar per 6.10 Bolivianos (Bs.).

Seven themes emerged from the first needs assessment interviews. These themes included job satisfaction or dissatisfaction, alcohol and drug use, modern medical treatment, reported STI, prostitutes and *chicas* (girls), knowledge of HIV/STI, and condoms.

Job difficulties and satisfactions

In the needs assessment phase nearly every trucker expressed occupational dissatisfaction, often without prompting from the investigators. Several reported on the increasing *multas* (fees) they had to pay to a government with a corrupt reputation. Furthermore, they mentioned that roads were not being maintained, but were declining in quality. Phrases such as *muchas policias*, *las balancas molestan*, *carrateras feas*, *caminos malos*, *peajes elivados*, *por goma*, and *pincha* (many police, interfering weigh stations, ugly highway, bad roads, high tolls, by tire, and tight) were repeated by several participants.

Expressions of job satisfaction were mentioned but infrequent. A few truckers expressed the notion of freedom by the capacity to set their own work hours; a few others mentioned that they enjoyed the travel aspect of the job. Still, voices about job dissatisfaction seemed to outweigh job satisfaction.

Alcohol and drug use

In the needs assessment interviews, drivers mentioned the widespread practice of chewing coca leaves to stay awake while driving. One quarter of these participants admitted to drinking alcohol in conjunction with chewing coca leaves in order to help maintain alertness while on the road. Cheap, strong alcohol (local vodka from potatoes or sugar cane rum) was referred to more than beer. This alcohol could be purchased in *botes* (small bottles, about 3 ounces) that cost 20 cents each. One participant referred to drinking “tea” (vodka with boiling water) while working. The majority of participants (about two-thirds) drank this type of alcohol.

The remainder of participants drank only beer. All participants drank alcohol of one type or another.

Only *Camba* truckers mentioned illegal drugs-- cocaine or marijuana use, though they denied ever using these drugs themselves. Furthermore, mention of illegal drugs was typically paired with mention of “promiscuous” sexual practices. For example, one trucker pointed out (at the interview site) a “*chica* [who] slept around” and said she also smoked *pitillos* (cocaine-cigarettes). Another participant said he knew of a homosexual *compañero* (male work mate) who was also a drug addict. Another trucker said he knew of colleagues who consumed marijuana, though it was not clear if they consumed while on the job. This trucker denied its use himself, calling it a “vice” and referring to grave detrimental changes in its users.

Modern medical treatment

A high proportion (4/6) of pilot-one truckers negated the usefulness of modern treatment through the use of physicians and/or *farmacias* (pharmacies or drug stores). Concerning pharmacies, strong opinions were used: “*si tu vas a las farmacias te saca tu ojo*” (if you go to the pharmacies they screw you [take your eye out]); “*farmacias tienen poco remedios*” (pharmacies have little medicine). Another said “*los medicos cobran mucho*” (doctors overcharge). However, there was no perception in not being to find professional help if needed. One participant admitted that, even if there are no hospitals, one could still find clinics along their route. Still, it appeared that only cost and convenience were factors in their hesitation to partake of modern medical treatment². Instead, the truckers in the needs assessment revealed that they

2 One Bolivian Health Educator (BHE) announced that truckers *tienen vergüenza* (are embarrassed) if they have to go to a clinic for reasons of STI treatment. Another BHE elaborated that either truckers *tienen vergüenza*, or they do not want to bother searching for clinics without their trucks in sight for fear of losing out on a potential job.

consume natural herbs for their various aches and pains instead of seeking modern treatment. Most of the herbs are brewed in a tea, and available from markets everywhere in Bolivia.

Reported STI

Thirty-three percent (2/6) of the first phase participants, when asked, answered affirmatively that they had an STI sometime in their past. Incidentally, the practice of anal sex was admitted to by 50% (3/6) of these phase I participants, when asked.

Prostitutes and chicas

In the first round of interviews, 41.7% (5/12) admitted to prostitute contact. However, nearly all of participants (11/12) spoke of prostitutes and prostitution in detail when asked about them. For example, six of these truckers mentioned costs that prostitutes charge, in which the mode was Bs. 50 (\$8.20-- range \$2.50 to \$13.10). Furthermore, 10 of these 11 truckers spoke of municipalities in which to find prostitutes. None of the locations were large cities. Prostitutes were found in the words of one trucker *por the ruta tropical* (on the tropical route); another spoke of “the entire route”. Chapari³, Cuatro Cañadas, Ivirgarzama, Pailón, and Yapacani were towns or regions in which to find prostitutes indicated by at least two participants. Three of these locations lay on the major southwest highway, and two on the major highway east of the city of Santa Cruz.

One trucker remarked on the prostitute’s plight, that most of these women are treading poverty (referring to an ongoing economic recession) and need a “means of escape”: *La prostitucion esta creciendo por la pobreza* (prostitution is growing because of poverty). Another trucker said that prostitutes are frequented as a means to forestall male initiated tendencies of

3. The truck drivers who mentioned Chapari also remarked that it harbors military police (to control and monitor coca paste exportation) who also cater to prostitution.

rape. Lastly, a handful of participants remarked on the periodicity of the commercial sex work (CSW) trade, that prices and availability rise because of harvest season, and that CSW charge more in the smaller towns than in the cities. One driver mentioned a dichotomy of CSW types depending on what region they were in; some CSW are *mas abierta* (more open), others are less open. The investigator thinks this comment refers to the Chapari corridor since it is a militarized region. CSW there probably receive more support than elsewhere, and are more likely to not only stay, but to work openly⁴.

Of the five participants admitting to prostitute contact, three said they had contact when younger, but not presently. Furthermore, of these five participants, three also mentioned sexual engagement with *chicas* (girls). Two other participants who did not admit prostitute contact confessed to having sex with *chicas* (five total participants). The term *chica* describes a broad category of casual, non-CSW sex partner. Lacerda and colleagues (1997) used the term “road girls” for the equivalent to *chica*. Though many truckers related *chicas* to travel (primarily traveling with truck drivers), it is not clear if the label here exclusively underscores travel.

Mujer conocidas (known women), *desconocidas* (unknown women), *cholitas*, *concubinas* (concubines), *conquistas* (conquests), *caroñas*, and *guaranitas* were other terms used to label these casual partners. Two of these terms are Indian labels (*cholita*, *guaranita*). The term *caroña* was used specifically in talking about Brazilian females who, rather than charging

4 In a related observation, one health professional claimed that eastern CSW (east of Santa Cruz) are not mobile, but northern CSW (north of Santa Cruz) travel more (Dr. Fernandez, CARE, personal communication, 3 August, 2000).

money, exchange sex for excursions into Bolivia, with the driver, or have meals purchased for them.

In regards to sex with other men (MSM), about 25% (3/12) of the pilot-one participants knew an acquaintance who has been in contact with MSM. Yet they all denied MSM behavior themselves.

Knowledge of HIV/STI

In the needs assessment the majority of participants had a good idea of HIV transmission. Thirty-three percent of these truck drivers said they had learned about AIDS through television; 25% (3/12) through radio, 16.7% (2/12) from talking with friends, and 8% (1/12) from newspapers. By contrast, one trucker specifically related, *nunca veo propaganda* (I never see [health] messages), and that even if he did he “would never have time to read them”. When asked if they could name different types of sexual diseases half of these participants did so, though they were limited in scope. They mentioned AIDS, gonorrhea, chancroid, or a combination of all three.

Condoms

In general, truckers were knowledgeable about the benefits of condoms, and just as many mentioned the benefits of contraception as disease prevention. In the needs assessment interviews, discussion about condom use (or non-use) was open and informative, but participants dismissed the importance of condom use in their own lives. The majority of truckers did not use them.

Testimonies included: “*Chicas* never have condoms”, “If I don’t have condoms I won’t *entrar* (enter-- look for casual partners)”, “I know what they are [condoms], I just won’t use them”, “Women complain that they [condoms] hurt”, “I don’t need to use them, I stay away from

unknown women”, “I don’t like them [condoms]”, “I’ve used them but they are messy (*se ensucia*)”. One participant said infections are passed by having a *pene marchitado* (flaccid penis) and therefore he does not use condoms for health reasons, insinuating that condoms cause limpness and incur risks of HIV/STI transmission.

Language Assessment - Phase II

The language assessment involved naturalistic interviewing techniques. Themes were pursued from participant replies without direct questioning. However, even though there was not a structured, nor semi-structured, set of questions, general topics were set *a priori*. These topics (drug/alcohol use, knowledge and attitudes of HIV/STI, sexual behavior, and occupational stressors) were lifted from ‘leads’ used in another ethnographic trucker study (Stratford et al., 2000).

Stress

Nearly all participants in the first phase expressed a high degree of job dissatisfaction. The consolidation of a job dissatisfaction theme from the first phase confused the investigator into thinking that there was substantial stress in the lives of Bolivian truck drivers. However, in the language assessment phase, only three of ten participants expressed work-related stress; of those, two added that it did not affect their personal or sexual lives. The majority of participants seemed to accept financial struggles, or accidents, as inevitable facts in the life of a truck driver. It appeared that stress was not a factor bearing upon their sexual behavior.

Knowledge/Attitude of HIV/STI

About half of the language assessment participants named types of sexual diseases, but these were wider in scope than in the first phase. They listed gonorrhea, syphilis, AIDS, warts, chancroid, and the symptoms for herpes. No participant from either phase I or phase II initiated

the acronym *VIH* (HIV) nor mentioned *Chlamydia*⁵. Six of ten (60%) language assessment participants admitted to having had an STI. Anal sex was admitted to by 20% (2/10) of the phase II participants.

One language assessment participant also expressed concern about the severity of AIDS (*SIDA mata* [AIDS kills]), but only in terms of region of casual sex partners. He maintained a rumor that since Brazilians have more AIDS in their population, and there are “many, beautiful Brazilian women by the border”, then the risk of infection is greater if the sex partner is Brazilian⁶.

Machismo

Machismo is an attitude of toughness and strength emanating from the male gender. *Machismo* is traditionally considered to be a Latin American cultural trait. This theme, or attitude, did not emerge from the first phase interviews. In the language assessment phase however, it emerged. Voices from the phase II participants included, “*Si encuentra una mujer tiene que estar firme*” (if you find a woman you have to be firm), and *andar firme* (walk firm). Yet another participant said that, on working nights, he often drives while tired, “*pero no hay excusas cuando estás con mujeres*” (but there are no excuses when with women). Some phase II participants, when talking of casual sex partners, spoke of *conquistas* (conquests). Participants never mentioned the word “prostitute” in this phase. Perhaps the ambience of *machismo* leads to differences in nomenclature of casual sex partner.

5. Chlamydia was the most frequently diagnosed STI in one Santa Cruz, male-only, health clinic (SexSalud, 1999).

6. This notion is actually maintained, perhaps propagated, by the Bolivian Ministry of Health.

From the entirety of the initial phases (I - IV), only one trucker admitted to having MSM contact-- a participant from this language assessment phase. He added that he was younger when he had sex with men. Currently, he had a female partner.

Condoms

As in the first phase, in the language assessment truckers seemed knowledgeable about the benefits of condoms. However, the proportion shifted more in favor of condom use as contraception method in phase II. Again, however, most truckers did not use them consistently, and thought them a nuisance and unnecessary. Their opinions and attitudes about condoms were very set, even after an open discussion. Reasons behind condom use refusal emerged from the language assessment phase, and continued throughout phase III.

Message Assessment - Phase III

Focus groups were conducted to capture reactions on established health messages, observe trucker interactions, and to validate themes from the previous two phases. Four focus groups were held; time of discussion averaged 59 minutes.

The focus groups confirmed the first two phase results that non-spousal sex is prevalent among the Bolivian trucking population, often connected to a traveling partner, *como pasaje* (like a ticket). In the focus groups, language referral to non-spousal sex partners tended toward verbal quips. More than once, the term *llanta auxilia* (spare tire), *sucursal* (branch office), or *la respuesto* (spare part) was used to refer to a non-spousal sex partner. Puns emerged in the focus groups that also incorporated amounts and numbers. For example, *Cobran 30 despues 150* ("They charge [Bs.]30, then [Bs.]150") refers to a CSW asking for the initial fee, but then the client must pay the second, larger fee to health practitioners for treatment of an STI. In one of

the four focus groups, conversation about condom use with partners declined into the blatantly macho. Participants never mentioned the word “prostitute” in the focus groups.

In spite of the clever language describing non-spousal sex partners, in the focus groups, more time was spent in conversation about relationships with spouses. Even then, language remained playful (wives were once referred to as *caseritas* (little house makers)). Reference of a mutually loving relationship with spouses emerged from three of the four focus groups. In two of these three, expressions arose that condoms were not used because the male partner was concerned that his spouse would not enjoy sex (*no llega al orgasmo* [she doesn't orgasm], *molesta la pareja* [they [[condoms]] bother my partner]). Reference of communication about condom use with spouses emerged from only one focus group. This group expressed a liberal, mutually committed relationship with spouses concerning condom use (“I’ll use condoms if she wants me to”, “I can easily talk to her [about condoms]”). By contrast, one focus group used language that was strikingly of macho sentiment (“I will never use condoms”; “I will not use condoms if she insists”; “it’s the woman who takes care of the family”; “if I get a test I will share the results and then throw her out”).

Development of print media

In the focus groups, Bolivian truckers responded to safe sex messages that were not specific, and generally implied a man’s duty in the context of family or society. Terms most often used were “responsibility”, “protection”, “dignity”, and “life”. Many suggested messages that contained the word “*SIDA*” (AIDS). In fact, one trucker said, “*SIDA es la palabra que frena*” (AIDS is the word that puts the breaks on). In contrast, only six (of 17) of the men expressed preferences for the word “condom”. Even fewer men (two) suggested using the word “sex”. Therefore, the first choice of messages culled from the focus groups included:

Protegernos y proteger a nuestra pareja (protect ourselves and our partner), *triunfa en la vida sin SIDA* (triumph in life without AIDS), *Cuidate del egoismo disfrazado de amor* (Beware of pride masked as love), *Libertad sin responsabilidad daña y esclaviza* (Freedom without responsibility harms and enslaves).

In addition, the investigator wanted to find signs of engagement through graphic description in the focus groups. These truckers expounded on their idea of better graphics compared to the model pamphlets that were distributed (Channing L. Bete Co., 1992; SexSalud, 1998). The truckers indicated: 1) Include drawings of a mix of different people; 2) Include a message indicating heightened risks when drinking alcohol before engaging in a sexual relationship; and 3) Take out an entire section on types of lubricants (they found this confusing in spite of the underlying message that condoms may break from use of petroleum-based lubricants). They also mentioned confusing text concerning the statement that “*Los condones salvan vidas*” (condoms save lives). Most participants said the text in general was too confusing. However, participants in one focus group mentioned that the pamphlet needed more text, perhaps thinking that more text would help explain what has already been said. They also suggested that a section on petting and foreplay was not important and insisted on removing a drawing that showed a couple hugging.

Since reading and note-writing were skills required in the focus groups, the facilitators kept track on those who appeared illiterate. The truckers’ literacy rate was found to be moderate- about 80%. Older truckers were more likely to be illiterate and consequently, were more likely to leave the sessions early. In one incident, however, there were two younger truckers who seemed to have trouble reading. They stayed, and were helped by older peers.

Truck drivers were emphatic about keeping diagrams demonstrating the steps of proper condom use. Furthermore, instead of diagrams showing people holding pieces of paper (for example, one drawing showed a doctor holding a piece of paper) the truckers claimed that everyone in the drawings should be holding a condom. Instead of a female partner holding a condom package, the truckers suggested that she should be holding the actual condom. Incidentally, suggestions from participants in more than one focus group indicated a desire to also include the female condom, and curiosity on steps for its proper use.

Lastly, concerning the section showing and explaining different kinds of STI, truckers expressed that the text was too confusing (they did not seem to appreciate phrases like “the symptoms occur two to ten days after infection”) and seemed indifferent to text distinguishing STI.

HIV/STI testing and attitudes

In these phase III focus groups, nine of 17 men (53%) admitted to having some kind of STI.

Again, playful puns emerged in the focus groups that incorporated numbers and treatment. *Se vuelva millonario por 250* (“You turn into a millionaire from 250 [ml]”) refers to one feeling as good as a millionaire for only 250 ml. of antibiotics for treatment of an STI. Joviality would dwindle when conversation switched to the topic of AIDS. Most of the pilot participants expressed some knowledge of AIDS, often calling it an *enfermedad mortal* (deadly disease). All focus group participants expressed a high sense of susceptibility to AIDS. Yet they had a practical manner of rationalizing it. One participant put it this way: *nadie esta libre* (nobody is free).

Most truckers in the focus groups had a poor idea of facility location and resources that offered and encouraged HIV/STI screening tests. The participants expressed fear in finding out results (if they were tested) and apprehensions about high costs. On the other hand, one trucker (of 17) had already taken an HIV test. Three of the 17 focus group truckers said they were not afraid of taking the HIV test. No one knew of another person who had HIV or AIDS.

Truckers' knowledge toward HIV transmission varied more widely in the focus groups than in other phases. Most focus group participants had a good idea of HIV transmission, but they also expressed erroneous transmission routes through sharing razors, or from "accidents [assumed blood transfusions - investigator]", or from "...transvestites in Brazil.... But in Santa Cruz we don't have that kind of sex, we're more educated (*mas educativos*) than that".

Condoms

In the focus groups the majority of participants expressed physical 'discomfort' that condoms cause. From this common point of view their voices split. Many expressed they do not use them because of the discomfort. Furthermore, those participants projected discomfort onto their female partners ("I cannot bring my female partner to pleasure with condoms so I will not use them"). A few participants insisted that they will never use condoms. The other venue of thinking was a fatalistic acceptance of condoms-- *Molesten pero hay que usarlos* ("They are a bother, but one needs to use them").

Phase IV

Among the 32 participants who partook in the quantitative logistic assessment survey, the mean age was 37 years (range 20 - 54). The majority of participants were married (66%). Results from this survey were used for reliability testing of indices for stage and cognitions

concerning sexual behavior, to be used in phase V. These results were addressed in chapter three. Phase IV interviews lasted an average of 39 minutes.

The following is a supplemental description of these 32 participants, for better understanding of their risk, and capacity to compare to other populations of truckers. When asked how often they were away from their home on trips, 64.5% (20/31) said less than one week, 22.6% (7/31) were away from one to four weeks, and the remainder (12.9%- 4/31) were away over a month at a time. Concerning salary, the majority, 56.7% (17/30), earned more than Bs. 2000 per month (\$328). The remainder earned less than this amount.

A glance at their knowledge responses suggested confusion. When asked if “condoms diminish the risk of HIV transmission”, 85.7% (24/28) agreed. However, when asked if one could become infected by eating the same food belonging to an infected individual, the majority again, 57.7% (15/26) agreed. When asked if STI and HIV are related, 60% (18/30) of the phase IV participants said yes.

Fifty-nine percent (19/32) of these truckers felt at risk for HIV infection; 6.7% (2/30) have been tested for HIV already. When asked if they have changed some “behavior to diminish the risk of HIV transmission”, the majority (86.2% - 25/29) mentioned yes. However, 60.7% (17/28) admitted that they had sex partners outside of their regular partner (at the time of the study), and when asked if they ever used condoms, only 53.1% (17/32) said yes. How well can they negotiate condom use? When asked if they ever spoke to their regular partners about using condoms before having sex, 50% (10/20) reported that they have. When asked how frequent they use condoms after drinking alcohol, 75% (15/20) said that sometimes they do, but 25% (5/20) admitted “never”. When asked if they carry condoms with them, 31.3% (10/32) reported yes; the remainder (68.8% - 22/32), answered “no”.

Who were their casual sex partners? Eight of 26 mentioned they have sex with prostitutes or street girls, six with other married women, and 12 with friends, lovers, or work mates. Concerning anal sex, 15.6% (5/32) admitted to having anal sex.

Clearly, there was a gap between their perception of risk, knowledge and behavior.

Discussion of Initial Phases

Nearly all of the participants knew about condoms. All participants concurred about a concern for AIDS, bordering on fear.

Concerning anal sex, compiled together, the first two phases revealed a proportion of 31% (5/16). This subject was not breached in the focus groups. However, in the logistics assessment survey, that proportion was halved (15.6% - 5/32). This raises the question of capability to glean accurate information by methodology. A salient idea was that typical, fixed surveys gather underreported information when the topic is about intimate sexual behavior. There was no discussion with participants of differential risks due to different types of sex during any phase.

Again, comparing the qualitative phases with the quantitative phase concerning STI reports: Of the 39 participants in the first three phases, about half (51.5% - 17/33) mentioned they had an STI sometime in their past. Of the 32 phase IV participants, 18.8% (6/32) reported they had an STI. Incidentally, there was more condom use with participants (from the first two phases) who admitted having had an STI than those who did not report an STI.

There even appeared to be differences in quality of information when shifting from one qualitative methodology to another. In the first pilot, participants were willing to talk, but stuck to the questions asked them and rarely offered comments outside what was asked. A possible explanation was that the investigator's presence stymied spontaneity of discussion (it should be

noted that the investigator is not Bolivian). The investigator was not present during the phase II interviews, only BHE, and responses from those participants tended to be more open⁷.

Worthy of mention was that new information was revealed in shifting from phase I methodology to phase II methodology. This difference in information indicated : 1) Higher STI self-reports, 2) Decline of occupational stress language; 3) A change of terms while talking of casual sex partners, from prostitutes to *chicas*; 4) An emergence of sexual power structure or *machismo* language; and 5) More variety in reported STI types or STI symptoms.

In shifting to phase III methodology, discussions became jocular, and discussion of sex with primary partner emerged.

Five themes showed concordance between phases I, II, III, and IV. The similar and validated themes between the these components were 1) STI reports are high, 2) truckers have a high proportion of multiple sex partners, 3) truckers demonstrated inconsistent condom use, 4) truckers demonstrated inconsistent knowledge concerning HIV transmission, and 5) their perception of risk was high.

CROSS-SECTIONAL SURVEY DESCRIPTIVE RESULTS

From June to August, 2002, in the province of Santa Cruz, Bolivia, a total of 248 truck drivers from 13 different truck stops (consolidated into nine general sites [Appendix B]), were interviewed . Truckers under 18 years of age were discarded from analysis, leaving 246 participants. After the complete interview, 163 truck drivers agreed to participate afterwards in a sexual health workshop. After completion of the workshop, this subset of 163 were invited to complete a post questionnaire about condom use, attitudes concerning condom use, sexual

⁷ One BHE suggested that the difference in information may be due to a shift in representative ethnicity.

behaviors, and perception of risk, from September to October, 2002. Only three truckers did, however. Their results were moved to the evaluation chapter because the sample size did not lend itself to quantitative analysis methods. What remains were data from the pre workshop interviews. The rest of this chapter reports the analysis findings from the 246 truck driver, pre-workshop responses.

Survey: Demographic Descriptive Results

The second aim of the study was to describe Bolivian truck drivers by SES, behavioral, and cognitive factors. An in-depth survey questionnaire (Appendix N) assessed not only demographics, but also knowledge, attitudes, and sexual practices (KAP), perception of risk, social desirability, ADST, and other SCT cognitions (self-efficacy, outcome expectancy, and perceived social norms). The average time for questionnaire completion was 29.5 minutes (range 17 - 75 minutes).

The average age of a truck driver was 36 years (range 18 - 67 years, s.d.= .67). The majority of participants were *Colla* (69.9%); *Cambas* composed 26.4% of those interviewed. One participant was non-Bolivian (0.4%) and eight were *Tarijeños* (3.3%-- Southern Bolivians). The *Tarijeños* and the other foreign national were classified with the *Cambas* in analysis to bolster the *Camba* sample size.

Concerning education, the majority of the participants (63.9%-- 157/246) finished high school. Of these, 21% were men who completed a higher education program (4.1% in manual trade schools and 17.1% in universities). About 16.7% (41/245) of the participants completed elementary school, but did not finish middle school. The majority of truckers (63.0%-- 155/246) were married. Other demographic characteristics are noted in Table 6, categorized by age with

In the first phase 25% of the participants were *Camba*; that proportion doubled in second phase.

the average age as the cutoff to analyze differences between younger and older truck drivers.

Not surprisingly, a significant difference emerged by age group and marital status.

Eighty-seven percent were Catholic. Concerning salary, their earnings were categorized by salary groups reported by the phase I participants. In this phase V survey, however, a decline in salary was noted with only 16.3% reaching the phase I monthly midrange of Bs. 2001 to 3000 group (*Bolivianos*- \$286 to \$429). In this cross-sectional survey, the largest salary category was Bs. 1001 - 2000 per month (\$143 - 286), with 100 truckers (41.1%). About a third of the truckers (33.7%) reported that they earn even less, or Bs. 0 to 1000 per month (\$0 - 143).

Table 6: Demographic Characteristics of Bolivian Truck Drivers, Cross-Sectional Survey

Characteristics	ages 18 -36		ages 37 - 67		Chi-square*
	n	(%)	n	(%)	significance
Ethnicity					
<i>Colla</i>	94	69.1	78	70.9	.093
<i>Camba</i>	42	30.9	32	29.1	
Religion					
Catholic	121	88.9	94	85.5	.420
Other	15	11.0	15	13.6	
Unknown	0	0.0	1	0.1	
Education (completed)					
Elementary	13	9.6	28	25.5	.095†
Middle	28	20.6	19	17.3	
High	62	45.6	43	39.1	
University/Technical Trade	33	24.3	19	17.3	
Unknown	0	0.0	1	0.1	
Marital status					
Married	62	45.6	93	84.6	.000**
Single	71	52.2	11	10.0	
Divorced/Separated/Widow	3	2.2	6	5.5	
Salary per month (\$)					
0-143	55	40.4	28	25.5	.060‡
143-286	52	38.2	48	43.6	
286-429	15	11.0	25	22.7	
More than 429	14	10.3	6	5.5	
Unknown	0	0.0	3	2.7	

* unknown values were dropped in Chi-square testing

† elementary and middle school combined

** p<.05 after Bonferroni correction

‡ \$286 - 429 and >\$429 combined

Though a larger proportion of younger truckers graduated beyond elementary school (25.5% compared to 9.6% in younger truckers), and held the largest proportion of the lowest salary category, the Chi-square testing did not demonstrate significant differences in salary or education. In analyses to follow, age group was extensively examined in order to gain a complete perspective of the effects of age on a range of outcomes.

Survey: Occupational Descriptive Results

The occupation of a truck driver may frame his social lifestyle. Occupation factors have the potential to influence decision making in many venues of life. Therefore, occupational variables were examined. The majority of truckers (64.2%-- 158/245) were accustomed to spend one to four weeks away from home per trip. About 14% spent a considerable time away from home, one to three months, per trip. A minority of truck drivers from this study were interviewed in their home region (29.7%). Most (63.4%) claimed to live on the *altiplano* (highlands).

In terms of route, 67.8% (166/245) said they worked throughout the entire country. Another 18.3% worked beyond the national boundary into other countries. Only 13.8% of the participants worked solely in the tropical region of Bolivia. In addition, the majority of truckers (56.5%) have worked in this occupation for more than ten years. About half (48.4%) of the truckers belonged to *sindicatos* (unions). Nearly half (43.5%) owned their own trucks.

What were the conditions of their occupation like? The majority of truck drivers (72.4%-- 178/246) worked alone. Almost all truckers (230/246-- 93.5%) said that they were exposed to "risks" in their profession. When asked which of four types of risks they experienced from their work, the majority indicated accidents as the top risk, inclusive or exclusive of other types of risk (Table 7).

Survey: Drug Use Descriptive Results

Though alcohol and drug use ranked low as a perceived occupational risk, alcohol prevalence was assessed and found to be 100%. In relating this to sex behavior, one item asked about alcohol or drug use before having sex with regular partners. In response, 10.3% (24/234)

Table 7: Perception of Risk in the Trucking Occupation*

Risk(s)	n	(%)
Accidents, assault from thieves, and Illness	78	35.6
Accidents only	52	23.7
Accidents and Assault from thieves	34	15.5
Accidents and Illness	19	8.7
Unknown	16	7.3
Accidents, Assault, Excess drugs/alcohol, and Illness	7	3.2
Accidents and Excess from drugs/alcohol	5	2.3
Assault from thieves only	4	1.8
Accidents, Assault, and Excess of drugs/alcohol	4	1.8

* combinations with frequencies of only 1 or 2 where not included

said that they always or nearly always consumed alcohol or drugs before sex. Another 58.1% (135/234) claimed they sometimes consumed alcohol or drugs before sex with their partners. This behavior hardly changes with type of partner: Of the 137 participants who answered a question concerning alcohol or drug use before having sex with casual female sex partners, 16.1% (22/137) said that they always or nearly always consumed alcohol or drugs before sex, another 59.1% (81/137) claimed they sometimes consumed alcohol or drugs before sex with their casual partners.

Seventy-six of 246 (30.9%) truck drivers admitted to using drugs other than alcohol. Of those, 55 (72.4%) used *calmante* (relaxant). This is a class of prescription-strength pain killers which, in Bolivia, can be purchased over the counter in *farmacias* (pharmacies/drug stores). *Calmante* can be consumed orally or injected. The remainder of drugs in this survey were illegal drugs-- cocaine or marijuana, with which only 22 truckers (8.9%) admitted to their consumption.

Of the truck drivers who used drugs in this study, excluding alcohol, about a fifth (22.4%- 17/76) claimed that they had injected drugs. Sixteen of 17 participants injected *calmante*, and one injected a derivative of cocaine. Seven participants, from the 17 injectors, admitted to injecting drugs within the last year. Only one participant, from the 17 injectors, admitted to using non-sterile hypodermic needles.

Survey: Sexual Behavioral Descriptive Results

Concerning sex with other men, 2% (5/246) admitted to having sex with other men.

Regarding sex with women, 155 (63%) of participants claimed to be married. However, 239 (97.2%) reported having either wives or steady female partners. One can deduce, therefore, that 84, or 34.2%, of the truckers in this study had steady female, non-married, partners ($239 - 155 = 84$). The rest of the analyses combine wives and steady partners into one category labeled regular partners. Table 8 shows the breakdown of behaviors by type of partner, STI, and age group.

Eighteen (11.6%) of the participants admitted to having anal sex with their regular partners. This was the only significant behavioral, by age group, after Bonferroni correction. That is, younger truckers were significantly more likely to have anal sex with regular partners than older truckers.

Nearly 56% (137/246) of the participants admitted to having multiple sex partners. This category was defined by the participant being married and having another partner, or being single and having two partners within a three month period. If the truck driver admitted to having a casual sex partner he was asked what type of partner she was. First, for ease of data manipulation, a hierarchical scheme was developed with the most casual category subsuming all

others, since some truckers revealed having sex with multiple types of casual partners.

Secondly, CSW and *chicas* were categorized into one category; friends, lovers, colleagues, and

Table 8: Type of Partner, Sex, and STI Prevalence in Bolivian Truck Drivers by Age Group

	ages 18 -36		ages 37 - 67		Chi-square
	n	(%)	n	(%)	significance
Regular Partners (wife or steady girlfriend)	134	98.5	105	95.5	.248†
Anal Sex	17	12.7	1	1.0	.001**
Casual Partners	77	56.6	60	54.6	.745
Anal Sex	17	22.1	6	10.0	.059
1-2 in last 3 months	40	70.2	19	67.9	.069
>2 in last 3 months	17	29.8	9	32.1	
CSW/ <i>chicas</i>	17	22.1	19	31.7	.206
Other married women/friend/lover	60	77.9	41	68.3	
Ever had STI	43	43.4	47	60.6	.346
Last infected by CSW/ <i>chica</i>	6	16.2	10	27.0	.036‡
Last infected by other married/friend/lover	18	48.7	8	21.6	
Last infected by regular partners	0	0.0	1	2.7	

** p<.05 after Bonferroni correction

† Fisher's Exact Test ‡ regular partners excluded from chi-square analysis

other married women were categorized into another. In the last three months, eight participants (5.8%) admitted to having sex with CSW, 28 (20.4%) with “traveling girls” or “*chicas*”, six (4.4%) with other married women, and 95 (69.3%) with friends, lovers, or mates.

One question asked the kinds of places in which to have sex. Here, too, a trucker could have answered more than once. Their responses broaden the perspective of casual sex, showing a low proportion of bordello casual sex (1.2%-- 2/162) and a higher proportion (28.4%) of sex on-the-road (46/162-- specifically sex “in the truck”). The other responses were as follows: 37.7% in hotels/lodges (61/162), 18.5% in motels (30/162-- another business which caters to the commercial sex industry), and 14.2% in someone else's house (23/162).

Of those truckers who had sex with casual partners, 23 (16.8%) admitted to having anal sex with them. There was no significance by age group for anal sex with casual partners.

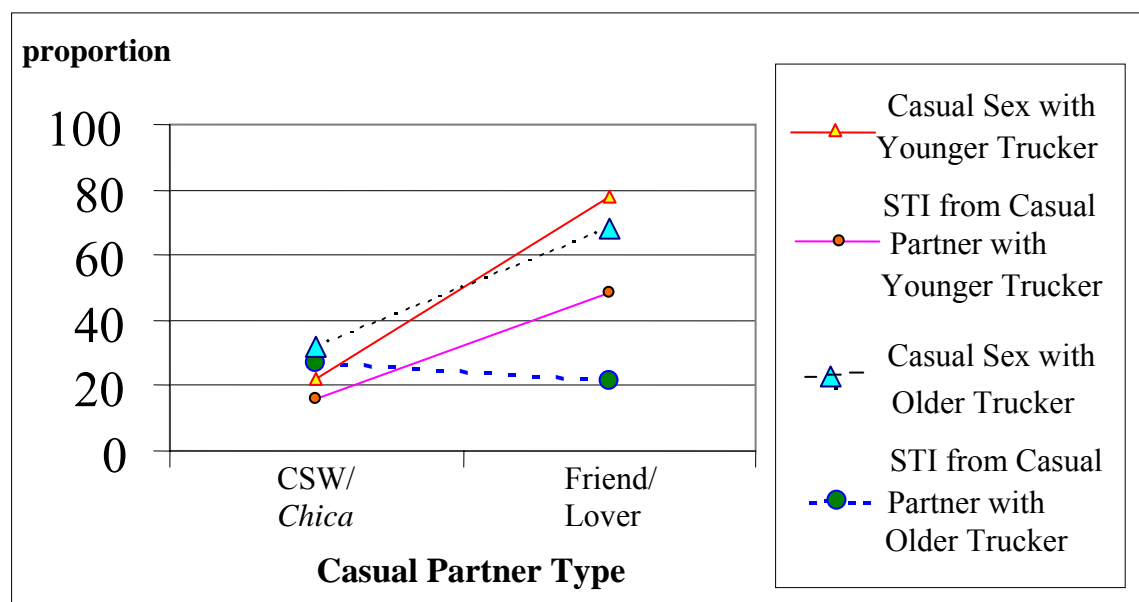
Concerning STI history, 74 (30.1%) of the truckers said they have had an STI. The majority (68.9%) of these drivers mentioned having gonorrhea (51 individuals: 41 participants having it one time and ten participants more than once), 10.8% with chancroid (eight individuals and one participant having it more than once), and five cases (6.8%) of syphilis. Seven cases of STI (9.5%) were of an unknown origin or could not be specifically recalled.

No significant differences were found between age group and STI or partner type. However, when age group, proportion of STI, and proportion of type of casual partner who caused the last infection (from Table 8), is plotted on a graph (Figure 4), an interesting pattern emerges. First, in both age groups, contact from ‘friend/lover’ type of casual partner contact was higher than CSW/*chica* contact, but the difference was more pronounced in younger truckers. Second, the clumping of points around the CSW/*chica* indicate that infection is more likely to occur if there is CSW contact rather than friend/lover casual partner contact. Third, there was a larger STI transmission proportion for younger truckers via ‘friend/lover’ casual partner contact than for older truckers.

Lastly, less than half (41.9%) of the participants who had an STI mentioned to their regular partners that they were infected. About one out of 20 (5.4%) of the participants who had an STI claimed they were never treated for their STI.

Survey: Condom Use Descriptive Results

In regards to condom use, 69.1% (170/246) of the truck drivers said they had used condoms sometime in the past. Of those, 49.4% (84/170) had used them in the last three months, and 33.5% (57/170) had used them in the last month. Furthermore, 18.7% (46/246) of the

Figure 4: Proportion of STI and Last STI Caused by Partner Type, by Age Group.

participants claimed that they always carried condoms with them. Table 9 summarizes condom use figures by age group.

Recall that about 16% of the truckers said they always or nearly always consumed alcohol or drugs before sex with a casual partner, and another 59% said that they sometimes consume alcohol or drugs before sex with a casual partner. A follow up question asked if they used condoms with casual partners after consuming drugs or alcohol. Of the participants who said they consumed alcohol or drugs before sex with a casual partner, more than half-- 59.7% (74/123) also said they used condoms.

Younger Bolivian truckers demonstrated a slightly greater condom use proportion with casual partners within the last three months, than with regular partners (49.4% [38/77] vs. 41.8%[56/134]), whereas older truck drivers demonstrated the opposite, their condom use involvement bearing less with casual partners than with regular partners (36.7% [22/60] vs. 42.2% [27/64]). In general, condom use increases with the number of partners, regardless of trucker age group.

Table 9: Condom Use of Bolivian Truck Drivers by Age Group

	ages 18 -36		ages 37 - 67		Chi-square
	n	(%)	n	(%)	significance
Ever used condom	106	77.9	64	58.2	.001**
Used condom in last 3 months	57	53.8	27	42.2	.004**
Used condom in last month	44	37.7	13	17.2	.000**
Carrying condoms					
Always carry condoms	28	20.6	18	16.4	.000**
Sometimes carry condoms	76	55.9	34	30.9	
Never carry condoms	31	22.8	56	50.9	
Regular Partners (wife or steady girlfriend)					
Always condom use (vaginal)	11	8.2	5	4.8	.057†
Sometimes condom use (vaginal)	45	33.6	27	25.7	
Any condom use with anal sex	8	47.1	1	100.0	1.000†
Casual Partners					
Always condom use (vaginal)	34	44.1	26	43.3	.036
Sometimes condom use (vaginal)	20	26.0	6	10.0	
Any condom use with anal sex	7	41.0	1	16.7	.369†
After drug/alcohol use (casual partner)					
Most of the time or always	18	25.0	8	15.7	.457
Sometimes	27	37.5	21	41.2	
Never	27	37.5	22	43.1	

** p<.05 after Bonferroni correction † Fisher's Exact Test

Survey: Cognition Descriptive Results

A knowledge index was constructed from eleven items (eight concerning HIV transmission and three concerning STI transmission). The younger and older participant responses were nearly identical (Table 10). Similarly, attitude scores concerning condom use

were comparable across age groups. There was a slight difference with the older participants showing better attitudes in condom use. Concerning attitudes of HIV testing, the older participants showed increasingly better attitudes. None of these differences, however, were significant. In an attempt to explain this, all the items composing the attitude indices were scrutinized by age group. All, except for one, were similar across age groups. That one item

Table 10: Cognitions Pertaining to Sexual Behavior

Cognition	ages 18 -36		ages 37 - 67		Chi-square significance
	n	(%)	n	(%)	
Social Cognitive Constructs					
Knowledge index					
Low	28	20.7	22	20.0	.608
Medium	76	56.3	68	61.8	
High	31	23.0	20	18.2	
Attitude Condom Use					
Low	27	19.9	18	16.4	.428
High	109	80.1	92	83.6	
Attitude HIV testing					
Low	63	46.3	42	38.2	.199
High	73	53.7	68	61.2	
Self-Efficacy					
Low	66	48.9	59	54.6	.374
High	69	51.1	45	41.7	
Outcome Expectancy					
Low	74	56.9	66	63.5	.311
High	56	43.1	38	36.5	
Perceived Social Norms					
Low	59	43.7	53	48.6	.443
High	76	56.3	56	51.4	
Miscellaneous Cognition					
Perceived Risks					
Low	40	29.6	32	29.4	.963
High	95	70.4	77	70.6	
Fear of HIV trans					
No fear	19	14.0	21	19.3	.536
Some fear	63	46.3	47	43.1	
A lot of fear	54	39.7	41	37.6	

** p<.05 after Bonferroni correction

stated, “condoms diminish sexual pleasure”. Seventy-nine percent (106/135) of the younger truckers agreed that condoms diminish sexual pleasure, whereas only 60.2% (65/108) of the older truckers agreed. Perhaps younger truckers, who used condoms significantly more, and in riskier situations, considered it more a duty to use condoms. Even so, when looked at as a whole group, truckers in general (70.4%- 106/171) mentioned that condoms diminish sexual pleasure.

To repeat, Bolivian truck drivers in this study expressed a high concern for risk in their profession, particularly from accidents. The perception of risk, however, extended to specific risk for HIV infection (Table 10). There was no difference in risk or fear of infection by age group. If a participant admitted to being at risk for HIV transmission they were then asked, why? They were not offered *a priori* choices in which to respond so classification was derived through a content analysis approach. Of those who admitted risk for HIV transmission, the majority claimed that the reason was that their partners were not well known (21.7%- 33/152-- literally “unknown”). The next most frequent reason was admitting to having had multiple sex partners (13.2%- 20/152). Table 11 shows these reasons by order of response proportion.

Table 11: Reasons for Perceived Risk of HIV Infection* †

	N	(%)
Partners are not well known (<i>gente desconocida</i>)	33	21.7
Having concurrent multiple partners	20	13.2
Does not protect self using condoms	14	9.2
In contact with contaminated blood in clinics and hospitals	14	9.2
Partner may be infected or ill	13	8.6
Fault of women (set traps/not healthy/have multiple partners)	13	8.6
For having any relationship	13	8.6
Exposed to dirty baths	9	5.9
Having relationships on the road/traveling	7	4.6
Eating related concerns: contaminated food/dirty utensils	6	4.0
Contempt of self/sin/temptation	4	2.6
Lack of caution	3	2.0
Lack of cleanliness	3	2.0

* some participants offered more than one category. 73/148 (29.7%) did not answer.

† those responses with frequencies of only 1 or 2 where not included.

Four items from the instrument were used to construct a self-efficacy index. A slight difference emerged when stratified by age group, with the younger participants demonstrating more self-efficacy (Table 10). This difference was not significant. When each item was examined to check which contributed most to this difference, it was noted that claims in ability to use condoms while drunk exhibited nearly a 20 percent difference in the age group proportions (57.8% [78/135] younger vs. 37.0% [40/108] older). This sole item demonstrated significance across age groups ($P < .001$).

Concerning outcome expectancy, a similar effect is seen when stratifying by age group. That is, older participants demonstrated worse outcome expectancy scores than younger truckers (Table 10). Again, this difference was not significant.

In regards to perceived social norms, nine items from the questionnaire were used to create an index which expressed awareness of sexual behavior in others, including condom use. If participants stated 'yes' to what they thought their peers were doing, then they received a higher score whether the behavior was healthy or not. Younger truckers showed slightly higher scores of perceived social norms (Table 10). Once again, this difference was not significant.

The three cognitions, self-efficacy, outcome expectancy, and perceived social norms, are mentioned in theory as key social cognitions. Even though they were not significant separately, collectively they may help explain why younger truckers use condoms more than older truckers, since the younger participants had slightly elevated scores for each cognition compared to older participants.

Survey: Social Desirability Descriptive Results

Social desirability addresses a suspicion that participants answer what they think the questioner wants to hear. Ten items from the instrument were compiled into a social desirability

index. Examining this index by age group reveals no significant difference between younger and older truck drivers (Table 12).

Hypothesis #2 states that SES, cognitive, and stage factors show no differences by condom use groups. Hypothesis #3 states, similarly, that SES, cognitive, and stage factors show no differences by STI history groups. To fully address hypothesis two and three, a correlation

Table 12: Social Desirability by Age Group

Social desirability	ages 18 -36		ages 37 - 67		Chi-square significance
	n	(%)	n	(%)	
Low	17	12.5	22	20.0	.227
Middle	95	69.9	67	60.9	
High	24	17.6	21	19.1	

** p<.05 after Bonferroni correction

analysis was completed between social desirability and cognitive constructs, to assess validity of participant responses. The results are presented in Table 13.

Table 13: Bivariate Correlations with Cognitive Factors and Social Desirability

	outcome expectancy	Attitude condoms	attitude HIV testing	social norms	perceived risks	knowledge	social desirability
Self-efficacy	.038	-.010	.047	.182**	.186**	-.045	.006
Outcome expectancy		.200**	-.085	-.045	-.068	.068	-.091
Attitude condom			.101	-.022	-.023	.165	-.047
Attitude HIV testing				-.092	.020	.036	.049
Perceived social norms					.094	-.164	.046
Perceived risks						.062	.088
Knowledge							.003

** p<.05

Three correlations are conspicuous. First, perceived social norms associated with self-efficacy. Likewise, attitudes towards condoms demonstrated significant correlation with outcome expectancies. These correlations support the idea of a synergetic relationship between

social cognitions. Additionally, self-efficacy significantly correlated with perceived risk. The most satisfying finding, however, is the lack of significant association between any cognition and social desirability. This indicates that participant responses are valid.

CROSS-SECTIONAL SURVEY-- ADULT STAGE INVESTIGATION

Factor Analysis

Hypothesis #1 states that ADST factors do not significantly associate with sexual behaviors, nor cognitions pertaining to sexual behavior (self-efficacy, outcome expectancies, knowledge, attitudes, perception of social norms, or perception of risk). To address this hypothesis, two exploratory factor analyses were done to compare and contrast results between varimax and oblique rotations. Ochse et al. (1986) analyzed adult stage constructs using oblique rotation. Oblique rotation produces factors which are intercorrelated. Stevens (1996) cites other researchers who state that this is a practical approach for theoretical reasons. On the other hand, varimax produces uncorrelated factors. This generally renders the interpretation easier. Stevens suggests running both oblique and varimax to consider differences because they should not be considered competing methods, but rather two different points of view to one problem.

Reliability of items in the ADST index was assessed. The entire scale gives a Cronbach's alpha of .53. This is a moderately low, but adequate figure. Therefore, all 16 items were used in factor analysis.

On one hand, the Kaiser method of loading stopped at six factors in both varimax and oblique rotations. But if the average communality value was less than .600 and the eigenvalue was set at unity, the factors would not emerge as robust results. One could adjust this by raising the eigenvalue; this would decrease the number of factors. On the other hand, one could select

the number of factors using a Scree plot as guide. Figure 5 shows the Scree plot and indicates two loadings, using both varimax and oblique rotations. A compromise was therefore reached whereby three components were examined for further analysis. Table 14 shows the resulting factors, comparing oblique and varimax rotations, having stopped after three loadings.

Figure 5: Scree Plot for ADST Factor Analysis

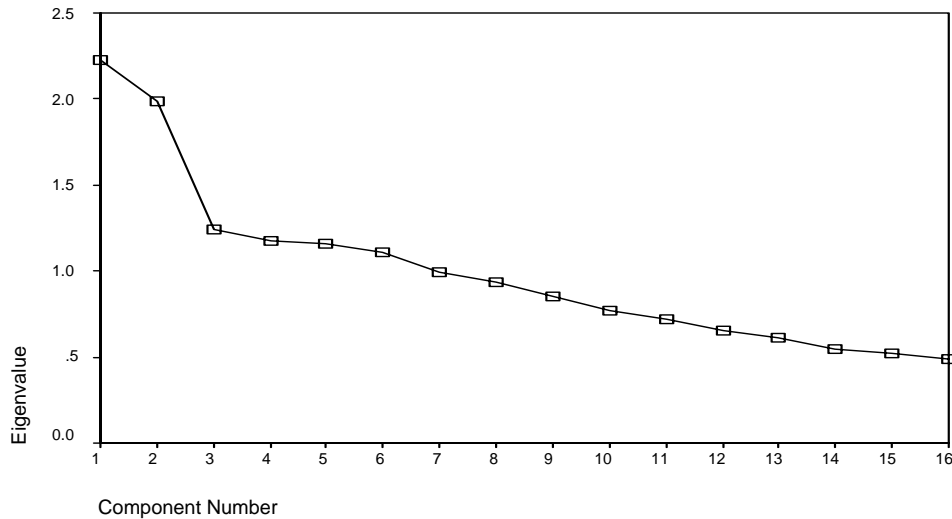


Table 14: Factor Analysis Summary on ADST

Rotation	Factor*	Items	Variance	Cumulative Variance	Interpretation
Oblique	1	19,20,22,28,29	13.9%	13.9%	stage VII- generativity- positive
	2**	24	12.4%	26.3%	stage VI- intimacy- positive
	3	25,31,32,33,34	7.8%	34.1%	stage VI- intimacy
Varimax	1**	21,23,27,30	13.9%	13.9%	stage VII- generativity- negative
	2	19,20,22,29	12.4%	26.3%	stage VII- generativity- positive
	3	31,32,33	7.8%	34.1%	stage VI- intimacy

*three components by forcing eigenvalue=1.2

**unshared components

The oblique and varimax rotations were shared and nearly equal on two of three of the factors.

The first factor was constructed from five of eight stage VII items on the questionnaire (19,20,22,28,29). Four of the items were worded positively, giving this component a definite, positive “generative” classification. Sentiments reflected here are desires and enjoyment in guiding less experienced truckers (or youth), a willingness to talk to others about bettering their community, and a desire to learn a musical instrument (item 28- in oblique but not varimax). Only one of the items (19) was worded less positively and expressed concern and worry about changes taking place in the community.

The second factor: Three of eight stage VI items on the questionnaire were grouped in this factor (31,32,33). One of these items was worded positively, expressing sentiment of a confident, intimate relationship, and was so classified for this factor. The less positive items expressed recognition to spend more time with the family, and that one “fights” with life’s situations to gain stability.

Two other, positive, intimate items (25,34) appeared in the oblique but not varimax rotation. These extra recognitions reflected a pride of work and the ability to share intimate thoughts with someone else.

These two factors were thus the principle factors that emerged from this analysis. These two factors were largely positive and mirror stages VII and VI in ADST. This finding supports future research using an Erikson model to assess adult stages in men, and supports the notion that the model can be used in multi-cultural settings.

The unshared factors merit mention, also, since they raise questions. First, why did items 21, 23, 27, and 30 factor in varimax but not in oblique analyses? These are negatively worded stage VII items, reflecting stagnation. Secondly, why did item 24 appear in oblique analysis,

uniquely and strongly, and then not emerge in varimax analysis? It is the quintessentially positive, intimacy item “I feel close to someone”. Recall that there already emerged an intimacy factor; why did item 24 not merge into that factor?

ADST and Age Groups

Before testing behaviors with ADST constructs the investigator performed a T-test for equality of means on the ADST indices, by age group (Table 15). In terms of competing factor

Table 15: Stage Factors T-test by Age Group

Stage Factors	range	age group 18-36 mean	s.d.	age group 37 - 67 mean	s.d.	signifi- cance
Oblique						
Generativity	1-25	19.24	4.05	20.14	3.60	.072
Positive Intimacy	1-5	3.68	1.54	4.03	1.26	.061
Intimacy	11-25	20.49	3.35	21.57	2.86	.008**
Varimax						
Negative Generativity	4-20	11.84	4.06	11.75	4.60	.867
Positive Generativity	6-20	15.59	3.28	16.48	2.82	.025
Intimacy	5-15	12.56	2.37	13.26	2.02	.014**

** p<.05 after Bonferroni correction

analysis methods, it made little difference whether one used varimax or oblique. Intimacy constructs from both methods emerged significant in the older participants. Yet, unexpectedly, only the intimacy construct demonstrated significance across age groups-- higher intimacy manifested more in older truck drivers. The interpretation need not go against the Erikson model, however. Perhaps the older truckers successfully resolved their intimacy crises and have moved on. More over, there seems to have been a marginal emergence of a ‘positive’ construct (note oblique positive intimacy, and varimax positive generativity) borrowing from both stages. Again, the older truckers had the increased scores. Only with a ‘negative’ construct did the younger truckers have higher scores, albeit not significantly.

Correlation between Social Desirability and ADST Factors

Correlations between stage constructs and social desirability were analyzed. These results are shown in Table 16. This analysis was done to: 1) Gain evidence with which to interpret; and 2) Reconfirm the theory behind factor analysis techniques. That is, by definition, there should not be correlation between components in varimax analysis, but should be between oblique factors (Stevens, 1996).

Table 16: Bivariate Correlations among ADST and Social Desirability

	Varimax Pos VII	Varimax VI	Oblique Pos VII	Oblique Pos VI	Oblique VI	social desirability
Varimax Negative VII	.057	.093	.100	-.235**	.003	.124
Varimax Positive VII		.167**	.888**	.163	.233**	.062
Varimax VI			.216**	.103	.683**	.055
Oblique VII				.130	.246**	.045
Oblique Positive VI					.183**	-.014
Oblique VI						.174**

** $p < .05$

In general, social desirability did not correlate with adult stage factors, except for the oblique factor that represented stage VI (intimacy). This indicates that, in general, participant responses are valid. But the specific emergence of association between social desirability and oblique stage VI is difficult to interpret. Before attempting an interpretation, three other findings merit mention concerning the correlation analysis. First, as expected, all the oblique indices correlated with each other; this is a consequence of oblique rotation by definition. Second, one notes two very high correlations between oblique positive stage VII items and varimax positive stage VII items, and again between oblique and varimax stage VI items. This is not surprising as many of the individual items were shared. Thirdly, the insignificant correlations between the

varimax indices, in general, reconfirm the theory behind varimax rotation that factors should not be correlated. And yet, fourthly, a high inverse correlation between oblique positive VI and varimax negative VII factors was demonstrated.

Oblique VI correlated significantly with all other factor analysis constructs, except for the varimax negative VII factor. Recall that intimacy (VI) scores tested significantly greater in older truck drivers. Also recall that younger truckers scored a slightly higher average with the negative generative factor, and older truckers scored slightly higher on other ‘positive’ factors. There seems to be an underlying, ‘negative’ cognition pertaining to sex, permeating the younger truck drivers. Indeed their attitudes, and some social perceptions, seemed to be more negative than with older participants. Perhaps younger Bolivian men tend to act more *macho*, which has negative sexual connotations. On the other hand, when looked at through a behavioral lens, interpretation bogs down. Younger men use condoms significantly more. Other social cognitions like self-efficacy and outcome expectancy were higher in younger truckers.

Correlation between Cognitions and ADST Factors

So far, analysis has revealed factors that correspond to ADST constructs, as described by Erikson. Analysis has also revealed a significant age difference in one of those factors, labeled ‘intimacy’. Next, the investigator examined associations between cognitions pertaining to sexual behavior and stage factors. These results are shown in Table 17.

This analysis exposed four findings: First, knowledge of HIV/STI transmission contributed two significant correlations, and all knowledge correlations with stage factors were negative. Somehow, varimax positive generativity VII and/or oblique intimacy VI interact inversely with knowledge, such that, when knowledge decreases, these factors emerge. Secondly, the oblique intimacy VI factor significantly manifested again, with perceived social

norms. Thirdly, a related factor, varimax intimacy VI showed significant correlation with perceived social norms and perceived risks (these two intimacy factors were important in T-tests

Table 17: Bivariate Correlations among Cognitions and ADST

	Outcome expectancy	Attitude condoms	Attitude HIV testing	Perceived social norms	Perceived risks	Knowledge	Self-efficacy
Varimax Neg VII	.078	-.094	-.163	.163	.088	-.139	.095
Varimax Pos VII	-.144	-.018	.072	.121	.081	-.210**	.032
Varimax VI	-.005	-.085	.007	.169**	.177**	-.128	.022
Oblique Pos VII	-.083	-.048	.048	.093	.066	-.130	.027
Oblique Pos VI	-.058	-.033	.041	.003	.080	-.117	.025
Oblique VI	-.141	-.150	.066	.170**	.133	-.172**	.000

** p<.05

by age group [Table 15]). Recall that younger truckers demonstrated higher perceived social norm levels than older truckers. But, instead of saying that younger truckers have a higher perception of social norms, perhaps the emphasis should be in stating that older truckers have a lower perception, since intimacy associated with perceived social norms. Also, note that another cognition, attitudes about condom use, reveal negative correlations, much like knowledge, even though none were significant.

The next section continues to examine the performance of the stage factors, three from oblique rotation and three from varimax rotation, in univariate ANOVA and MANOVA analyses, in order to assess stage association with behaviors (condom use and STI history).

CROSS-SECTIONAL SURVEY-- MODEL ANALYSIS

A series of analyses were performed on condom use and STI history groups. First, univariate ANOVA and Chi square testing were performed to identify significant independent variables. MANOVA testing was next, to fine tune the list of emerging significant variables, with better control on intercorrelations. Lastly was logistic regression analysis, to identify predictors in a behavioral model.

Modeling: Univariate ANOVA and Chi-squares by Condom Use

Condom use was initially categorized into three groups: 1) Never used condoms, 2) Used condoms but not recently (within two to three months), and 3) Recent condom use (within the last month). Type-I error was adjusted by Bonferroni correction. Table 18 shows the univariate ANOVA results. Table 19 shows the Chi-square results with categorical variables.

Concerning condom use, three SCT constructs attained significant status; stage constructs did not. The significant cognitions included outcome expectancy, perceived social norms, and knowledge. Recall that, from Bandura (1977, 1986), outcome expectancy is an anticipated benefit. It is a symbol of memory, transformed into forethought capacity. Outcome expectancy partially composes motivation. The truck drivers who used condoms most recently had the highest outcome expectancy scores. Therefore, they were motivated to protect themselves. Perception of social norms also had a significant association on condom use. The group of truckers who used condoms the most recent seemed to express the strongest attention about others concerning sexual behavior. Likewise, truckers who did not use condoms at all were not aware of others as much. In regards to knowledge, those who used condoms but not recently held the highest knowledge scores; lowest knowledge went to those who have never used condoms.

Table 18: Univariate ANOVA Means and F-Ratios across Three Condom User Groups

Measure	Nonusers (N=76)	Used, not recently (N=95)	Used last month (N=72)	Range	standard error	Uni- variate F
Demographic						
Age	39.70 nk	35.73	33.01	18 - 67	0.670	8.191**
Education	2.48	2.82	2.82	1.0 - 5.0	0.063	4.101
Salary†	.21	.29	.24	0.0 - 0.6	0.013	3.590
Occupational						
Time on road	1.96	2.00	1.89	1.0 - 4.0	0.044	0.551
Extent of travel	2.11	2.12	1.92	1.0 - 3.0	0.036	3.092
Stage						
Intimacy (VI) entire	30.79	30.15	30.44	17 - 40	0.256	.538
Generativity (VII)entire	28.90	28.85	28.58	12 - 40	0.367	.065
Varimax neg VII	11.15	12.22	11.83	4 - 20	0.278	1.317
Varimax pos VII‡	.41	.32	.31	.07 - 1.0	0.019	2.523
Varimax VI‡	.56	.55	.54	.09 - 1.0	0.024	.076
Oblique VII‡	.33	.27	.26	.05 - 1.0	0.018	1.428
Oblique pos VI‡	.74	.63	.65	.20 - 1.0	0.021	2.446
Oblique VI‡	.39	.32	.36	.07 - 1.0	0.020	1.165
Social cognitive						
Self-efficacy	1.07	1.33	1.81	-3.0 - 4.5	0.113	3.480
Outcome expectancy	.56 nk	1.18	1.46	-1.0 - 3.0	0.079	11.275**
Attitude condom use‡	1.23	1.30	1.48	0.0 - 2.2	0.038	3.656
Attitude HIV testing	.84	1.10	.63	-4.0 - 4.0	0.109	1.606
Social norms	5.98	6.12	6.94 nk	0.5 - 10.5	0.126	5.388**
Knowledge	3.22 nk	4.91 nk	3.76	-5.0 -13.0	0.254	4.184**
Miscellaneous measures						
Perceived risks‡	.55	.67	.58	.15 - 1.0	0.019	3.844
Social desirability	29.97	31.00	31.06	14 - 47	0.341	1.020
Behaviors						
Number sex partners	2.43	2.27	2.75 nk	0 - 11	0.065	4.717**
Carry condoms	N/A	-	-	-	-	-
Number STI†	.12	.04	.10	0.0 - 0.7	0.019	1.759

** p<.05 after Bonferroni correction

† Log transformed

‡ Inverse transformed

nk Newman Keuls post hoc test for group significance

One demographic and one behavioral variable also demonstrated significance: Age and number of sex partners. Not surprisingly, with age, older truckers were more likely to be condom non-users; younger truckers used condoms more frequently. Concerning number of sex

partners, the more sex partners a truck driver had, the more likely that that trucker had used condoms recently.

Table 19: Pearson Chi-Square Values across Three Condom User Groups

Measure	Value	df	Significance Pearson X^2
Demographic			
Ethnicity (<i>Colla, Camba</i>)	3.317	2	.190
Marital status (Y,N)	2.978	2	.226
Religion (Catholic,Other)	.714	2	.700
Residence (<i>altiplano</i> ,tropical)	14.792	2	.001**
Occupation			
Years experience (≥ 10 years, < 10)	9.923	2	.007**
Work status (alone, w/aide, w/co-worker)	2.827	4	.587
Work company (owner,registered,independent)	.903	4	.924
Union (Y,N)	2.384	2	.304
Site (North, South, West)	4.133	4	.388
Behavior			
Drug Use (No, <i>Calmente</i> , illegal)	7.666	4	.105
Anal sex (Y,N)	1.082	2	.580
Type of sex partner (CSW, lover)†	.333	2	.846

** $p < .05$ after Bonferroni correction †casual partners only

Furthermore, there emerged two significant categorical variables by condom use groups. These two were 'residence' and 'number of years-experience' as a truck driver. A truck driver who resided in the Bolivian tropics was more likely to use condoms more recently; those living in the *altiplano* were more likely to have never used condoms. Concerning experience, the drivers with the least experience demonstrated more recent condom use.

This study began with the notion that stage may impact sexual behaviors. The entire generative index was marginally significant, along with the varimax intimacy factor, on condom use. However, after Bonferonni correction, every stage component dropped out of significant status.

Modeling: MANOVA by Condom Use

From the previous section, one witnessed three cognitions emerging significant on condom use. Earlier, it was demonstrated that some cognitions correlated with each other (Table 13); self-efficacy significantly correlated with perceived social norms, for example. Therefore, the study strategy shifted to analysis that took into account intercorrelations. A MANOVA was done for this reason, but also as a last check for stage constructs to see if any significance arises using a different analysis format.

In MANOVA analysis with condom use groups, the demographic, cognition, and behavioral measures significantly associated with condom use, and are presented in Table 20. Once again, age achieved significance, echoing the ANOVA analysis, and explaining 5.6% of condom use group variance. The MANOVA, unlike the ANOVA component, selected only two cognitive outcome measures. These variables were outcome expectancy and perceived social norms; knowledge dropped out. Together, these two variables explained another 13% of the condom use group variance. In addition, number of sex partners remained a significant predictor. The number of sex partners variable alone explained 12.4% of variance in condom use groups. Total variance explained by these four significant variables amounted to 31%.

Modeling: Logistic Regression on Condom Use

Aim #5 of the study sought to determine what variables predicted condom use, controlling for all other variables. A regression model was sought, which used and controlled for the significant MANOVA and Chi-square variables by condom use groups. Logistic regression was chosen as the analysis method. This choice yielded the advantage of controlling for each variable included in the model, the flexibility to be able to include a wide range of types of measures (demographic, behavioral, occupational, cognitive), increased power, and little

worry about normal distribution assumptions. The outcome remained the same with condom use, but collapsed from three condom use categories to ‘no condom use’ versus ‘any condom use’.

Table 20: MANOVA across Three Condom use Groups

Measure	Value	Type III SS	F	Significance	Eta Sq	Power
Demographic Wilks' Λ	.899	-	4.296	.000**	.052	.982
Age	-	1405.052	6.983	.001**	.056	.924
Education	-	7.660	4.112	.018	.034	.724
Salary†	-	.292	3.590	.029	.029	.661
Occupation Wilks' Λ	.974	-	1.580	.179	.013	.488
Time on road		.394	.429	.652	.004	.119
Extent of travel		1.935	3.097	.047	.025	.593
Stage Varimax Wilks' Λ	.967		1.353	.232	.017	.530
Varimax neg VII	-	49.329	1.317	.270	.011	.283
Varimax pos VII‡	-	.445	2.523	.082	.021	.502
Varimax VI‡	-	.021	.076	.927	.001	.061
Stage Oblique Wilks' Λ	.967	-	1.342	.237	.017	.527
Oblique VII‡	-	.228	1.428	.242	.012	.304
Oblique pos VI‡	-	.552	2.446	.089	.020	.489
Oblique VI‡	-	.230	1.165	.314	.010	.254
Cognition Wilks' Λ	.773	-	3.880	.000**	.121	1.000
Self-efficacy	-	23.602	3.876	.022	.037	.696
Outcome expectancy	-	22.417	8.869	.000**	.080	.971
Attitude condom use‡	-	2.058	3.276	.040	.031	.618
Attitude HIV testing	-	5.463	1.004	.368	.010	.224
Social norms	-	36.311	5.097	.007**	.048	.817
Perceived risks‡	-	.643	3.947	.021	.037	.705
Knowledge	-	88.931	3.093	.047	.029	.591
Behaviors Wilks' Λ	.849	-	2.995	.021**	.079	.786
Number sex partners‡	-	10.761	5.019	.009**	.124	.799
Number STI†	-	.091	1.759	.180	.047	.357

** p<.05 after Bonferroni correction † Log transformed ‡ Inverse transformed

Table 21 shows the unadjusted and adjusted odds ratio for all variables in the model and those that ultimately emerged.

Backward conditional regression was used as a conservative measure in which to select the variables. Four steps were performed for the condom use analysis. As can be seen from Table 21, three significant variables emerged. The null hypothesis is rejected-- there exist predictors of condom use, one of which is demographic in nature and the other two are constructs from SCT. The variables are age, outcome expectancy and perceived social norms. Age shows an inverse trend, that is, an increase in age militates against condom use. More specifically, for every year that a truck driver ages, he is 4% less likely to use condoms. It is harder to interpret the SCT cognitions since the scales on which they operate are arbitrarily constructed, though ordinal. However, one can see that outcome expectancy holds the greatest influence on condom use, by the P-value and odds ratio.

Table 21: Multivariate Logistic Regression Factors Associated with Differences between No Condom Use and Any Condom Use (n=246)

	Unadjusted P-value	Unadjusted Odds Ratio (95% C.I.)	Adjusted P-value	Adjusted Odds Ratio (95% C.I.)
Age	.008**	.952 (.92 - .99)	.005**	.958 (.93 - .99)
Outcome Expectancy	.000**	1.751 (1.34 - 2.30)	.000**	1.724 (1.33 - 2.24)
Perceived Social Norms	.079	1.156 (.98 - 1.36)	.039**	1.180 (1.01 - 1.38)
# Sex Partners	.815	1.038 (.76 - 1.41)	N/A	
Where Live <i>Altiplano</i> Tropical	N/A .133	1 (reference) .595 (.30 - 1.17)	N/A	
Years experience =< 10 yrs > 10 yrs	N/A .579	1 (reference) 0.803 (.37 - 1.75)	N/A	

**p<.05

Modeling: Univariate ANOVA and Chi-squares by STI History

The second outcome, STI history, was considered a sexual risk construct, albeit retrospective in nature. The participant was classified into either 1) never had an STI, 2)

Table 22: Univariate ANOVA Means and F-Ratios across Three STI History Groups

Measure	Never had STI (N=142)	STI not recent (N=53)	STI recent <4 years (N=20)	Range	standard error	Uni-variate F
Demographic						
Age	36.07	39.77	30.25 nk	18 - 67	0.720	6.550**
Education	2.87	2.45	2.55	1.0 - 5.0	0.085	3.998
Salary†	.24	.31	.26	0.0 - 0.6	0.014	1.870
Occupation						
Time on road	1.98	1.98	1.84	1.0 - 4.0	0.045	0.373
Extent of travel	2.11	2.00	1.95	1.0 - 3.0	0.039	1.279
Stage						
Intimacy (VI) entire	30.35	30.17	30.45	17 - 40	0.267	.052
Generativity (VII)entire	28.31	29.62	28.55	12 - 40	0.402	.962
Varimax neg VII	11.80	11.21	13.35	4 - 20	0.292	1.838
Varimax pos VII‡	.34	.36	.30	.07 - 1.0	0.020	.285
Varimax VI‡	.55	.54	.58	.09 - 1.0	0.025	.108
Oblique VII‡	.28	.31	.27	.05 - 1.0	0.019	.253
Oblique pos VI‡	.64	.71	.64	.20 - 1.0	0.023	.914
Oblique VI‡	.35	.33	.33	.07 - 1.0	0.021	.076
Social cognitive						
Self-efficacy	1.46	1.30	1.18	-3.0 - 4.5	0.122	.329
Outcome expectancy	1.18	.89	.78	-1.0 - 3.0	0.083	1.752
Attitude condom use‡	1.43	1.36	1.06	0.0 - 2.2	0.038	3.846
Attitude HIV testing	.87	1.06	.05	-4.0 - 4.0	0.116	2.669
Social norms	6.20	6.76	6.53	0.5 - 10.5	0.128	1.756
Knowledge	4.42	4.08	4.55	-5.0 -13.0	0.269	.174
Miscellaneous measures						
Perceived risks‡	.60	.67	.65	.15 - 1.0	0.020	1.414
Social desirability	30.72	30.93	29.65	14 - 47	0.370	.415
Behaviors						
Number sex partners	2.32	2.45	3.15 nk	0 - 11	0.067	6.593**
Carry condoms†	.37	.39	.36	0.0 - 0.6	0.015	.287
Number STIs†	N/A	-	-	-	-	-

** p<.05 after Bonferroni correction

† Log transformed

‡Inverse transformed

nk Newman Keuls post hoc test for group significance

had an STI but over four years ago, or 3) had an STI within the last four years. Type-I error was adjusted for by Bonferroni correction. The same strategy applies as with condom use analysis.

The ANOVA analysis precipitated fewer variables that associated with STI history, than with condom use. Those variables were age and number of sex partners. The significant, categorical variables were marital status and years experience, as seen in Table 22 and 23.

Concerning age, older truckers were more likely to have had an STI (but not recently so). In regards to number of sex partners, the greater the number, the more likely a trucker has had a recent STI. The most experienced truckers have had significantly more STI, but not recently. The least experienced truckers demonstrated the most recent STI. Lastly, single participants showed more likelihood to have had a recent STI.

Table 23: Pearson Chi-Square Values across Three STI history Groups

Measure	Value	df	Sig Pearson χ^2
Demographic			
Ethnicity (<i>Colla, Camba</i>)	4.529	2	.104
Marital status (Y,N)	8.957	2	.011**
Religion (Catholic,Other)	4.543	2	.103
Residence (<i>altiplano</i> ,tropical)	2.788	2	.248
Occupation			
Years experience (≥ 10 years, < 10)	13.065	2	.001**
Work status (alone, w/aide, w/co-worker)	4.251	4	.373
Work company (owner,registered,independent)	.327	4	.513
Union (Y,N)	2.384	2	.304
Site (North, South, West)	10.918	4	.028
Behavior			
Drug Use (No, <i>Calmente</i> , illegal)	10.666	4	.030
Anal sex (Y,N)	1.724	2	.422
Type of sex partner (CSW, lover)†	6.252	2	.044

** $p < .05$ after Bonferroni correction †casual partners only

The strength of attitude (both attitude of condom use and HIV testing) was noted by being marginally significant with STI history. Specifically, and unexpectedly, those who had a recent STI were more likely to hold negative attitudes about HIV testing and condom use. In

addition, all stage factors (except varimax negative generativity) were marginally significant, in contrast to the results with condom use groups. None of these variables, however, retained significant status after Bonferroni adjustment. After adjustment, no cognition emerged significant with STI history, nor did any stage factor.

Modeling: MANOVA by STI History

MANOVA was performed again, but with STI history. Table 24 shows these results.

Table 24: MANOVA across Three STI History Groups

Measure	Value	Type III SS	F	Significance	Eta Sq	Power
Demographic Wilks' Λ	.880	-	4.556	.000**	.062	.987
Age	-	1418.928	7.007	.001**	.063	.925
Education	-	7.456	4.150	.017	.038	.728
Salary†	-	.151	1.870	.157	.018	.387
Occupation Wilks' Λ	.986	-	.765	.548	.007	.246
Time on road	-	.352	.404	.668	.004	.115
Extent of travel	-	.812	1.270	.283	.012	.274
Stage Varimax Wilks' Λ	.977	-	.807	.565	.011	.321
Varimax neg VII	-	66.654	1.838	.162	.017	.381
Varimax pos VII‡	-	.048	.285	.752	.003	.095
Varimax VI‡	-	.030	.108	.898	.001	.066
Stage Oblique Wilks' Λ	.987	-	.452	.844	.006	.186
Oblique VII‡	-	.040	.253	.777	.002	.090
Oblique pos VI‡	-	.207	.914	.403	.009	.207
Oblique VI‡	-	.015	.076	.927	.001	.061
Cognition Wilks' Λ	.924	-	1.002	.451	.039	.635
Self-efficacy	-	4.978	.758	.470	.008	.178
Outcome expectancy	-	5.300	2.030	.134	.022	.415
Attitude condom use‡	-	1.693	3.093	.048	.033	.590
Attitude HIV testing	-	6.669	1.211	.300	.013	.262
Social norms	-	4.086	.608	.546	.007	.150
Perceived risks‡	-	.073	.443	.643	.005	.121
Knowledge	-	3.648	.126	.882	.001	.069
Behaviors Wilks' Λ	.940	-	3.267	.012**	.030	.834
Number sex partners‡	-	11.613	6.387	.002**	.057	.899
Carry condoms†	-	.028	.287	.751	.003	.095

** p<.05 after Bonferroni correction

† Log transformed

‡ Inverse transformed

In MANOVA analysis with STI history groups, only demographic and behavioral measures significantly associated with STI history. Specific, significant variables were age and number of sex partners, echoing the ANOVA results. Their effect explained only 12% of the total STI history variance.

Modeling: Logistic Regression on STI History

Again, aim #5 sought to determine what variables predicted STI history. Table 25 shows the results from the logistic regression on STI history. Variables significant in the MANOVA and Chi-square analysis were included in the initial regression model. Backward conditional regression was performed; four steps were completed for the STI history analysis. Only one variable emerged significant-- number of sex partners. The null hypothesis #3 is rejected-- that is, there exists at least one predictor of STI history. With every sex partner cumulating in a truck driver's current sex history, he undergoes a 39% greater likelihood of acquiring an STI.

Table 25: Multivariate Logistic Regression Factors Associated with Differences between Those With and Without STI History (n=246)

	Unadjusted P-value	Unadjusted Odds Ratio (95% C.I.)	Adjusted P-value	Adjusted Odds Ratio (95% C.I.)
Age	.643	1.009 (.97 - 1.05)	N/A	
# Sex Partners	.026**	1.399 (1.04 - 1.88)	.024**	1.392 (1.04 - 1.86)
Marital Status			N/A	
Married	N/A	1 (reference)		
Single	.424	.757 (.38 - 1.50)		
Years experience			N/A	
≤ 10 yrs	N/A	1 (reference)		
> 10 yrs	.902	1.406 (.51 - 2.13)		

**p<.05

Summary

This section reveals results that do not support Erikson-model stage constructs as predictors to high risk sexual behavior of Bolivian truck drivers. Null hypothesis #1 is retained. Yet, age was significant by condom use groups. Therefore, the perceptions and actions of these men do change by age, but not innately through maturation or ego stages in a man's life.

Age, outcome expectancy, and perceived social norms predicted condom use in Bolivian truck drivers. Two of these predictors are social cognitive constructs. On the other hand, number of sex partners predicted STI history. There are no variables that predicted both behaviors, though age and years-experience as a trucker approached this standing.

To recapitulate the study's hypotheses: 1) After controlling for SES, cognitive, and behavioral factors, these same factors are equal across adult development stages. This was true-- there were no significant differences in condom use groups or STI history groups by stages. 2) After controlling for SES, cognitive, stage, and behavioral factors, these same factors show no difference on condom use groups. This was false, due to the emergence of age, outcome expectancy, and perceived social norms as predictors. Lastly, 3) after controlling for SES, cognitive, stage, and behavioral factors, these same factors show no difference on STI history use groups. This was false, due to the emergence of number of sex partners as a predictor.

The qualitative research results indicate a high risk of HIV/STI transmission through sex with several casual partners, a high proportion of STI, a moderate to high anal sex rate, inconsistent knowledge of transmission, inconsistent condom use, and poor attitudes towards condom use. An underlying *machismo* culture may contribute to some of these findings, along with mistrust of medical care or testing.

Quantitative findings concur with many qualitative findings. Particularly, this research detected a high proportion of truckers admitting to many casual sex partners and a past history of STI. Stage did not associate with sexual outcomes. Analysis revealed, however, that age, outcome expectancy, and perceived social norms predict condom use. Number of sex partners predicts STI history.

Interpretation of these results is reserved for chapter six. The next chapter, five, presents an evaluation of the workshops.

CHAPTER 5

WORKSHOP EVALUATION

Evaluation is a process of describing the worth of a program. Like research, evaluation seeks to achieve standards (Joint Committee on Standards for Educational Evaluation [JCSE], 1994). One of the aims in evaluation is to get feedback from as many involved stakeholders as possible. The workshops that evolved with this investigation were held for approximately 367 truck drivers in the Province of Santa Cruz, from June to August, 2002. This effort involved several stakeholders. This chapter, therefore, includes six separate evaluations about the workshop, by different stakeholders, representing their perceptions of what had happened.

On top of the six evaluations from stakeholders, there is a seventh section at the end of this chapter. History plays a part in understanding the environment in which the workshops took place (Patton, 1990). Therefore, this chapter ends with a history lesson. Indeed, the lens of this chapter, compared to last chapter, is turned around. Broad assessment phases characterized the beginning research, expressed in chapter four, and its completion revealed specific significant variables precipitated from analyses. This chapter, on the other hand, begins with specific perspectives, then finishes with a historic framework. The truck driver was the focus in chapter four. There are many other points of view, however, to consider.

The sections in this chapter are: 1) Evaluation of message responses (cartoon reactions by participants); 2) Evaluation of the workshop by participants; 3) Evaluation of the workshop by

the investigator; 4) Findings from the post-questionnaire truckers; 5) Evaluation of the program by *sindicato* (union) managers or facilitators; 6) Evaluation of the program by Bolivian Health Educators (BHE); and the 7) Historical overview.

EVALUATIONS

A total of 36 sexual health workshops for truckers were held from June to August, 2002, in the Santa Cruz province. Three hundred and sixty-seven male truckers participated. Of these, 163 had been interviewed previously, and their responses were analyzed in the previous chapter (along with 83 other truck drivers who did not participate in the workshops [controls]). The number of workshop participants by site (Appendix B) is shown in Table 26.

Table 26: Number of Truck Drivers who Participated in the Workshops

Site	# Truckers in Workshop Only	# Truckers in Survey Interview & Workshop	Total
1	8	9	17
2	N/A	N/A	N/A
3	0	0	0
4	23	22	45
5	31	18	49
6	8	30	38
7	100	58	158
8	32	20	52
9	2	6	8
	204	163	367

The average number of truckers per workshop was 10.6 (range 2 to 37). The average duration of the workshop was 48 minutes, which included all five components-- the video, the interactive cartoon, the condom use demonstration, the discussion, and the enrollment/evaluation. A total of 961 condoms were handed out (or used for the condom demonstration component). The average number of condoms handed out or used per workshop was 26.7;

discounting the condoms used for demonstration, the average number given to each participant was 2.2 condoms.

The time of the workshops varied from morning (9:00 a.m.) to evening (6:30 p.m.), depending on the site. Three to four workshops were conducted every week, and they were conducted on any day of the week, taking into account the goal of reaching as many truckers as possible and convenience for the company/union. Three BHE constituted a team for a given interviewing/workshop session. The BHE rotated from among a pool of seven BHE. They were paid for their services. The investigator facilitated scheduling, communications, helped with interviewing, and acted as equipment manager.

Evaluation of message responses: Cartoons

In an attempt to engage the participants during the workshop, they were handed short, incomplete cartoons (Appendix E) dealing with truck drivers in different social settings, and condom use, and were asked to follow the reading of this cartoon by BHE. Participants were then asked to complete the dialogue of the characters in the last frame. This exercise was not an evaluation of the workshop per se, but was feedback for that particular component at that particular moment. Therefore, forthcoming participant comments were interpreted as an evaluation of attention.

The cartoons showed two different plots. The first plot was about a single trucker reflecting on his past life (counsel from his father, gaining a family, and later reflecting on his many children and/or considering sex with a potential casual partner. The word "condom" was used in the third frame, and the fourth frame dialogue was missing for them to fill in. Table 27 summarizes the themes from their responses.

Table 27: Frequency of Workshop Attention Responses using Reflective Plot Cartoon*

Notions	n	(%)
Family planning	56	46.3
Disease prevention	17	14.0
"Use Condoms"	17	14.0
Better quality of life	15	12.4
Incomplete/illegible	6	5.0
Regret for the past	5	4.1
Better financial situation	3	2.5
Other categories	2	1.7
Total	121	100.0

* some participants offered more than one category.

Actual text from the truckers who had the reflective plot cartoon was flat and predictable. The majority wrote about using condoms "so that you don't have too many children". A few of the truckers used the term *llenar* (fill) to describe a growing or saturated family. Condoms were mostly thought of as contraception, from truckers reading this cartoon, "*para no llenarse de familia*" (in order not to fill up on family).

The second plot showed two truckers working, relaxing, driving together, and always talking to each other. The words "condom" and "prostitute" were used in the third frame, and the fourth frame was blank. Table 28 summarizes the themes of the second plot responses.

Table 28: Frequency of Workshop Attention Responses using Peer Plot Cartoon*

Notions	n	(%)
Disease prevention	33	28.7
"Use condoms"	28	24.4
Psychological ease/pleasure	9	7.8
Incomplete/illegible	8	7.0
Better quality of life	7	6.1
Use condoms with all women	5	4.3
Be cautious with commercial sex workers (CSW)	4	3.5
Abstinence	4	3.5
Don't drink	3	2.6
Responsibility	3	2.6
Other categories	11	9.6
Total	115	100.0

* some participants offered more than one category.

Participants' text from the second interactive cartoon (peer plot) was more colorful and varied than from the reflective plot results. For example, from the peer plot cartoon there developed notions dealing with mental struggles or pleasure, and many responses were written as a dialogue (since there were two characters conversing in the cartoon). Responses included: "*usando g[c]ondones para no tener problemas con mujeres*" (use condoms so you don't have women problems); "*Si, hermano, aunque no se sienta bien hay que protegerse para no caer en angustia*" (Yes, brother, even though you don't feel the same [with condoms] you need to protect yourself so that you don't fall into despair); "*no preocupas de que se te caiga mi hermano, no crees?*" (don't worry if you should fall, don't you think so, brother?); "*pero es tener algo mas para disfrutar*" (but having [a condom] is something more to enjoy); "*no debes tener miedo de usarlos*" (don't be afraid of using them [condoms]); and "*mas vale prevenir que lamentarse*" (its worth more to use them [condoms] than to regret). A few of the comments expressed new labels of casual sex partners: "*A disfrutar un acto sexual con la niña*" (To enjoy sex with the girl), and "*Mira esa mujercita. Pare y la recogemos*" (Look at that little woman. Stop and let's pick her up).

The results from this interactive exercise demonstrated that, even though both cartoon themes were about condom use, mental engagement could be specifically directed depending on the plot in the cartoon. For example, the notion of condom use as a contraceptive method entered the mind of only one participant (0.8%) in the peer plot cartoon, as opposed to nearly half of the participants (46.3%-- 56/121) engaged in the reflective plot cartoon. Disease prevention as a motive of condom use yielded a substantial proportion of responses with both cartoons, but varied by a difference of 14.4%, depending on which cartoon was used.

In summation, it is possible to host workshops with different condom use messages, to the same population, emphasizing different motivations for its use. These messages should be connected to scientific modeling, however, or previous literature.

Workshop Evaluations by Participants

Truck drivers who participated in the workshops were given the chance to evaluate them afterwards. A nine-item evaluation was completed with likert scale answers ranging from one "absolutely no" to five "absolutely yes" (Appendix G). In addition, there was space for open-ended comments at the end. The first item, "I had to wait too long before participating in the workshop" gave a return of 30.5% (54/177) of truckers answering "absolutely no". However, 45.8% (81/177) mentioned that they had to wait to some degree. The second item put forth, "The discussion was a waste of time", with a majority answering "absolutely no" at 59.7% (108/181). The third item stated, "This workshop was worth it", with a solidly high proportion-- 83.8% (150/179)-- answering "absolutely yes". The fourth item was, "I learned something important from the video". Here, a majority-- 57.1% (101/177)-- answered, "absolutely yes". The fifth item, "I felt I had something important to say in the discussion", yielded 41.3% (74/179) of the participants answering "absolutely yes". The sixth item, "This workshop was too long", had with a return of 33.0% (59/179) answering, "not much"; another 27.9% (50/179) said, "absolutely no". The seventh item had to be revised after three weeks into the workshops due to lack of clarity. The revised item stated, "The condom demonstration was a waste of time". Here, the majority-- 57.5% (69/120) answered, "absolutely no". The eighth item mentioned, "I am interested in receiving more information"; 78.9% (142/180) of the truck drivers said "absolutely yes". Lastly, the ninth item presented this statement: "The education team knew

what they were doing”, and again a majority-- 76.4% (136/178)-- stated, “absolutely yes”.

These evaluations demonstrated that the educational workshops received, in general, good appraisals on all of its components, from the participants themselves.

The workshop participants were given a chance to write freely any other comments they may have had. Only 15 did so, but they spoke positively of the workshop and the attention they received. These are the comments in their entirety: “*Deberian traer mas condomes*” (They should have brought more condoms); “*Quisiera que expliquen con detalle la consecuencias de una enfermedad de transmision sexual y si hay posibilidad de cura*” (I wanted them to explain in detail the consequences of an STI and if one can cure it); “*Felicitaciones a los jovenes del equipo por dar informacion*” (Congratulations to the team for giving this information); “*Que el video tenga mejor audio*” (The video should have better sound); “*Es necesario este tipo de talleres mas a mi para el trabajo q[ue] desempeñamos (el transporte). Mis felicitaciones para este encuentro espero no sea lo ultimo*” (This type of workshop is necessary more for me because of the work we do (transportation). My congratulations for holding this meeting, I hope it will not be the last); “*Que serve de mucho porque en la vida nunca se acabe de aprender*” (Very worthwhile because, in life, one never stops learning); “*Es la primera vez que asisto a un taller parecido, casi no lo hacen en estos lugares*” (It’s the first time that I participated in such a workshop, they don’t offer them in these parts); “*Seria muy importante que vengan con mas frecuencia. Gracias*” (It is very important that you return more frequently. Thank you); “*Repartir mas folletos informativos*” (Give out more informative pamphlets); “*No sabian porque son pocos*” (They didn’t know because there were few of them); “*Agradesco por guiarnos*” (Thank you for guiding us); “*Mostrar videos sobre las enfermedades venerias los sintomas (incluido)*” (Show videos on venereal disease, including symptoms); “*Seria bueno q[ue] tambien expongan mujeres*

para q[ue] la gente piense o entienda q[ue] esta es algo normal y no solo cosa de hombres” (It would be good to also expose women (to a workshop) so that people think or understand that this (condom use) is something normal and not just a man-thing); “*Que b[v]alia la pena res[c]ib[v]ir mas informacion de las enfermedades de transmicion sexual pero a nivel nacional*” (It would be worthwhile to receive more information on STI but at the national level); “*Que si amplie mas la informacion sobre el SIDA sobre todo*” (If you can give more information on AIDS above all else); “*Este proceso fue muy bueno para q[ue] aprendirnos como usar el condon y sobre las enfirmedades venerios*” (This process was good in order to learn about how to use a condom and about venereal diseases).

These open comments by truck drivers also showed that the workshops were worthwhile. In addition, the participants expressed wanting similar programs for the future, a geographic expansion, more variety of topics, and at the very least, more information on HIV/STIs.

Evaluations by Investigator on the Workshops

The investigator observed each workshop conducted by the BHE team. He formally evaluated nearly a third of the workshops (30.6%- 11/36), using a nine-item five-point likert-format about various workshop components (Appendix T). Observation responses ranged from "No" to "Yes". There was also space for the investigator to note general observations. A summary of the majority of the responses are shown in Table 29.

The following text was supplemented to give an idea of challenges and successes of the workshops: "...need to bring more cartoons"; "Good teamwork. Good volunteer[ing]. Good discussion. Sound is bad"; "...team...is...humorous"; "Participants not talking much during C[ondom] demonstration; they really spoke up during discussion"; "12 participants only, 4-5 did interview; we use owner's TV-- larger, but sound still *mediano* (mediocre). Quiet crowd. But

also less distraction, less people leaving"; "1 out of [only] 3 doing lots of talking, but in a small group its enough to animate everyone. More humor"; "Many leave-- don't want to

Table 29: Items and Highest Ranking Responses in Evaluation by Investigator

Items	High Ranking Response (%)		2nd Highest Ranking Response (%)	
The team seems nervous	10/11 (90.9)	"No"	1/11 (9.1)	"Not Much"
The participants seem distracted	5/11 (45.5)	"No"	5/11 (45.5)	"Not Much"
The team is convincing	10/11 (90.9)	"Yes"	1/11 (9.1)	"A Little"
The truckers seem sincere to learn and participate	8/11 (72.7)	"Yes"	2/11 (18.2)	"So-So"
The team is moving along at the expected pace	11/11 (100)	"Yes"	N/A	N/A
The discussion stalled	10/11 (90.9)	"No"	1/11 (9.1)	Blank
The condom demonstration went well	9/11 (81.8)	"Yes"	1/11 (9.1)	"A Little"
The registration had snags	7/11 (63.6)	"No"	2/11 (18.2)	"Not Much"
The staff [BHE] seem to know what they were doing	10/11 (90.9)	"Yes"	1/11 (9.1)	Blank

volunteer... ..stalled when they asked for volunteers to demo[nstrate] condom [use]. There is some discussion-- balanced. E.I. [a BHE] [is] giving very good information; very detailed"; "A little shaky at first. Brisk, spotted discussion. *Sala* (room) sound is good; video sound is good. 10 men after video, 2 guys leave. Discussion theme: Confusion on transmission routes (*baños, mano* [baths, hand]) but the team straightened them out"; "In demo[nstration], brings participants into involvement. Humor. Good variability in demo[nstration]. These *jovenes* (team members) are now well trained"; "Awfully hot inside- but no distractions. Very clear communication. Good humor with this group. Demonstration went very well....*Empanadas* (cheese rolls) for everyone".

The ratings and text indicated that, from the point of view of the investigator, the workshops were a success in general.

The Returning Truck Drivers

All truckers who were interviewed and participated in a workshop were given pamphlets with safe sex messages, on which was written a unique number to identify them at follow up (Appendix H). Also written on the pamphlets were directions and reasons to return after two months to one of three designated clinics for a cash prize and a medical check-up with a discounted fee. The participants were only required to complete a post questionnaire to qualify for these incentives. Of the 163 participants who completed the first interview and participated in the workshops, only three returned. Of the 83 controls given the pamphlet with a unique identifier, no one returned. The small sample size of those returning disqualified their results from statistical analysis. Still, their remarks offered insight and can be considered part of the evaluation effort.

The three men were interviewed and participated in the workshop on different days (June 5, July 2, and July 5, 2002), from different sites. They returned on different days (September 20, October 9, and September 18, 2002, respectively). The duration of completing the post questionnaire was 47 minutes (range 20 - 90 minutes). Their ages were 35, 36, and 50. Two were married. Two lived in Santa Cruz and one in La Paz. All three were *Camba*.

Unlike the pre workshop questionnaire, the post questionnaire was not prompted by BHE. Some questions were designed to check validity of answers to other questions. It was noted that when truckers were left on their own to answer questions from a paper questionnaire format, many responses were fragmented and incomplete. A few questions were left blank in the post questionnaire, enough to whittle down validity on other questions that were answered.

Their perception of risk in the follow up revealed no emerging patterns. In terms of actual condom use and types of partners, again, no patterns emerged. The only trend in common between all three was that they said they used condoms more than when they were interviewed the first time. But these answers could not be assessed valid because the checks throughout the post questionnaire were not answered consistently. In one participant, for example, he said he used condoms more than he had sex (over the last month). Another participant said he "always" used condoms without giving a count of how many times.

In two of the three truckers, the attitudes of condom use increased, (pre workshop participant average for the entire population was 3.7 (range = -7 to 9); pre workshop average in these three participants was 3.0; post workshop average for these three participants was 5.3). However, more "I don't know" answers were given in the post questionnaire attitude index.

The attitude for HIV testing was gauged with no emergent pattern. Again, more "I don't know" responses were given in the post questionnaire, than in the pre workshop questionnaire..

In regards to motives for returning to the clinic, two truck drivers said they returned for the cash incentive, one said for the check-up. When asked what print material helped them remember to return two said the pocket calendar. The other did not answer. When asked what message inside the pamphlet they remembered most, they all agreed on "*Triunfa en la vida sin SIDA*" (Triumph in life without AIDS). Two of them agreed to the messages "*Piensa en hacerte una prueba de VIH*" (Think about taking an HIV test), and "*Cuidate de contagiar de gonorrea*" (Take care not to become infected with gonorrhea). When asked what information they remembered most from the workshop, three responded that they should "*Habla con tu compañera acerca de la sexualidad*" (talk to your partner about sex). Two of them agreed that one should "*hable con los jovenes acerca de una vida sana*" (talk to youth about a healthy life).

When asked what component of the workshop they remembered the most all three agreed to both the video and the condom demonstration. Two of the returning truck drivers agreed that the discussion, after the condom demonstration, was also memorable.

Evaluation of Program by Sindicato (union) managers

At the end of the program, representatives from the 13 *sindicatos* who helped the investigator with logistics of the program at each site, were given evaluations to fill out and hand back. A total of seven were returned. The evaluation contained six likert scale items, and five open questions (Appendix V).

Concerning the likert scale section, the responses ranged from one “absolutely no” to five “absolutely yes”. The first item asked, “Was the program worthwhile?” Eighty-six percent (6/7) answered “absolutely yes” and one answered “not much”. The second item put forth, “The team’s chief (the program investigator) was a big bother”. To this, 71.4% (5/7) answered “absolutely no”, one answered “not much”, and one was blank. The third item was, “The team members were polite and friendly”. Again, the majority, 71.4% (5/7) responded “absolutely yes”, one responded, “a little”, and one was blank. The fourth item asked if the workshop was important to truck drivers. Eighty-six percent (6/7) answered “absolutely yes”, and one answered “absolutely no”. The fifth item asked, “Was this program too long”? Here, the managers answered a variety of responses: Two said “not much”, another two said “so-so”, one said “absolutely no”, one said “a little”, and one was blank. The last item proposed, “I am interested in helping with other health programs in the future”. To this 42.9% (3/7) mentioned “absolutely yes”, another 42.9% mentioned “a little”, and one was blank.

The free text comments revealed support for the workshops, but also suggestions for other subjects from which truck drivers can benefit. In asking the managers if they had heard

comments from the truck drivers, their responses split: Three mentioned they heard nothing from the truckers. Three mentioned they heard good comments. One specifically said, “*Algunos no dan importancia, son pocos los interesados, pero esos pocos les sirve de mucho*” (Some give no importance to it, there are a few who are interested, but those few are served very well). One manager left it blank. In asking them if they thought the workshops offered enough information for the truckers, six of seven (85.7%) said yes. Some of the comments offered in regards to adding themes to the workshop broaden understanding of their point of view: “*Concientisar al hombre de no abusar del sexo. Me refiero a tomarlo como juego aunque es difícil*” (Raising attention for men not to abuse sex. I mean they treat it like a game even though it [the abuse] is difficult); “*Sobre la infidelidad....incluye directamente a sus hijos*” (About infidelity.... including [consequences] directly [involving] their children); “*Deberia hablar mas sobre las enfermedades expresadas en videos para que b[v]ean que son reales*” (You should have spoken more on diseases expressed in the videos so that they see that they are real); “*...les ayuda a prevenir enfermedades para que luego le podrian transmitire a su esposa e otras terceras*” (It helped them prevent diseases so that they would not transmit them to their wives or other go-betweens).

The third open question asked the facilitators what they would change in the program if they could. Three said to keep it the same, one announced that they couldn’t offer advice if they did not know the objectives. One said that the video should have been longer, one mentioned that more information should have been given. The fourth open question asked if they thought that their drivers gained from participating in such a program. Six of the seven revealed that their truckers gained. Two of these six mentioned reasons that were not brought up in the workshops: “*...han creado un poquito de conciencia moral*” (their moral conscience has

developed a little); “...*para enseñar a sus hijos y familiares*” (...to teach their children and families). One response was blank. Lastly, when asked if they would like future health programs shown to their truck drivers, and of what type, they responded: “*Tratarse otras enfermedades para su hijos...por ejemplo ...resfrios, diarrea, problemas psicologos*” (Try other diseases concerning [for their] children, for example colds, diarrhea, and psychological problems); “*Podria ser, alimentacion, prevencion de ataques cardiacos y prevenir enfermedades pulmonares etc*” (It could be diet, prevention of heart attacks, and preventing lung disease, etc); “*Pueden hacer un programa sobre el alcohol ya que los choferes... toman y manejan asi. Ya que ni en las trancas los detienen por manejar ebrios*” (You can give them programs about alcohol [abuse] because drivers...drink and drive like this. Even in the weigh stations they are not stopped for driving drunk); “*Solo la forma de instruir a los hijos....*” (Only a manner of instructing their children....); “*Apoyo moral, respecto a su familia (esposa) e hijos. Sobre al alcoholismo*” (Moral help, respect of the family (wife) and children. On alcoholism).

This evaluation revealed, for the first time, the insidious danger of alcoholism in Bolivian culture, but especially in the trucking industry. It also revealed a cultural point of view which expresses stronger boundaries of morality, much of which is founded on nurturing a family.

Evaluation of Program by BHE

BHE were trained and knowledgeable health workers who had, or were undergoing, university education. Most were already experienced in the health profession. Indeed, three of the seven on the investigation team worked in NGOs as health educators. Their managers were vital gatekeepers during the sojourn of the study. All BHE had experience in interviewing adults.

Three weeks into the workshops, BHE met with the investigator to discuss evaluations from truckers and also evaluate themselves (Appendix U). Seven BHE were on the team, all seven returned an evaluation. These evaluations consisted of eight open-ended questions.

The first question asked, "What method is best to motivate a truck driver to interview?" Two BHE said that giving gifts would facilitate motivation, and they hinted that the program needed to give more condoms away. "Being friendly, courteous, and polite", was the answer from another. "Be confident and offer more demonstrations", was voiced. One BHE said, "*El de la charla explicarle y hacerse su amigo*" (have the truckers who participated explain it with their friends).

The second question asked, "How would you change the questionnaire if you could?" Four BHE mentioned that the questionnaire was fine; one added "*aunque un poco largo*" (even though a little long). Other comments included: "*El cuestionario es entendible. La parte de evaluacion por numeros es un poco dificil de entender para los camioneros*" (The questionnaire is understandable. The part of the evaluation with numbers [likert scales] is a little difficult for the truckers to understand); "*Menos preguntas sobre sexo con parejas fijas. Se sienten incomodos (la mayoria)*" (Fewer questions about sex with regular partners. They feel uncomfortable (most of them)); "*Sacar preguntas sobre condon*" (Take out the questions about condoms).

The third question asked, "Are there parts of the questionnaire where the truck driver may not be answering honestly?" No BHE thought that the truckers were answering truthfully without hiding some information. Five of the BHE said information was masked when participants were questioned concerning sex with other men. Three of them said untruths

emerged regarding casual partners, two thought there were hidden responses with STI questions, and two BHE thought with responses dealing about drug use.

The fourth question asked, "Do the workshops offer enough information?" The majority of BHE answered yes (4/7). Of these, one BHE praised the workshops: "*Los talleres informan bastante y son dinamicos*" (the workshops inform well enough and are dynamic). On the other hand, of the BHE who thought more should be offered one said that more drawings and diagrams should be shown, also that information on the female condom should be offered. Interestingly, one mentioned: "*Lo que pensamos es mucho mas de lo que ellos esperan por la informacion brindada en algunos talleres, pero en algunos ellos (camioneros) sufran mucho mas*" (What we offer in terms of information is much more than what they could hope for, but in some [truck drivers] they suffer much more). This last comment suggests that there may have been too much information given, and, if the information was understood, subjects may have felt poorly about it, perhaps ashamed because of it.

The fifth question asked, "Do the workshops keep the attention of the truck drivers? If so, which part?" All BHE agreed that the workshops were engaging the trucker. Six BHE said the workshop component which attracted the most attention, the video, was the reason. Two other BHE mentioned the condom demonstration as the main event.

The sixth question asked, "What would you change in the workshops if you could?" Three BHE answered that they would change nothing. From there, a variety of responses emerged. One suggestion was for better audio equipment, another suggested a longer video. One BHE suggested a better training protocol: "*Mas capacitacion a los entrevistadores*" (More training for interviewers). Another BHE thought the discussion needed a revision: "*...cambiaría la guía de discusión, puesto que se hace muy larga la charla, yo quitaría algunos puntos que a*

mi parecer se manifiestan durante la discusion” (...I would change the discussion guide, since it makes for a long discussion, I would take out some points that, in my opinion, manifest during the discussion [anyway]).

The seventh question asked, "How could the investigator improve on the program?" Again the BHE had a variety of answers, though one said “no change” and one was blank. Others remarked: 1) Offer refreshments to truckers, or offer a party at the end of the workshop, 2) The investigator needs to carry himself with more authority, 3) Work more with the *sindicato* (union or company management) to cut down on truckers leaving the workshop early, and/or attrition, 4) “...*puede tomar en cuenta las diferentes formas de motivar a la participacion en los cuestionarios. Y ademas si es que hay mas parqueos de camioneros tal vez se pueda ampliar el alcance....*” (take into account the different forms of motivation in participation in the questionnaires [interviewing]. And also if there are more trucking parks one can cast a wider net).

The last question asked, "Do we have a good team?" All BHE had positive remarks concerning this. Two remarks dealt with how the different personalities work together and learn from each other. Two others used the term “dynamic”. Two more BHE mentioned the high level of knowledge of BHE. Only one BHE suggested improvement: “*Si buen equipo pero se puede mejor capacitando mas*” (Yes, a good team, but one can train a bit more).

Evaluation Summary

The ancillary questions were: 1) How did participants, BHE, truck company/*sindicato* (union) managers, and the investigator appraise the workshop as a whole? Answer: The workshops were worthwhile. 2) How did participants respond to different messages in the workshops? Answer: Positive messages involving others in the truckers’ social lives seemed to

be most effective. In terms of delivery, peer-based situations with plenty of dialogue were the most effective means of eliciting attention. 3) How did the workshops affect the participants' behavior and attitude after several months passed? What components in the workshops helped them remember particular messages? What were the remembered messages? Answer: Attitude of condom use seemed to increase after several months had passed. Behavior change could not be assessed. In terms of methods of instruction, the video and condom use demonstration appeared to be the most memorable method of instruction. The most remembered message was *Triunfa en la vida sin SIDA* (Triumph in life without AIDS).

Lastly, how could the education intervention improve according to the participants, BHE, managers, and investigator? Answer: Practically, one needed to acquire better and more reliable audio equipment. In terms of design, more in-house and take-home information was requested from the participants. Information dissemination could perhaps be more focused. For example, some BHE remarked that perhaps too much information was given out. Or, information could have been more graphically presented, or distributed through different venues.

Other suggestions included: More condoms should have been available for distribution. A better, solid relationship with company/*sindicato* managers may have helped diminish attrition. Some BHE felt they could have been better trained.

HISTORICAL OVERVIEW

The design of the workshops evolved within limitations. The limitations were partially shaped by management perspectives from various education and health organizations within Bolivia. This first part of this section reviews the professional education or health contacts made in Bolivia. The second part recounts a brief history of organized HIV prevention programs,

leading up to, and including implementation of the workshops. The third part of this section is a discussion about particular organizations who helped with this study. And the fourth part of this section talks about the evolution of the initial phases for the study.

Initial Organizational Contacts

Over 70 contacts were made with education or health professionals living in Bolivia (not including the workshop BHE, except for one individual), in order to carry out study aims. They comprised both men and women of various nationalities (about 75% were Bolivian and 20% U.S. citizens). Most were highly educated (17 of these contacts were medical doctors, and four others held Doctor of Philosophy degrees, for example). Many of the Bolivian professionals held politically appointed positions, but since political winds changed rapidly in Bolivia, so did their positions and titles. All contacts were well-traveled and cosmopolitan in outlook.

Of the 70-plus contacts made with education or health professionals, 54 of them led to the development of the study either by 1) assisting design, 2) informing, or 3) referring the investigator onto other important contacts. From these 54 individuals, 14 health organizations were directly involved, including private clinics, governmental organizations, and NGOs. They operated on local, national, or international levels. Four individuals (from the 54 directly involved) had been identified as “counterparts” to the investigator because of their link to the Bolivian Ministry of Health (MOH); none of these four were key in the study’s development. Nineteen other individuals had been identified as playing key roles (by facilitating any two of the three criteria listed above). These 19 individuals represented five NGOs, one Bolivian university, the U.S. donor agency (USAID), and MOH. BHE were recruited from these contacts.

Out of several organizations mentioned above, only two organizations (both NGOs) emerged in which collaboration took place on design, sharing of information, or logistic matters.

However, throughout the study period personnel in other organizations continued to be solicited for advice on a number of issues.

PROSIN or Programa ITS/SIDA (Program STI/AIDS)

Starting in 1998, the investigator sought to identify key personnel in Bolivia in order to seek permission from health authorities there. Particularly, he sought direction from the director of the government's Ministry of Health, HIV/AIDS/STI department, in La Paz. At that time, the department was called PROSIN. The investigator received formal permission on April 24, 2000 (Appendix Q). The investigator had been assigned to work with the regional PROSIN director in Santa Cruz.

PROSIN was an organization difficult to categorize. On one hand it was a Bolivian government agency; all their personnel were government employees. On the other hand, they were evaluated by the United States Agency for International Development (USAID), and could be thus considered a bilateral health agency. Lastly, it was labeled a non-governmental organization (NGO), by none other than USAID officials. It covered many aspects of health services such as HIV prevention, maternal-child health, social security, sexual and reproductive health, military health services, disease surveillance systems, and an office to encourage decentralization (Anonymous, NGO, email communication, 23 May, 2000).

Historically, PROSIN was "the son of CCH- the Child and Community Health project, which began around 1988" (Anonymous, NGO, email communication, 23 May, 2000). But it had gone through various transitions since. In fact, PROSIN officially terminated in 1998, but splinter projects from PROSIN continued. A different, but parallel MOH organization, *Proyecto Contra SIDA* (Project Against AIDS) was established in 1992 with a focus more towards HIV prevention. In the mid 1990's, *Proyecto Contra SIDA* was "semi-absorbed" (Anonymous, NGO)

into PROSIN. The responsibilities of this joint operation were to terminate in September of 1999 (Anonymous, USAID, personal communication, 18 May, 2000). There have been one or two funding extensions since.

PROSIN experienced regular grant application processes to USAID, and periodic evaluations from USAID. USAID was the ‘bilateral’ funding source. But PROSIN was not self-sustaining. Rather, it was entirely dependent; 100% of its funds came from USAID (Anonymous, NGO, email communication, 23 May, 2000). In this respect, PROSIN was neither bilateral nor an NGO, but a program completely sustained through the U.S. government, not unlike a public federal program such as social security or welfare.

Aside from funding, bilateralism may have referred to Bolivian and U.S. government co-management. In theory, then, MOH and USAID were to arrive at, and enact, decisions together. But politics enter at this level. The USAID health mission in Bolivia was run by a team of five managers with contracts of no more than five years, each. By contrast, the heads of the different PROSIN departments were politically appointed Bolivians because of their affiliation with the ruling party (at the time of the investigation, the ruling government was the ADN [*Acción Democrática Nacional*], a conservative party with a philosophy not unlike the U.S. Republican party). In practice, there was tremendous personnel turnover primarily in MOH. One would expect some stability during the course of one political party in power, but during the investigator’s stay in Bolivia, lasting two years and eight months, there were four provincial PROSIN department directors. The length of their directorship averaged eight months, each.

PROSIN in Santa Cruz, before termination, had very limited prevention services. They offered a 16-hour confidential telephone line for information or counseling, one counselor for HIV infected clients (for the entire Province of Santa Cruz), and HIV/STI testing and counseling

services for CSW. They managed to coordinate some activities between NGOs in Santa Cruz; they were successful organizing prevention services during carnival. However, PROSIN in Santa Cruz, offered no HIV care, no drug therapy, and no education services to non CSW. Other HIV prevention programs were implemented by NGOs throughout the city to supplement this deficiency. Many of them were also funded by USAID. A few of these NGOs had ties to other developed countries.

While this investigation was taking shape, the organization which was meant to work with the investigator, PROSIN, was slated for termination, or, at the very least some form of restructuring. There was a good deal of anxiety among PROSIN employees during the year 2000. By 2001, more than half of them lost their jobs, including the third of four counterparts assigned to the investigator. What meager services they offered were whittled down. For example, in 2001, the confidential HIV/AIDS telephone line, which was used for anonymous education, was shut down in Santa Cruz. Prevention services to CSW were cut back (Anonymous, NGO, personal communication, 19 June 2001).

Interestingly, an ex-director of the country's entire MOH (representing the previous political party in power) said that the "matrix of the Ministry [of Health] has broken down, but it is not so much due to a lack of *recursos* [resources], but is a trend to localize" (Dr. Henicke, CORDECRUZ, personal communication, 27 February, 2002).

For local NGO employees who were not directly affected, apathy was noticed. The investigator attributed this to the growing lack of coordination of HIV prevention programs among NGOs in the area, a task for which PROSIN took previous responsibility. In 2002, the MOH department of HIV prevention in Santa Cruz, or what was left of it, was renamed *Programa ITS/SIDA*.

In terms of prevention philosophy, on one hand, USAID had been accused of being too narrow in targeting only CSW and MSM as high risk groups in which HIV transmission may occur (Anonymous, PROSIN, personal communication, 31 July, 2000; Anonymous, NGO, personal communication, 3 August, 2000). On the other hand, PROSIN itself was seen as even more narrow. “[It is] a great program, but the attitude of the [Bolivian] government is difficult. [For example] it doesn’t want to consider gays [in prevention efforts] (Anonymous, USAID, personal communication, 18 May, 2000)].

MOH was aware of the high risk of HIV transmission in truck drivers. The first counterpart assigned to the investigator had discussed a plan for an intervention with truck drivers, but one in which they were also sero-tested (Dr. Cronenbold, PROSIN, personal communication, 31 July, 2000). Under this scenario, the truckers would have had to purchase the tests themselves. The third PROSIN counterpart mentioned that the government wanted to set up a truck driver program in Puerto Suárez, on the eastern border with Brazil (Dr Arano, PROSIN/*Programa ITS/SIDA*, personal communication, 15 July, 2001). The fourth MOH counterpart seemed unaware of a plan for truck drivers, but was interested in hearing the investigator’s ideas (Dr. Orellana, *Programa ITS/SIDA*, personal communication, 14 February, 2002). By the summer of 2002, an MOH plan had not yet materialized.

On the provincial level, MOH was open in communication, narrow in scope, and hopelessly poor. Sex education funding was small and inadequate compared with other health programs in the country (Anonymous, PROSIN, personal communication, 1 March, 2000). Their greatest problem was lack of resources; they were simply understaffed and under funded.

NGOs

Some NGOs operate worldwide. For example, CARE, PLAN, and PSI are large international NGOs with headquarters in the U.S., who operated in the Santa Cruz province at the time of this investigation. Representatives from all of these organizations were contacted during the course of the investigation for advice and help. Indeed, one of them, PSI had done previous work with truck drivers in Bolivia's *altiplano* (PSI, 2000). Previous to that, CARE had plans to facilitate interventions with truck drivers in Yacuiba (on the border with Argentina), but that idea morphed into intervention for other high risk groups. Then CARE had plans to work with truck drivers in Puerto Suárez, on the Brazilian border (which never got off the ground-- Dr. Fernandez, CARE, personal communication, 31 July 2000). Both NGO are partially funded by USAID. Therefore, it was clear that USAID had handled proposals dealing with truck driver education in the late 1990's. But discussion of truck driver interventions go even further back. In fact, it has been an idea among North American health professionals, in Bolivia, since 1994 (Dr. Stratford, CDC, e-mail communication, 12 July, 2000).

The investigator and CARE had developed a hopeful, but transitory relation. CARE had volunteered to produce videos using the investigator's script. CARE offered to lend audio/video equipment, and lend space from which to conduct workshops. CARE even considered helping out with transportation. But these offers were withdrawn. The investigator believes that the reason for withdrawal was a compromised ability in dealing with the quantity of bureaucratic reports, evaluations, and applications (and their deadlines) to USAID, for short-term projects.

There were also national NGOs. One NGO operating in the Santa Cruz area emerged stronger after the PROSIN demise had settled down. ProSalud had already 33 clinics in Bolivia, (11 in the city of Santa Cruz alone). They were fortunate in being able to "pick up the pieces

from PROSIN” (Anonymous, NGO, personal communication, 31 June, 2001). Indeed, they had expansion plans to: 1) Begin HIV testing in frontier towns, not only in Santa Cruz; 2) Build up education and counseling services for CSW and MSM; 3) Begin a nationwide CSW education program; and 4) Expand information sites in small towns, particularly border towns (Anonymous, NGO).

The investigator witnessed secrecy and little cooperation or information sharing among NGOs in Santa Cruz. The observed HIV/STI prevention efforts were only for CSW, adolescents in school, and MSM. There seemed to be tremendous competition among NGOs, perhaps spawning a lack of creative methods from which to deliver education programs to different populations who needed them.

Assessment of health organizations on a higher level, in Bolivia, revealed a breakdown in the Bolivian government’s own ability to direct preventative health programs. The origin of this paralysis seemed to emanate from USAID. There was a stack of lopsided interventions in some populations, and a dearth of interventions in other populations. Likewise with resources, there was no lack of resources in the capital, La Paz, but hardly any resources in Santa Cruz. It was this environment in which the investigation proceeded.

Progress to Significant NGOs

The investigator’s relation with local NGOs during the early phases was open and free. One contact remarked that, in the face of the tumultuous changes taking place inside education and health organizations, “it is probably better for you this way [to remain unattached to organizational obligations]” (Anonymous, NGO, personal communication, 15 July 2000). In the early phases funding and workshop coordination were not an issue with the investigator, therefore contacts were sought for information only, and not solicitations of help. However, as

the date of the workshops approached, direction of workshop development changed. A time came when help was needed, and miscommunications concerning development were stressful.

Other early experiences in the investigation offered a better understanding of how NGOs operate. In May of 2000, the investigator made a trip to Puerto Suárez, bordering Brazil, to assess the feasibility of beginning a program for truck drivers there. The underlying motive was the claim that HIV was being transmitted from Brazil, across a physical border. That claim was not valid to local health officials in Santa Cruz and Puerto Suárez. For example, one sexual disease specialist in Puerto Suárez, stated [concerning diseases that cross the border], “... *no el VIH, but gonorrea y sífilis. Hay mucho alla, tambien chancro* [not HIV, but gonorrhea and syphilis. There’s a lot there, also chancroid infection” (Dr. Bauer, ProSalud, personal communication, 18 May, 2000)]. Yet in 2001, there seemed a scramble from health organization heads in La Paz to implement programs in border towns like Puerto Suárez.

In planning for the workshops, not all uncertainty came from health organizations. Rather, there existed perplexity in the investigator’s mind that affected the timeliness and efficiency of program implementation. For example, for several months, the investigator was convinced that he had to develop and produce his own video. This idea persisted until the summer of 2001. Therefore, many of the contacts initiated in the middle months of the program dealt with video production, which hampered the overall development and timeliness of workshop implementation. Another example dealt with the components of the workshop itself. Until the spring of 2002, only months away from the workshop implementation, the investigator was planning a game component instead of interactive cartoons.

Two people emerged as important influences in the study design. They were BHE. One was the interview aide through phases I, II, and III. The other was the interview aide for phase

IV, and the team leader in phase V. They helped sort through the details of planning, and sorted through qualitative findings in content analyses. They offered feedback to the investigator. They both had work experience with PROSIN and with NGOs. However, neither worked in what evolved as key NGO. Nor did they direct the investigator toward key NGOs.

The significant NGOs that emerged in workshop implementation were PSI (www.psi.org) and ProSalud (www.prosalud.org). PSI offered technical advice in media development and paid the printing costs for the media that was distributed at the end of the workshops (Appendices H and I). They also donated 770 condoms.

During the winter of 2001-2002, the investigator received suggestions from various contacts to solicit a Bolivian NGO, ProSalud (also partially funded through USAID). ProSalud helped provide BHE and condom demonstration equipment. They donated copies of the PSI video (1999) that were used for the workshops. They donated 120 condoms. They gave final approval to use three of their clinics for the follow up questionnaire and medical check-up for the truck drivers, after a letter of permission was submitted (Appendix W). They provided the ProSalud logo for the investigator to place on nametags for BHE during the workshops.

By the end of May 2002, the investigator and team of BHE were ready to begin the workshops.

Summary

This chapter provides insight into the study findings and rounds out the context from which the program evolved. One reads evaluations from the truckers themselves, for example. Truck drivers expressed the sentiment that the workshops were worthwhile in spite of logistical shortcomings. There was also anecdotal evidence that the workshops improved attitudes towards condom use.

Truck company or union management seemed willing to provide resources to continue, and expand, such programs. However, a sustained effort to focus on safe sex workshops with truck drivers seems unlikely when viewed from a historical standpoint concerning governmental health agencies in Bolivia. These agencies have demonstrated a poor track record in HIV/STI program sustainability and have downplayed the risk of an escalating HIV epidemic in different populations within Bolivia.

The next chapter is the final chapter. It is the discussion of findings and implications of these findings. Recommendations are also discussed.

CHAPTER 6

DISCUSSION

This chapter summarizes the findings and makes recommendations for future health education programs with truck drivers. The sections to this chapter include: 1) Major findings; 2) Explanation of the research results; 3) Implications; 4) Limitations; and 5) Recommendations for the future.

Six phases, a 121-item questionnaire, and several other interview guides were used in this study to address the aims. Mixed methodology was the research paradigm of choice. There was also an evaluation component to this investigation.

MAJOR FINDINGS

The first hypothesis states that adult development stage (ADST) components do not significantly associate with high risk sexual behaviors. This study has supported the null hypothesis-- there is no association between ADST and sexual health behaviors.

The second hypothesis states that there are no significant factors (social economic status (SES), cognitions, stage, and behavioral factors) impacting condom use, after controlling for each other. In this case, the null hypothesis is false. There are three predictors of condom use in Bolivian truck drivers: Age, outcome expectancy, and perceived social norms.

The third and last hypothesis states that there are no significant factors (SES, cognitions, stage, and behavioral factors) impacting STI history, after controlling for each other. Again, the null hypothesis is false. There is one significant factor impacting STI history in Bolivian truck drivers-- number of sex partners.

Basic risk information supplements hypothesis results; the prevalence of certain behaviors helps establish Bolivian truck drivers as another high risk population in need of education programs. Two-thirds of these truckers were married and another third had steady partners, but more than half (56%) of them admitted to sex with other, casual partners. Also, a high proportion of Bolivian truck drivers claimed to have had an STI; 30% admitting this from quantitative assessment and 52% from qualitative assessment. Furthermore, a range from 17% (quantitative assessment) of the truckers, to 31% (qualitative), practiced anal sex. Younger truckers were significantly more likely than older truckers to have anal sex with regular partners, placing their partners at greater risk of HIV/STI transmission.

A moderate to high number of truck drivers had used condoms (69%). Furthermore, the qualitative component shows that truck drivers maintained moderately high knowledge of HIV transmission, and a high perception of risk. In spite of this, they also continued with risky behavior.

For example, 68% to 75% admitted to at least some alcohol or drug use before sex, depending on type of partner. Concerning type of partner, descriptions ranged from *chicas*, commercial sex workers (CSW), or prostitutes on one end of characterizations, to lovers, friends, married women, or colleagues on the other end. Quantitative results indicated slight shifts in casual partner type preferences by age of the truck driver. That is, older truckers demonstrated a higher proportion of CSW/*chica* contact than younger truckers, and younger truckers showed a

higher proportion of lovers/friends/married women contact than older truckers. This difference was not significant. Truckers sought and found the more casual partners (CSW, *chicas*) in towns outside of the large urban hub of Santa Cruz.

Though younger participants used condoms significantly more than older participants, this behavior may have origins from less positive attitudes or perceptions. Even though stage did not directly impact sexual behaviors, there is evidence that younger truck drivers embraced an underlying factor that was more negative in outlook, whereas, intimacy was significantly higher in older truckers.

Other sexual behavioral differences by age group support this notion. Again, younger participants exhibited more anal sex with regular partners, and they demonstrated more recent sexually transmitted infections. Also, users of condoms (most likely the younger truckers) tended to have a larger number of sex partners.

There were four sets of ancillary questions addressed from the evaluations. The first question asked: How did participants, Bolivian Health Educators (BHE), truck company/union managers, and the investigator appraise the workshop as a whole? In general, the education workshops received favorable criticism from all stakeholders.

The second and third set of ancillary questions asked: How did participants respond to different messages in the workshops? How did the workshops affect the participants' behavior and attitude after several months had passed? What components in the workshops helped them remember particular messages? What were the remembered messages? To answer these questions, referral was made to the findings from the cartoon component responses and the three returning truckers after a prolonged period. These two components can be thought of representing attention and memory. This study demonstrates that attention concerning different

motivations for condom use (contraceptive motivation vs. disease prevention) can be manipulated using simple interactive cartoons. Concerning memory, all of the returning participants remember one slogan, "*Triunfa in la vida sin SIDA*" (Triumph in life without AIDS). Out of all of the workshop components, returning participants remembered most the video and condom demonstration. The lesson they remembered was, "talk to your partner about condom use". In addition, positive attitudes about condom use seemed to increase. (However, evidence from the returning participants is anecdotal since there was an insufficient sample size).

The last ancillary question asks: How could the education intervention improve according to the participants, BHE, managers, and investigator? On the practical end, future workshops for truck drivers need to have enough supplies (sufficient amount of condoms) or more reliable equipment (audio/video). Truck drivers clamored for more condoms, and the electronic equipment could have been better quality. Moreover, truck drivers in general asked for more information concerning types of diseases; they voiced wanting more information for their traveling lifestyle. Several thought that expansion into other health subjects was appropriate, and some wanted to include women as participants. Truck company/union managers also voiced expanding into other topics, such as alcoholism, better parenting techniques, or care and prevention of other, common diseases. The BHE expressed the need for better training, to invest more time in logistical planning (working better with truck company/union management, and searching harder for other truck company liaisons or truck stops).

EXPLANATIONS OF FINDINGS

This section attempts to interpret the results based on convergence, or divergence, with past literature. The section addresses age and occupational/behavioral characteristics of truckers, social cognitive theory (SCT) cognitions, stage, and health organizations.

Age

In Bolivian truck drivers, age determines condom use, explaining approximately 6% of the variance in condom use groups. The older the trucker, the less likely he will use condoms. This coincides with some studies mentioned in the literature review. Rao et al. (1999) also discovered that knowledge decreased in their truck drivers with increasing age, condom use decreased with increasing age, and alcohol consumption increased with increasing age. In this investigation, age also had an inverse impact on STI status (significant after type I error correction, but not in regression modeling). That is, the younger truckers were more likely to have had a recent STI than older truckers. This contrasts with Carswell et al. (1989) who found that age linearly predicted syphilis infection, and Ramjee et al. (2002) who discovered a positive HIV and age relationship in truckers.

Marital status was also a significant predictor of STI history at the univariate level. This factor could easily have confounded with age or years-experience as a trucker, and in fact dropped out in logistic regression, which took confounding into account. In Bolivia, truckers with a recent STI were more likely to be single, and those with a previous infection were more likely to be married. Bryan et al. (2001) offers interesting observations of truck drivers in India concerning marital status, but only in regards to condom use. Those authors showed that married, Indian truckers had low condom use and poor condom-use attitudes with their regular

partners, but significantly better use and attitudes with casual partners. This study exhibited no difference in condom use between married or single drivers.

In trying to explain age as a factor, one needs to consider years-experience in a trucker. This variable, too, demonstrated significance with both condom use and STI history, beyond Bonferroni corrections, but did not remain viable after regression modeling. Again, the possibility of confounding with age was taken into account.

Still, might not years-experience explain a phenomenon of less and less healthy behavior? If a truck driver becomes more stressed or bored through work, but gains an increasing salary, then the accumulating years of occupation may have influenced sexual behavior. Would not an older trucker be more willing to seek casual partners and be more willing to pay for sex? Lacerda et al. (1997) demonstrated that years-experience associated with stimulant drug use, which in turn predicted STI status in Brazilian truckers. By contrast, Stratford et al. (2000) suggested that younger, or less experienced truckers in the U.S., are less careful in their sexual behaviors. They live with occupational pressure, then immerse themselves in unsafe sexual behaviors to relieve the stress. The qualitative research components of this study, however, show that neither stress nor boredom is prevalent in Bolivian truckers.

Alcohol and Drug Use

This study assessed alcohol and drug use as a potential influence in high risk sexual behavior. Drug use revealed a marginally significant association with STI history in Chi-square testing before Bonferroni correction. This corresponds to the Lacerda et al. (1997) study with Brazilian truckers. By contrast, however, drug use consumption was due to users of *calmante* (relaxant) in this study, not stimulants as with Brazilian drivers. Perhaps Bolivian men who use

either *calmante* or stimulants are more prone to experimentation in other behaviors, as suggested by Stratford et al. (2000).

Alcohol consumption before any sex remains high, from 68% with regular partners to 75% with casual partners. However, in the qualitative components of this study, alcohol consumption did not impact on sexual behaviors.

Casual Sexual Partners

In this study, 56% of the Bolivian truck drivers had multiple sex partners. This compares closely with Gibney et al (2001) and their figure of 54% for drivers in Bangladesh. Lacerda et al. (1997) posted a figure of 40% in Brazilian truck drivers; Ramjee et al. (2002) showed 37% of their South African truckers had multiple partners, and PSI (2000) in Bolivia demonstrated 33% of *transportistas*, in the *altiplano* (highlands), had multiple sex partners. This study therefore shows the highest proportion, in Latin American truck drivers, of multiple-partner sex. This is still well below the figure from Bwayo et al. (1994), who demonstrated that 75% of the truck drivers in east Africa had multiple sex partners.

This study closely parallels Lacerda et al. (1997) in revealing types of casual partners. *Mujer conocidas* (known women), *desconocidas* (unknown women), lovers, *chicas* (girls), friends, prostitutes, *cholitas*, *concubinas* (concubines), *conquistas* (conquests), *caroñas*, and *guaranitas* were some of the terms used to label these partners. Two of these terms are labels for Indian females (*cholita*, *guaranita*). Wright (2000) suggests that this language symbolically distances the partners by presenting not only an economic gap between partners, but also an ethnic-class gap.

This rich array of casual partner description, if forced under one definition such as CSW, may mask important differences that impact the health of the truck driver population, and would

certainly hinder outreach prevention efforts towards these women. Wright et al. (1997, 2000) claim that another labeling pressure is imposed from health organizations derived from developed countries. These organizations in Bolivia have brought in preconceived notions of who is most at risk and have already, linguistically, separated the *haves* (CSW) from the *have-nots* (*las clandestinas* [the clandestines-- all other types of casual female partners]). That is, NGOs and donor agencies have coerced indigenous populations to accept sexual identities created in more developed nations, whether they are accurate or not, unfairly bestowing resources on one population, and not on others.

The quantitative aspects of this study revealed that older truck drivers sought CSW and *chicas* more than younger truckers; younger truckers sought lovers and friends more than older truckers. Interestingly, Morris et al. (1996) showed the opposite phenomenon in Thailand.

Males who have Sex with Males (MSM)

This study assessed the prevalence of MSM in Bolivian truck drivers. Only 2% mentioned that they had sex with other men. By contrast Lacerda et al. (1997) reported a 24% MSM prevalence in Brazilian truck drivers.

Anal Sex

This study assessed anal sex prevalence in Bolivian truck drivers. The proportion ranged from 17% (quantitative assessment) to 31% (qualitative assessment). Younger truckers practiced significantly more anal sex with regular partners, than older truckers. This is similar to Bryan et al. (2001) whereby their single truck drivers reported a 17 % proportion of anal sex with casual partners, whereas the married truckers reported 11% with casual partners.

STI

Bolivian truck drivers demonstrated an elevated STI history, ranging from 30% (quantitative assessment) to 52% (qualitative assessment). Again, this closely parallels Lacerda et al. (1997) who reported that 47% of Brazilian truck drivers had STI at sometime in their life. By contrast, Bangladesh truckers reported 6% STI (Gibney et al., 2002), and South African truckers reported a 66% rate (Ramjee et al., 2002).

Younger Bolivian truck drivers were more likely to have had a recent STI, than older truckers. In addition, the number of sex partners was associated with STI history, and emerged as a significant predictor of STI history.

Bolivian truckers were asked what type of partner infected them the last time they had STI. These results show that the older truckers claimed that CSW and *chicas* infected them the most, but younger truckers said that the friend/lover type of casual partner did.

Condoms

In comparing condom use with types of partner this study found that 36.8% (88/239) of Bolivian truck drivers used condoms with regular partners. This proportion nearly doubled to 62.8% (86/137) when the partner was casual. This compares closely with Brazilian truckers and the previous Bolivian *transportista* study, as shown in Table 30. Unlike the Brazilian study,

Table 30: Condom Use Proportions, Past and Present, depending on Type of Partner

	Regular Partner	Least casual Partner	Most casual Partner
Bolivian Tropical Truck Drivers*	37% wife/girl-friend	62% friend/lover	52% CSW/ <i>chicas</i>
Bolivian <i>Altiplano Transportistas</i> **	41% "stable"	35% "non-CSW"	66% "CSW"
Brazilian Truck Drivers†	6% "spouses"	45% "steady"	54% "casual"

* This investigation, cross-sectional survey, 2002, condom use in last three-months

** PSI (2000)

† Lacerda et al. (1997)

however, truckers in Santa Cruz, Bolivia, showed a peak in condom use with least casual partners.

In Bolivian truck drivers, condom use registered a significant difference by age group--condoms were utilized more by younger drivers versus older drivers. Younger Bolivian truckers also demonstrated slightly more condom use with casual partners, within the last three months, than with regular partners; whereas, older truck drivers demonstrated the opposite, their condom use involvement bearing less with casual partners than with regular partners.

Never assessed by any other truck driver study are two points, revealed here: First, condom use among truckers who practiced anal sex with regular partners was 50% (9/18), but dropped to 34.8% (8/23) with casual partners. Second, condom use increased as the number of partners increased.

Condom use, as a measure of safe sex, seems to be offset, or neutralized, by other high risk behaviors. For example, the qualitative components of the study show that condom use increased in those with STI history. In quantitative components, to repeat, condom use increased with the number of sex partners. Some researchers have already voiced concern that condom use may be an incomplete measure for safe sex (Aral et al., 1996). This concern was raised by Marck (1999) after an extensive review of African and Indian truck driver studies. He asks, to which outcome should a sexual health program for truck drivers aim: Reducing the number of sex partners or increasing condom use? The author found that several researchers reported on condom rate increases after an intervention, but it was not clear if the number of sex partners had been reduced. On the other hand, Diclemente and Wingood (1995) documented that consistent condom use, regardless of number of sex partners, can substantially reduce the risk of HIV transmission.

SCT Cognitions

This study linked outcome expectancy and perceived social norms to condom use. This is the first study to cite these measures in truck drivers. However, self-efficacy in Bolivian truck drivers did not associate with condom use. One can draw comparisons, however, with other studies dealing with high risk populations. One study found that self-efficacy and outcome expectancies predicted condom use in a multi-site, U.S. study with STI clinic clients (DiIorio, Maibach, O'Leary, Sanderson & Celentano, 1997). Wulfert et al. (1993) found that peer group influence, outcome expectancies, and self-efficacy significantly impacted condom use in a heterosexual college population in the U.S. In addition, peer group influence and outcome expectancies had such strong influence on condom use that these cognitions did not need to mediate through self-efficacy to have an impact.

A third study with African Americans found again that self-efficacy and outcome expectancies caused positive behavior change (Polacsek et al., 1999). This same study showed that perceived social norms were associated with maintaining condom use practices rather than enacting condom use.

Wulfert et al. (1993) also tested other cognitions on condom use, including attitudes, knowledge, and perceived risk. As with this present study, they found that these three cognitions did not predict condom use. However, a closer discussion of some of these cognitions ensues because of their marginal significance, or correlations to other predictors.

The literature shows mixed results in relating attitudes and condom use. On one hand, for example, Ford and Norris (1995) demonstrated that attitudes towards condoms directly influenced condom use in U.S. African American and Hispanic males. Bryan et al. (2001) showed that, in their sample of truck drivers, positive attitude predicted greater condom use with

casual partners. And Laukamm et al. (2000) found an increase in positive attitude and perceived risk after a peer based intervention with truck drivers. On the other hand, PSI (2000) also reported an increase in attitude and perceived risk after an intervention for high risk, male Bolivians, but condom use decreased. Lastly, Wulfert et al. (1993) found no association between attitude and condom use.

After Bonferroni correction, attitude toward condoms did not post remarkable results, except for one item, where 70% of the truckers said that condoms diminish pleasure. Moreover, there was a significant difference between young and older truckers concerning this sentiment. In general, younger truck drivers held poorer attitudes towards condoms. Perhaps the older truckers were more secure in themselves, even if some of their actions, or lack of actions, were indicative of detrimental health behavior.

This study showed a significant correlation between attitudes and outcome expectancies. Recall that outcome expectancy was a significant predictor of condom use. Reeder, Pryor and Harsh (1997) suggest that attitude, if it influences behavior, may do so as a support for self-efficacy, through mediation of reflection or self-persuasion (brought about by either a state of dissonance or a heightened state of self-perception). These authors purported that attitude may explain behavior change when self-efficacy does not. In this present study, self-efficacy did not emerge important, but perhaps attitude supports outcome expectancies in a similar fashion.

Lastly and anecdotally, after this study's workshops three returning truckers developed better attitudes toward condom use, even though behavior could not be accurately assessed.

Knowledge has the reputation of not associating with condom use or any sexual behavior (Wulfert et al., 1993). In this study, knowledge was significant with condom use in the univariate analysis only. Condom non-users had the lowest knowledge, but irregular condom

users had significantly higher levels of knowledge. Knowledge did not correlate with any other cognition.

Stage

This study is unique in attempting to predict sexual behavior from stage constructs, or attempting to associate stage constructs with SCT cognitions. Stage did not impact sexual behavior. Stage-like factors, however, were revealed that support Erikson's theory. In this study, intimacy emerged as a construct with a significant age group difference. Older truckers demonstrated significantly higher intimacy scores.

Design

In regards to design, this study had the original concept of a pre-post test community trial with an intervention. Attrition was tremendous-- only 2% of the truckers returned. By contrast, Jackson et al. (1997) implemented a pre-post design in their intervention with trucking employees and reported an attrition rate of 31%.

Mistrust or access may be barriers for follow-up designs with truck drivers. For comparison, Ramjee et al. (2002) exhibits that only 30% of their truckers were willing to give their names for HIV testing. Furthermore, those authors report that drivers who did not want the local site HIV test were invited to receive a free test when they arrived at the study's urban, center location (Durban, South Africa). But no one came! Because large trucks are involved in truckers' livelihoods, access to city clinics and hospitals may be difficult to attain (Ramjee et al., 2002).

Health Organizations

Concerning external donors, the U.S. Agency for International Development (USAID) has assumed leadership as the largest contributor of assistance for the prevention and control of

HIV/AIDS in the world, though it has secured a strong partnership with Japan in this area (Brown, Gayle, Morita & Brenden, 1997). The support is in two forms: 1) Aid for multilateral agencies such as the World Health Organization (WHO) and the United Nations (UN); and 2) Bilateral planning, aid, and implementation of programs between USAID and a host country government. It is estimated that USAID spent \$9 billion from 1994 through the end of the year 2000 for such programs (Brown et al.).

It is not uncommon for health organizations in lower developing countries (LDCs) to seek donors to fund projects. But the assumption that donor aid is neutral is false. In partnerships, when one organization is supplying funding, the power structure leads to inequality. This type of relationship may be coercive (Crewe & Harrison, 1998), and establishes a double standard in both parties. Values that originally drive a development organization become businesslike and self-serving. Some management experts claim that development structures are geared toward satisfying donors rather than recipients' interests (Crewe et al.).

'Donor fatigue' is a common catchphrase describing a current , unwillingness of donors to assist lower developed countries (LDCs) because they see continued failure in international health programs (Akukwe, 1998). Failure may result from weak leadership, low skill levels, high bureaucracy, or fragmented organizations with competing objectives. Often, foreign donors contribute to the fragmentation by insistence in their own specialized, administrative and evaluative teams (Bossert, 1990; Crewe, et al., 1998). This is fueling a trend of fund withdrawal from said programs (Akukwe; Brown, et al., 1997; Crewe et al.).

Concurrent with the sentiment of 'donor fatigue' the Bolivian MOH infrastructure began a policy of decentralization, during the early to mid 1990's, a trend that was taking place in other sectors of society (Darras, 1997; Ferrelli, Serrano, Balladelli, Cortinois & Quinteros, 1997).

Unfortunately, this may have led to health and prevention program cuts and not reform or improvements.

Darras (1997) listed other problems peculiar to the Bolivian health system: 1) Political interference; 2) Low status of general or preventive medicine; 3) Little or no health personnel training, and 3) Little solidarity between social classes, or regions. This author proposed an elevated role for general practitioners within local health services to promote across-discipline programs. This approach would help avoid proliferation of bureaucratization.

HIV/AIDS prevention and health education resources in Santa Cruz, Bolivia, were scarce. Yet, one USAID health official remarked that Bolivia's HIV/AIDS budget in the 1990's was as large as Brazil's (Anonymous, USAID, personal communication, 15 October, 2001). It seems that the scarcity was not a funding issue, rather a complex political, management problem. More than contact in this investigation, who were health care professionals, have blamed inefficiency or resource deprivation on management structure.

In sum, PROSIN/*Programa de ITS/SIDA* is a bilateral health organization entirely funded by USAID, co-managed by MOH and USAID, and short of resources in the Santa Cruz province. It is historically unstable and has been restructured several times in its short existence. Its services are not comprehensive. On the national level this instability reflects Darras' (1997) observations that, in Bolivian health systems, there is a culture of political interference and little concern for preventive services. On an international level this situation reflects pessimism expressed by Crewe et al. (1998) that most of these types of programs are coercive (not co-managerial), and are short-lived.

IMPLICATIONS OF FINDINGS

This section generalizes the major findings. It is separated into a discussion of population characteristics, and theory.

Study Population Characteristics

One literature source states that HIV rates in CSW are low and rates of other STI in this population are decreasing (Levine et al., 1999). If this is true, and if truck drivers are their partners, then the impetus to target truck drivers in Bolivia is weak. On the other hand, Lacerda et al. (1997) suggests that there may be multiple types of casual sex partners for truck drivers, all of whom constitute potential infectious networks.

The qualitative component to the study shows that there are many types of casual sex partners to Bolivian truckers, and that CSW are sought and found in towns outside of the urban hub of Santa Cruz. Therefore, when the bulk of the current HIV/STI prevention programming is only for one type of casual sex partner (CSW), and only at urban sites, one notes missed opportunities for these organizations to provide educational and prevention programs to the majority of casual sex partners of truck drivers.

One demographic variable emerged significant from regression modeling on condom use: Age. One other behavioral variable emerged significant on STI history: Number of sex partners.

Condom use may not be a good indicator of decreasing risk in sexual behavior. It is not clear if other measures of risk, such as increased visits to health clinics, or a decrease in sex partners, have been as, or more, successful in decreasing risk of HIV infection (Aral et al., 1996; Marck, 1999). In this context (one asks), is condom use a useful outcome? Most likely, yes, but other outcomes need to be emphasized as well as condom use. This study reveals examples of complex sexual behavior: The qualitative components to this study show that condom use

increased in those with STI history. In the quantitative components, condom use increased with the number of sex partners. Clearly one needs to offer other prevention messages besides condom use.

In addition, in Latin America, women may not be able to easily discuss condom use with their partners. Condoms may incur a symbolic green light for males to seek multiple partners and encourage lack of intimacy or trust (Giffin, 1998; Goldstein, 1994). Condom use may “enforce ... existing unequal power-relations” (Goldstein p. 926). These authors state that heterosexual HIV/AIDS campaigns should re-examine condom use programs that are solely based on the experience from the developed countries. Clarity about different motivations for condom use between the sexes is necessary, particularly in Latin America. Fortunately, motivation messages can be delivered easily and quickly, according to one evaluation component to this investigation.

Theory

This second part, theory, commences with a discussion on the paradigm of Mixed Methodology. Discussion of the models of Adult Stage Development Theory (ASDT) and Social Cognitive Theory (SCT) ensues.

This investigation used a Mixed Methodology paradigm to address study purposes and aims. There were five research phases; three were qualitative in nature and two were quantitative. Qualitative research methodology may be more successful by increasing validity from participant responses. Thus qualitative methods improves reporting biases due to 1) poor recall, 2) misunderstanding of the questions from participants, 3) masking of true expressions due to extra sensitive or extra personal issues, or 4) lying due to fear of undesired consequences (Hudelson, 1994). On the other hand, quantitative methods may succeed by an emphasis on

controlling internal validity and error variance (Tashakkori et al., 1998). These controls were addressed in chapter three.

Furthermore, Mixed Methodology may enhance the entire study beyond mere triangulation of results. It may be: 1) Complementary-- it can investigate overlapping components of results; 2) Initiative-- it can discover paradoxes and suggest new perspectives; 3) Developmental-- suggest the design of a second methodology based on the results of a first; and 4) Expansive-- it can add breath and scope to a study (Tashakkori et al., 1998). All of these points have been touched upon by this study.

- Complementary: Different threads of the investigation led to the topic of condom use. For example discussion of stress led to discussion of alcohol use, which led to condom use. Or discussion of partners led to discussion of age, which led to condom use.

- Initiative: Several aspects of the study suggested paradoxes from which to launch further research. For example, younger truck drivers, in spite of high levels of condom use, are still at risk for HIV/STI transmission. Not only do qualitative and quantitative methods enhance one another in this manner, but different components within a qualitative framework can highlight interesting findings.

- Developmental: For example, each phase was built on the experiences from the previous phase.

- Expansive: The complexity of the culture from which this investigation evolved truly jumps out. An extensive collection of topics was covered. For example, discussion of Bolivian truck drivers included their salary, the extent of their travel, and their county's government (all which may have contributed to sexual behavior), among other topics.

There is only one other truck driver study from the literature that uses an established health model (Bryan et al., 2001). This investigation demonstrates the complexity of psychological and behavioral measures among truck drivers, but calls for future studies dealing with this occupation to continue implementation of theory from which measures can be compared. This study used two theoretical models in an attempt to arrive at design and implementation of educational methods. The two models were stage theory and social cognitive theory.

One theory, stage theory, attempts to explain ego or maturation changes of humans over the course of time. Stage theorists state that there exists at least one ego transition sometime in middle adulthood. Erikson (1959/1986) calls this a movement from an intimacy perspective to a generative perspective. Levinson et al. (1978) call it the midlife transition; these authors insisted on a more precise timeline and predicted its occurrence at around age 40 or 41.

Ochse et al. (1986) uncovered evidence that stage transition timing depends on gender and culture. These authors also uncovered one personality factor that underscored all change, (describing it as a negative ego-identity), and found that different stages may concurrently proceed. Vaillant et al. (1980) added one more stage to round out the adult experience, labeled 'career consolidation'.

This study has confirmed the manifestations of stages in Bolivian truck drivers, as posited by Erikson (1959/1980). Intimacy measures were especially strong in this population, and more so in older truckers.

The other theory, SCT, attempts to explain the complexities of behavioral learning through interactions of social environment, cognitions, and the behaviors themselves. This study

verified two SCT cognitions that are key to condom use behavior: Outcome expectancies and perceived social norms.

Stage constructs did not directly associate with sexual behavior. However, age did associate with, and predict, condom use. Therefore, the actions of these men, which change by age, do not change through internal maturation or ego stages in a man's life. Either there exist other stage-like constructs that cannot be measured by ADST, or sexual behavior is influenced more by external means, such as a rapidly changing culture¹. A third alternate may yet explain the findings. Perhaps stage constructs do influence sexual behavior, but culture induces change faster than psychological changes predicted by Erikson, masking the effect of stage. This last alternative, an external cultural change (masking stage), is plausible considering the fact that stage constructs did emerge from this study. Consequently, if one looks at the history of safe sex education in Bolivia, one sees a fairly recent social phenomenon, not much more than fifteen years old. Most truck drivers, as an occupation group, have probably not been exposed to a systematic national prevention program. But younger truckers probably have through prior schooling, or through mandatory military service.

A difficulty in interpretation arises because intimacy registered with older truckers, but condom use registered significantly more with young truckers. On the surface, therefore, one may conclude that condoms, among Bolivian truckers, are not instruments of intimacy. Correlation results between stage and cognitive factors may help with interpretation. The intimacy stage positively correlated with perceived social norms. A sensible conjecture, therefore, is that intimacy, is complete (and registers) for the older truckers, but the younger

¹ Other evidence indicating rapid, Bolivian cultural change include: A decrease in average number of children from 5.6 in 1994 to 5.1 in 1998, and an increase in those who completed high school from 37% in 1994 to 49% in 1998. (DHE, 1998).

drivers are still working through its crises. Incomplete intimacy, and the struggles therein, engages more attention about one's environment and society. Somehow this attention (perceived social norms) could influence sexual behavior. In fact, here, perceived social norms predicted condom use.

Looked at from another way: The one stage construct (oblique intimacy) which registered significantly greater in older truck drivers also correlated with all other stages, except for varimax negative generativity. They were all found at higher levels in older truckers, except for varimax negative generativity. They all had positive connotations, except for varimax negative generativity. Thus younger truckers seem less positive, are less intimate, but more socially aware. They have more sex partners, more anal sex with regular partners, and exhibit more recent STIs.

Younger truckers also demonstrate significantly greater levels of condom use than older truckers. In the face of all previous evidence, a salient conclusion is that this behavior, condom use, may be imposed on them socially. It makes sense to conclude that younger truckers use condoms because they are following a social perception that others are using condoms, not because they think it is a good idea or a healthy thing to do.

LIMITATIONS

This section discusses the limitations. Only research limitations are addressed here as workshop limitations have already been addressed under chapter five, the evaluation.

Qualitative

There may have been response bias in the qualitative components. Phase II and III detected a *macho* truck driving culture, which switched on and off depending on a level of wit or

humor. Responses concerning nomenclature of sex partners, or frequency of STI, may have been inflated because of this. However, training was achieved with the BHE interviewers to guard against this threat, and consecutive qualitative phases verified participant interviews from previous phases.

Quantitative

Quasi-experiments suffer particularly from selection and contamination threats to validity (Mohr, 1992). Since attrition was so high, however, contamination was a moot point. But attrition was such a detriment to the original design that the entire original idea-- a comparative group trial-- collapsed from lack of returning participants. Behavioral or cognition change could not be statistically assessed. Emphasis then shifted to the pre workshop survey. Selection bias still remained as a credible threat to this survey on several levels.

First, participants were not randomly selected. In order to facilitate a quick segue into the workshops from initial interviews, a convenience method was chosen. Second, selection bias may have occurred in selecting sites in which to interview; sites were also convenience sampled. Thirteen sites were used, covering all three major highways in and out of the city of Santa Cruz. Yet the investigator proposes that the program reached a saturation point in trying to find sites. If this was the case, population representativeness due to site was probably attained. Participants from all 13 sites were included in analyses

Also, selection bias occurred due to trucker willingness, or unwillingness, to participant. It was estimated that there were slightly more truckers who refused interviewing than willing participants who were interviewed. Such a 'refusal' sub-population could represent different characteristics and result in unrepresentative responses from the willing participants.

Recall bias may have skewed the participants' responses, a credible threat to validity. But variable checks were inserted into the survey tool to control for inconsistent responses. For example, one section in the tool asked if participants used condoms, another item asked how often, and yet another question asked how often participants carry condoms. Blatant, contradictory responses led to exclusion from analysis.

Interviewer bias may have been an issue given that the BHE were better educated men, just graduated or nearly graduated from a university. Truck drivers, on average, were less educated (64% finished high school, and few went on to higher education). The mean age of truck drivers was between 36 and 37 years. The mean age of BHE was about 22 years. However, BHE were trained to be consistent and objective in interviewing. Special aids in interviewing, such as a separate, enlarged likert scale that truckers could hold and point to, were designed to help in standardization of questioning.

External validity was assessed through Mixed Methodology triangulation. For example, the phase IV responses were similar to phase V responses concerning multiple sex partners, anal sex, and perception of risk. Internal validity was checked by pilot testing the instrument, assessing reliability, and adding a social desirability index. Social desirability associated with only one construct-- oblique intimacy. This sheds some doubt on conclusions concerning stage.

One index, attitudes of HIV testing, did not emerge significant, nor was its index reliable. A type II error could have occurred where under conditions of decent reliability, these attitudes may have become important.

Some intimate sexual questions may have suffered underreporting. One of the questions asked was if the trucker had sex with other males. Only 2% admitted to this. A clue in masking information concerning intimate sexual behavior is seen from the quantitative and qualitative

responses for anal sex (17% quantitative; 31% qualitative), and STI (30% quantitative; 52% qualitative). Future studies will need to find creative ways to arrive at the truth of these oscillating prevalences. Still, one could use the quantitative results as conservative, baseline data. Lastly, a substantial limitation was having no seroprevalence data to verify self-reports of STI in the truck drivers.

RECOMMENDATIONS

This final section discusses recommendations for future research with truck drivers, future workshop implementation with truck drivers, and policy. This section will address 1) research recommendations, 2) education delivery recommendations, 3) structural recommendations under which both research and education ideas can proceed, and 4) policy recommendations.

Research

Future research with truck drivers should consider using Mixed Methodology or some method analogue whereby different techniques are utilized to assess the same questions. This paradigm has been shown to be successful here. It is both expansive and practical, of use especially in multi-cultural situations, or in investigations involving intimate behaviors.

Types of sex partner were assessed in this study. Yet more qualitative research should be pursued with these women, concerning type of sex, periodicity of work, condom use, work site, travel, types of "payment", etc. If condom use is assessed from their point of view, future studies may want to consider issues of empowerment. Future investigations should not exclude the wives of truck drivers. This type of information is difficult to collect quantitatively; multi-

qualitative methods would probably suffice in culling it. Such information would be important in identifying points of risk with heterosexual partners of truckers.

Future work with truckers should assess the characteristics of truckers who refuse to cooperate. This may reveal different population characteristics, or motivations. They may represent different pockets of higher risk, or hard-to-reach truck drivers.

The investigator recommends that, in future sexual behavior studies, other psychological constructs be tested with cognitions and behaviors, outside of stage. For example, both Ackerman, Zuroff and Moskowitz (2000), and Ochse et al. (1986) correlated well-being with particular stage constructs. Well-being was not assessed in this study. Studies dealing with locus of control or self-esteem, by age group or stage, should be considered.

Lastly, sero-status of the truckers should be pursued to establish true prevalence of disease in the population, and correspondence of it to participants' responses.

Education Delivery

Andragogy is a discipline asserting that adult education should to be tailored to adult needs, expectations, and capacities. For example, adults consider themselves co-owners to knowledge because of their rich experiences. Therefore, adult learners, as opposed to children, learn better under situations where 1) the learners co-design the curriculum, 2) the learners integrate instruction with personal testimony and continuous dialogue, 3) there is feedback, 4) there are short term expectations, 5) there is added attention to the environment of instruction, 6) there is motivation for learners to be self-directed, and 7) one provides immediate, practical application (Knowles, 1980). As many of these considerations as possible should be taken into account in designing future education programs with truck drivers.

Peer educators should be used. Two stage theorists propounded the importance of mentors (Erikson, 1959/1980; Levinson et al., 1978); one of them (Levinson et al.) exhorted exploitation of these relationships for educational purposes. Peer education is also a recommended technique through SCT. On top of this, peer education would work well within the tenets of adult education.

Truck drivers are highly mobile and wealthier than average citizens. Condom acquisition is not a problem. Yet workshops must certainly focus on other points of condom use by emphasizing: 1) Deconstruction of beliefs on condom nuisance; 2) Construction of attitudes that condoms can be objects of intimacy, and not just instruments of duty; 3) Emphasizing condom use in anal sex; and 4) Emphasizing condom use with all types of casual sex partner.

Creative methods must be incorporated into truck driver safe sex workshops concerning other modes of risk behavior, such as number of partners, condom negotiation with partners, types or partner, types of sex, or facilitation of HIV via STI.

Structure

Even though truck drivers are bridge populations of transmission, they can also be bridge populations of prevention messages and positive expectancies (Laukamm-Josten et al., 2000; Morris et al., 1996; Ramjee et al., 2002; Stratford et al., 2000). Ramjee et al., advocates a health organizational structure which includes truck stops to easily deliver HIV prevention methods, test, and counsel.

If their 'stops' are not involved, a huge problem develops in trying to reach the truck drivers in a consistent manner, in trying to offer sustained educational programs to them, and trying to find ways to follow up with individuals. Furthermore, the only way to effectively work at truck stops will be to strengthen liaisons with the *sindicato* or truck company, and work

through them. Through the *sindicato*/truck company, health organizations can build trust and expand health programs from which to offer other topics to truckers (alcohol abuse, family health, etc.), or to launch programs for the truckers' spouses, or the 'clandestine' casual sex partners of truckers.

Policy

The investigator suggests three notions that should be scrutinized by policy makers involved with PROSIN/*Programa de ITS/SIDA*.

First, surveillance efforts need to be standardized and buttressed. HIV/AIDS surveillance is relatively new in Bolivia; standard reporting is about as new as prevention programs initiated from MOH. Even during the course of the investigation, the definition of an HIV "case" was not standard across different reporting sites. Mode of transmission information is dubious. Surveillance efforts should compliment prevention efforts. Problems found in an incomplete reporting system may induce the opposite of what it intends (to capture reports of HIV/AIDS cases). This in turn may produce undesirable silence in those same populations targeted for prevention efforts (Sorensen, Lopez & Anderson, 2000).

Second, transmission assumptions should be re-examined. Both MOH and USAID pursued the assumption that HIV is transmitted from across the Brazilian border. This investigation determined that this notion is a xenophobic myth. Policy hinging on this assumption should be discarded.

And lastly, other high risk populations need to be considered within Bolivia. During the course of this study the investigator observed that health organizations only promoted prevention projects with CSW, MSM (only since 1994 [Wright, 2000]), or towards adolescents within schools. The only exception known to the investigator was a highland study with miners,

soldiers, police, and *transportistas* (PSI, 2000). Truck drivers and casual sex partners of truck drivers, perhaps the spouses of the truck drivers, need safe sex educational programs.

Summary

A high risk of HIV/STI transmission has been detected in Bolivian truck drivers, using Mixed Methodology as the research paradigm. This notion supports other studies involving truck drivers, and calls attention to the need for tailored health education programs for this population. Neither truck drivers, nor their spouses or casual sex partners, are targeted for education and prevention efforts, in Bolivia.

In addition, programs that promote mere condom use to stop transmission of HIV/STIs face failure in this population. This study shows that younger truck drivers are particularly at risk in spite of increased condom use.

A comprehensive approach is suggested. First, workshops for truckers should expand to include counseling and testing. Workshops should expand in health education topics. Workshops should also include truckers' spouses as participants. Second, qualitative studies should be conducted to describe casual sex partners of truck drivers. Designing workshops for these individuals should follow. Lastly, community wide campaigns need to be designed and launched to emphasize other, reinforcing factors to condom use. A marketing effort placing partner communication at the heart of the campaign, for example, or work colleagues giving condoms to each other, is not difficult to imagine.

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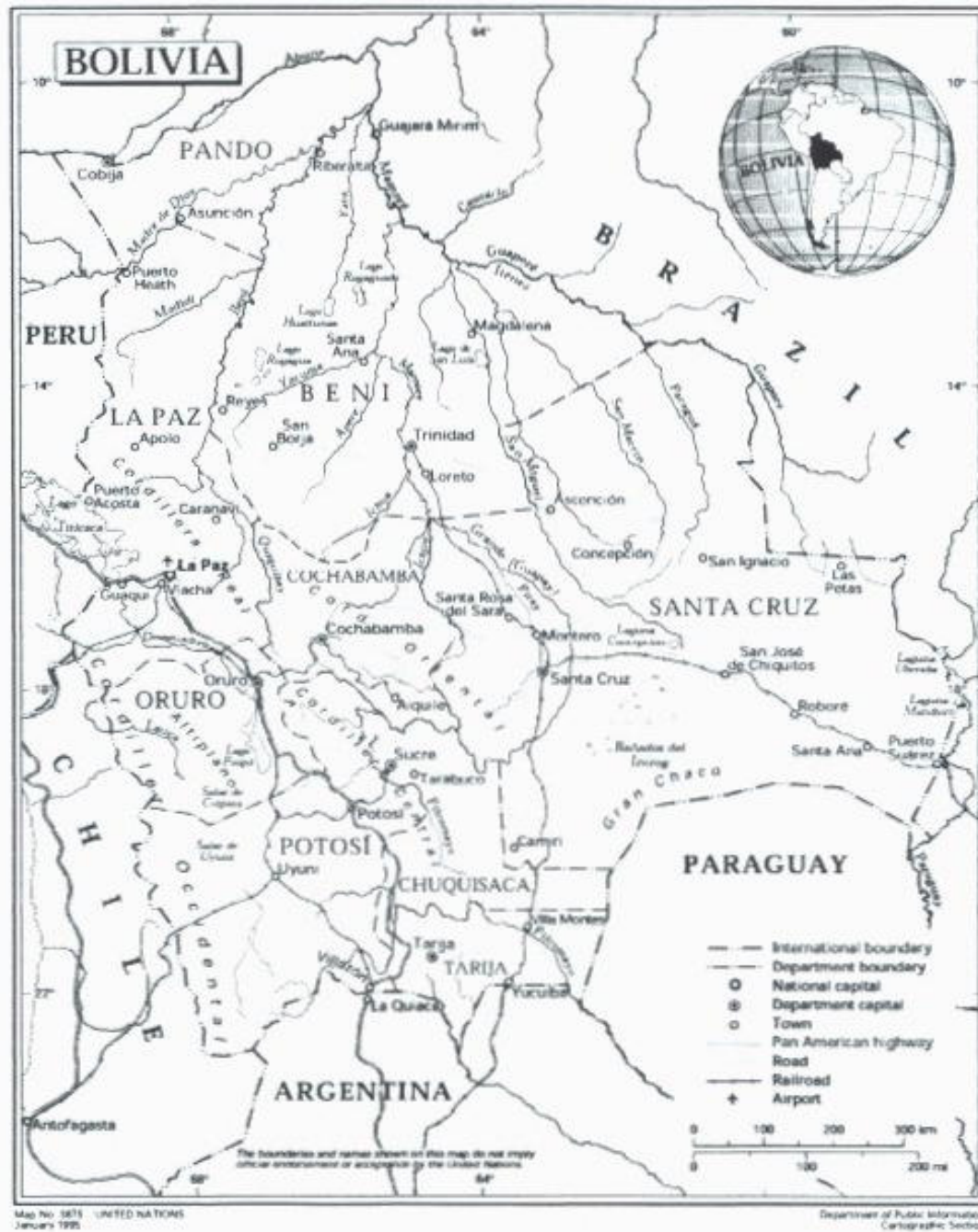
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APPENDICES

A	Country map
B	City of Santa Cruz interview/workshop site map
C	PROSALUD clinic map in Santa Cruz
D	Example letter: Request to truck companies/unions
E	Workshop cartoons
F	Workshop discussion guides
G	Participant evaluation
H	Workshop pamphlet
I	Billfold calendars
J	Follow-up poster
K	Phase I interview guides
L	Focus group guide
M	Tool content validity committee
N	Questionnaire
O	Letter to UNO seeking permission
P	UNO permission response
Q	Bolivian Ministry of Health permission response
R	Bolivian Health Educator Contract
S	Participant consent form
T	Investigator form for evaluation of workshops
U	Bolivian health educator evaluation
V	Truck company/union management evaluation
W	Letter of permission to use PROSALUD clinics in follow up

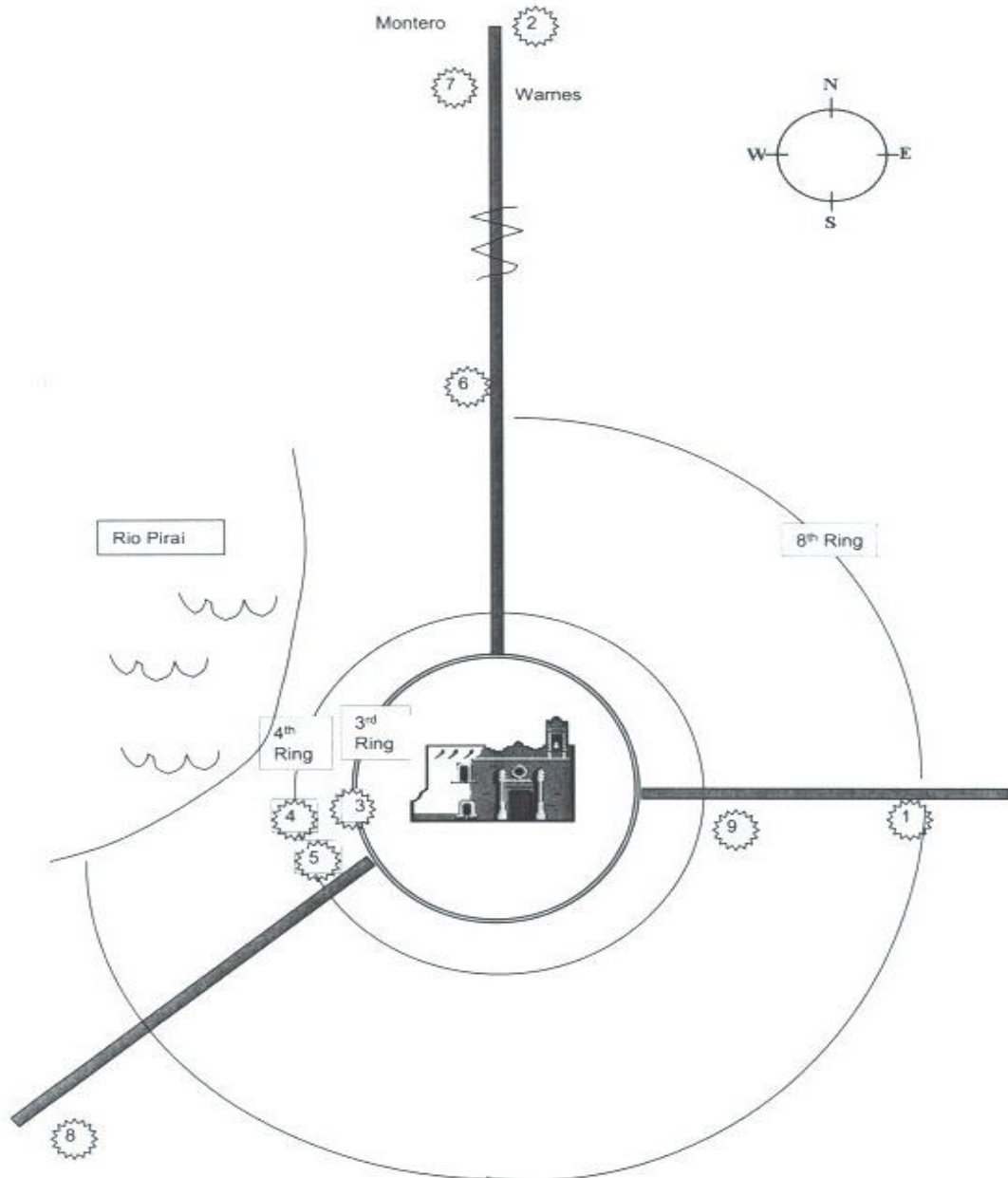
APPENDIX A

Country map



APPENDIX B

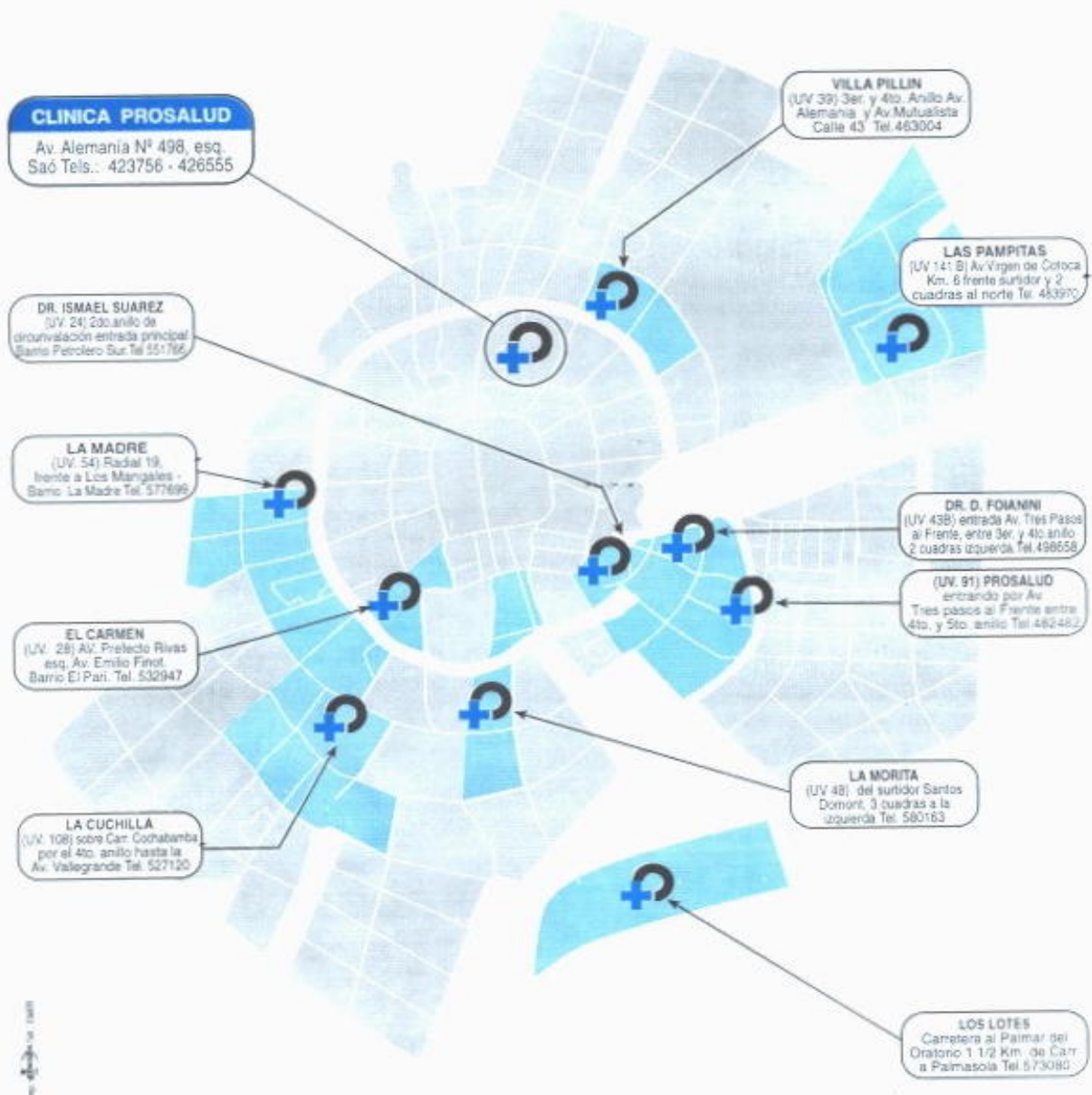
City of Santa Cruz Interview/Workshop Site Map



APPENDIX C

Prosalud clinic map in Santa Cruz

UBICACION DE CENTROS DE SALUD Y CLINICA DE PROSALUD EN LA CIUDAD DE SANTA CRUZ DE LA SIERRA



APPENDIX D

Example letter:
Request to truck company/unions

Fecha
Señores:
Sindicato
Guarachachi, Bolivia

Estimada Señores:

A través de la presente, les saludamos con la mayor consideración, augurándoles éxitos en el importante trabajo que vienen desempeñando a favor del progreso de nuestra sociedad.

Como es de su conocimiento por su apoyo en el pasado, existe una investigación sobre la salud de adultos en Bolivia. Como parte del estudio hemos elegido choferes de camión en las rutas del oriente.

Recién terminé la tercera fase del estudio y tenemos datos sobre 71 camioneros. Ahora estamos planeando la cuarto y última fase. El plan consta de encuestas a 200 choferes sobre sus conocimientos, actitudes, y conductas de salud, luego un taller educativo, y al final una post-encuesta 2 ó 3 meses más tarde. En todos los casos del piloto su sindicato nos apoyó para realizar la terminación del estudio.

Es por este motivo que le escriba, para solicitar ayuda en formas sencilla:

1. Solicitamos permiso utilizar su sindicato dos días mas, el 5 de Junio (Miercoles) y el 4 de Julio (Jueves), para la pre-encuesta y el taller educativo. Cada día se hara encuestando 6-7 camioneros, luego un taller educativo con vídeo y discusión. La secretaria nos ha comunicado que la tarde, 3:30 hasta 6:30, es el mejor tiempo hacerlo. Para mostrar el vídeo necesitamos un enchufe eléctrico y un lugar tranquilo con sillas (como un comedor).
2. Para facilitar el post-encuesta en Septiembre y Octubre, les solicitemos ayuda en ponerla propaganda en las paredes para qué vuelvan los camioneros al centro de Prosalud Las Pampitas (en Guarachachi).

Eso es todo. Si Ud. tiene preguntas, por favor comuníquese conmigo mediante el teléfono **3460271**.

Sin otro particular y a la espera de una respuesta favorable le hacemos llegar nuestras consideraciones mas distinguidas.

Atentamente,
William Sorensen
Jefe del equipo "Comportamiento de Salud de Adultos Bolivianos"
Prosalud, PSI.

Date
Mr. or Ms.
Union
Santa Cruz, Bolivia

Dear Sir:

This letter is to ask your consideration in helping the community with an important project.

You have helped in the past with an investigation about the health of adults in Bolivia. As you know, as part of this study, we have chosen truck drivers to represent some of the adults.

We have just completed the third phase of the study and we have data on 71 truck drivers throughout Santa Cruz. Now we are planning the fourth, and last, phase. The plan is to interview up to 200 truck drivers about their knowledge, attitudes, and behavior concerning health habits. Then, there will be a workshop, and finally, another interview in two to three months. We acknowledge that your union has been an important part in getting us this far. We now ask that you help us finish the study.

Quite simply, this is all we ask of you:

1. We ask for your permission in using the physical grounds of the union for just two more days, June 5th (Wednesday) and July 4th (Thursday), so that we can hold our workshops to truckers. Each day we are interviewing 6 to 7 truck drivers, then giving a workshop to them with a video and discussion. Your secretary has told us that the afternoons, from 3:30 to 6:30pm, are the best times in which to hold these workshops. To show the video we need an electric plug, and a quiet room with chairs.
2. To facilitate the post-interview in September and October, we are asking your help in putting up small posters on your walls so that truck drivers can read them and remember to return to the Prosalud clinic Las Pampitas (in Guarachachi).

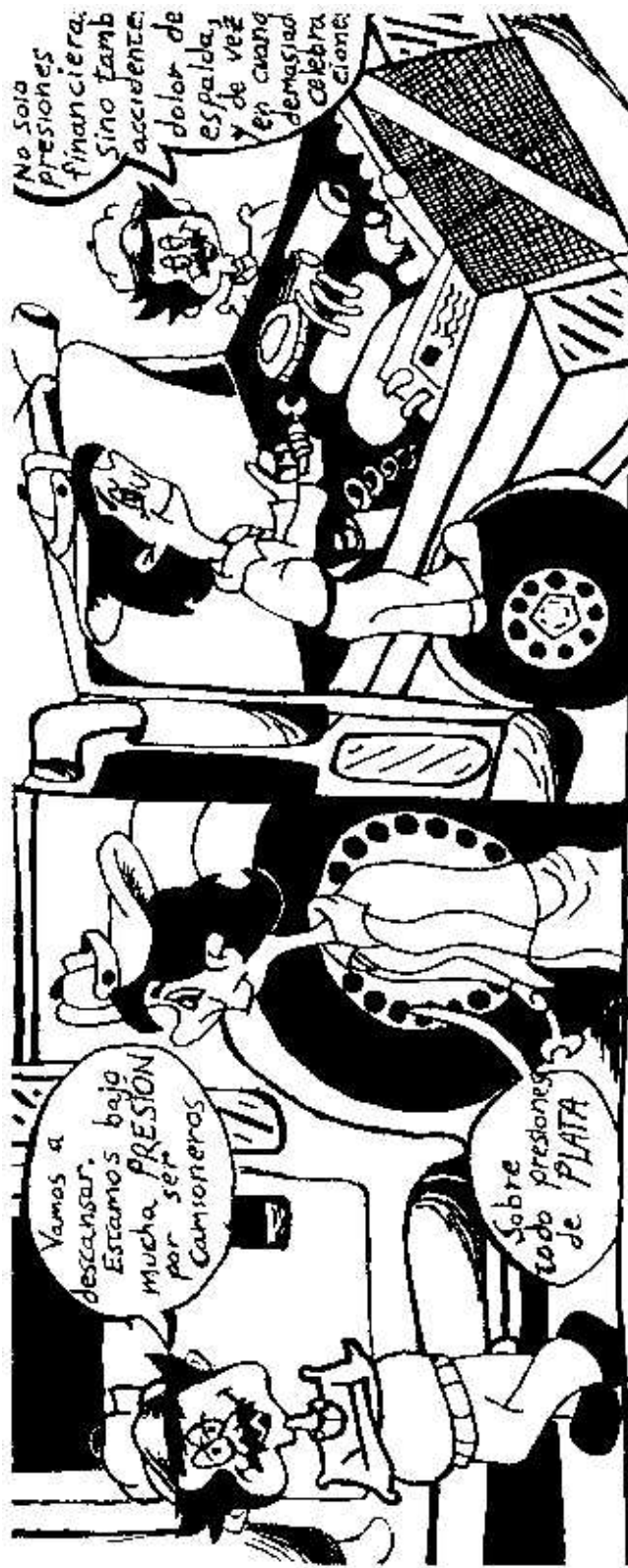
That's all. If you have any questions, please do not hesitate to give me a call at **3460271**.

Thank you so much for your time and consideration.

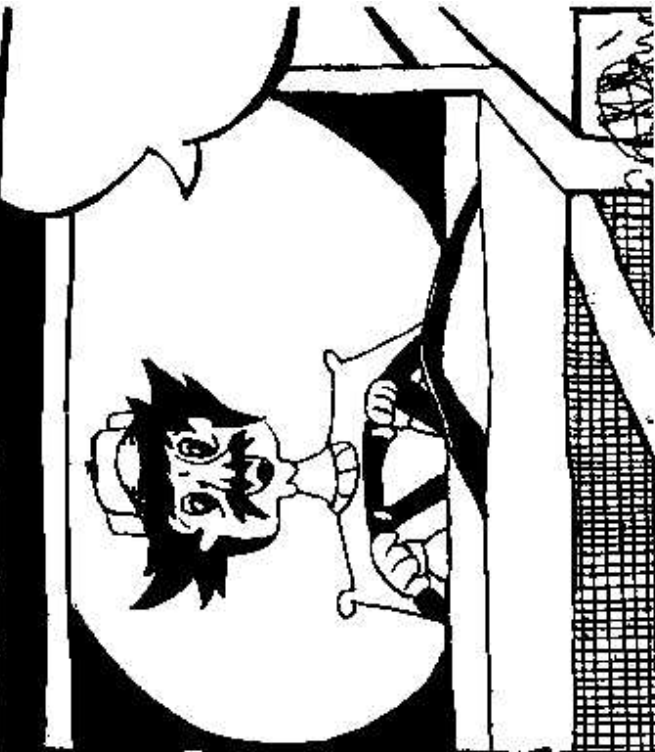
Sincerely,
William Sorensen
Principle Investigator of the team "Health Behaviors of Adult Bolivians"
Prosalud, PSI.

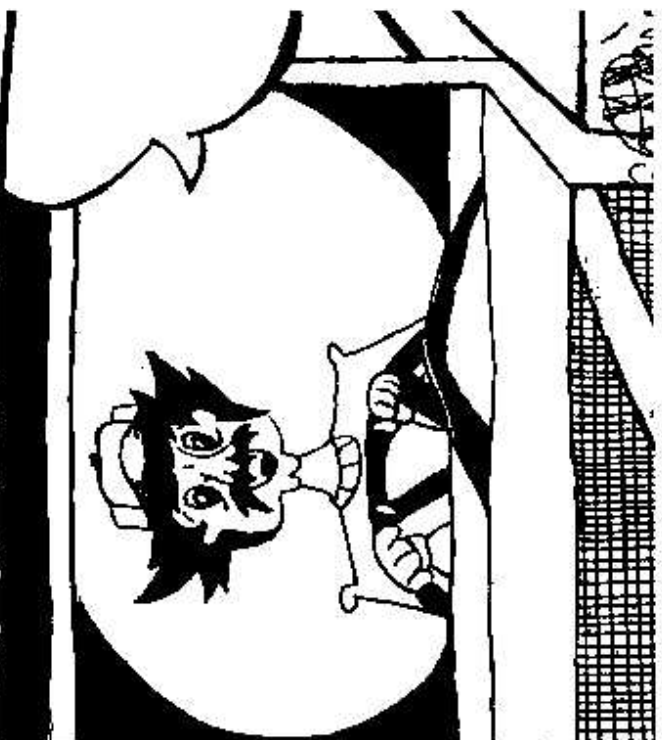
APPENDIX E

Workshop cartoons









APPENDIX F

Workshop discussion guides

**GUIA DE DISCUSION PARA ACOMPAÑAR EL VIDEO
“LOS CAMINOS DE LA VIDA”,
EL CARTOON, Y LA DEMONSTRACION DEL CONDON**

- *1) **¿Hablan con sus parejas sobre los condones y sobre la felicidad de tener una relación sana?**
<discusión sobre planificación familiar para el bienestar de la familia, o prevención de infecciones para tener salud para la felicidad de sus parejas>
- 2) **¿Con quiénes se debe usar condón y para qué?**
<Con todas las parejas sexuales; Para evitar embarazos no deseados e infección sexual. Para protegerse y proteger a todos sus seres queridos contra las ITS.>
- 3) **¿Dónde se consiguen los condones?**
<Farmacias, postas de salud, boticas>
- 4) **¿Cuál infección sexual se menciona en el vídeo?**
<Gonorrea>
- 5) **¿Pueden nombrar las señales más comunes de esta Infección sexual?**
<Para el hombre: Ulcera genital (herida o llagas en el pene, testículos o cerca de ellos); Flujo uretral (pus por la punta del pene) con o sin dolor/ardor al orinar. Para la mujer: Ulcera genital; Flujo vaginal (también ardor al orinar o escozor); Dolor en la parte baja del vientre; A veces no se manifiestan las señales. >
- *6) **¿Piden consejos a sus compañeros sobre la prevención de infecciones sexuales?**
<respuestas varias... ¿de que hablan con sus compañeros?>
- 7) **¿Cómo se transmiten las Infecciones sexuales y el VIH/SIDA?**
<En el caso de ITS: Por contacto sexual vaginal, anal (ano con genitales) u oral (boca con genitales) sin condón con una persona infectada. (También de una madre infectada a su bebé durante el embarazo).
En el caso de VIH: también por transfusión de sangre infectada, y por contacto con jeringues no esterilizados.
UNA ITS PUEDE FACILITAR EL CONTAGIO Y LA TRANSMISION DEL VIH/SIDA>
- *8) **¿Cuál experiencia la afectó más a la salud del chofer, en el vídeo?**
<a. Una vez, por no utilizar condón se contagio gonorrea. Le dolía al orinar, tenía un liquido como pus que le salía del pene. El medico le receto unas inyecciones para curarse o
b. Su manera de tener contacto con muchas mujeres>
- 9) **¿Qué se debe hacer en caso de tener una señal de una Infección sexual?**
<a. Acudir preferentemente en pareja al centro de salud para un examen y tratamiento adecuado.
b. Cumplir con el tratamiento indicado, incluso si desaparecen las señales de la ITS.
c. No tener relaciones sexuales hasta terminar el tratamiento.
d. No tratar de curarse usando medicinas no prescritas por personal de salud (uno puede hacerse daño a sí mismo).>
- *10) **¿Qué hace el chofer en el vídeo, por sentirse aislado?**
<discusión general>

***11) ¿Estaba despuerto a darle a una sola pareja su vida (por siempre)?**
<discusión general>

***12) ¿Le gustaba, el chofer en el vídeo, andar con muchas mujeres?**
<discusión general>

***13) ¿Si Uds. aman a sus parejas, considerarían evitar embarazos?**
<discusión general>

14) ¿Cuáles son los pasos para el uso correcto del condón?
a. Abra por la ranura, cuidadosamente, y saque el condón
b. Lo desenrolla completamente sobre el pene erecto
c. Después de eyacular pero antes de perder la erección, sujetar con los dedos la base del condón contra su cuerpo, mientras retira el pene de la vagina (evitando que se chorree el semen dentro de la vagina)
d. Anude o tapa el condón usado y bótelo a la basura.
Use un nuevo condón para cada relación sexual. No use cremas bases de aceita, ni vaselina porque pueden dañar el condón. >

15) ¿Qué consecuencias pueden producir las Infecciones sexuales si no son tratadas a tiempo?
<Esterilidad, deformaciones, dolor. En caso de VIH/SIDA, no tiene cura y es mortal. TAMBIEN UNA ITS PUEDE FACILITAR EL CONTAGIO Y LA TRANSMISION DEL VIH/SIDA.
El cumplimiento del tratamiento es necesario para curar la Infección sexual. La curación completa de las Infecciones sexuales es necesaria antes de reasumir relaciones sexuales. Es importante referir a la pareja el servicio de salud para una evaluación y tratamiento y así evitar el riesgo de reinfección>

16) ¿Cuáles son las formas de protegerse de Infección sexual y VIH/SIDA?
<Abstinencia (no tener relaciones sexuales), o fidelidad mutua entre personas no infectadas, o uso del condón.>

17) ¿Donde se van para hacer una prueba de Infección sexual o VIH/SIDA?
<*****>

***18) Al fin, recuerda el cartoon? El cartoon mostró 2 hombres hablando de condones. Al llegar el ultimo cuarto, ¿que dijo Ud.?**
<recuerdales: el joven hablaba de prostitutas.... y discusión general>

**DISCUSSION GUIDE TO ACCOMPANY THE VIDEO
“LOS CAMINOS DE LA VIDA”,
THE CARTOON, AND CONDOM DEMONSTRATION**

***1) Do you talk with your partners about condoms and the goodness of having a healthy relationship?**

<discussion about family planning for the good of the family, or disease prevention in order to have healthy partnership>

2) With whom do you use condoms? Why?

<With all sexual partners; to avoid unwanted pregnancy or sexually transmitted infections. To protect all your loved ones against STI>

3) Where can you get condoms?

<Pharmacies, clinics, drug stores>

4) Which sexual infection was mentioned in the video?

<Gonorrhea>

5) Can you mention the common signs or symptoms of a sexual infection?

<For men: Genital ulcer (open sore on the penis, testicles, or close to them); urethral fluid (discharge from the penis) with or without pain with urinating. For the woman: Genital ulcer; Vaginal discharge (also pain when urinating or itching); Pain in the lower abdomen; Sometimes the symptoms are not forthcoming >

***6) Have you asked advice from your work buddies or work mates about the prevention of sexual infections?**

<various answers .. what do they say of their workmates?>

7) How do you transmit sexual infections? Or HIV/AIDS?

<In the case of STI: By sexual contact with the vagina, anus, or oral (mouth to genitals) without a condom with an infected person. (Also from an infected mother to her baby when pregnant). In the case of HIV: Same, also by transfusion with infected blood, and contact with unclean hypodermic needles. AN STI CAN FACILITATE TRANSMISSION OF HIV/AIDS>

***8) What experience affected most the health of the truck driver, in the video?**

<a. One time, by not using a condom he got gonorrhea. He had pain when urinating. Pus-like liquid discharged from his penis. His doctor prescribed medicine to cure it.
Note: His way of having lots of contact with many women>

9) What should you do with you have a sign or symptom that seems like a sexual infection?

<a. Go, preferable with your partner, to a health clinic to get an examination and adequate treatment.
b. Finish the treatment that was prescribed, up until the signs and symptoms disappear.
c. Do not have sexual relations until you finish your treatment.
d. Do not try to cure yourself with herbs or medicines not prescribed by a doctor (you can harm yourself doing so).>

***10) What did the truck driver do, in the video, when he felt lonely?**

<general discussion>

***11) Are you ready to give your life to one partner (for ever)?**

<general discussion>

***12) Did the truck driver, in the video, like going out with so many women?**

<general discussion>

***13) If you love your partners, would you consider her avoiding pregnancy?**

<general discussion>

14) What are the steps for correct condom use?

<a. Open the package where you are supposed to, carefully, and take the condom out

b. unroll it completely on the erect penis

c. After ejaculation, but before losing your erection, apply pressure at the base of the condom with your fingers, while withdrawing the penis from the vagina (avoiding spilling semen inside the vagina)

d. Tie the top of the condom shut; throw it in a trash can.

Use a new condom for every sexual relationship. Do not use oil-based creams (like vaseline) or lubricants, because it can break the condom. >

15) What consequences can happen if you get a sexual disease and its not treated on time?

<Sterility, deformities, pain. In the case of HIV, there is no cure-- it is mortal. Also, a STI can facilitate transmission of HIV/SIDA.

Finishing treatment is necessary in order to cure a sexual infection. It is necessary before resuming sexual relations. It is important to refer your partner also to a health service for evaluation and treatment, and thus eliminate any risk of re-infection>

16) What forms are there to protect one from a sexual infection or HIV/AIDS?

<Abstinence (not having sexual relations), or mutual fidelity between partners who are not infected, or use condoms. >

17) Where can you go to get a test for a sexual infection or HIV/AIDS?

<*****>

***18) At last, remember the cartoon? The cartoon showed 2 men talking about condoms. What did you say when you got to the end of the cartoon?**

<remembering it: the younger trucker talked of prostitutes...

general discussion>

**GUIA DE DISCUSION PARA ACOMPAÑAR EL VIDEO
"LOS CAMINOS DE LA VIDA",
EL CARTOON, Y LA DEMONSTRACION DEL CONDON**

***1) ¿Deberían hablar de condones o hay otros asuntos más importante en la vida? ¿Qué hay de la búsqueda de felicidad?**

<discusión general....sobre planificación familiar o sobre la crisis económica o pobreza. El estado del país. >

2) ¿Con quiénes se debe usar condón y para qué?

<Con todas las parejas sexuales; Para evitar embarazos no deseados e infección sexual. Para protegerse y proteger a todos sus seres queridos contra las Infecciones sexuales.>

3) ¿Dónde se consiguen los condones?

<Farmacias, postas de salud, boticas>

4) ¿Cuál infección sexual se menciona en el vídeo?

<Gonorrea>

5) ¿Pueden nombrar las señales más comunes de esta Infección sexual?

<Para el hombre: Ulcera genital (herida o llagas en el pene, testículos o cerca de ellos); Flujo uretral (pus por la punta del pene) con o sin dolor/ardor al orinar. Para la mujer: Ulcera genital; Flujo vaginal (también ardor al orinar o escozor); Dolor en la parte baja del vientre; A veces no se manifiestan las señales. >

***6) ¿Están dando consejos a los jóvenes sobre la prevención de infecciones sexuales?**

<respuestas varias... ¿de que hablan a los jóvenes?>

7) ¿Cómo se transmiten las Infecciones sexuales y el VIH/SIDA?

<En el caso de ITS: Por contacto sexual vaginal, anal (ano con genitales) u oral (boca con genitales) sin condón con una persona infectada. (También de una madre infectada a su bebé durante el embarazo).

En el caso de VIH: también por transfusión de sangre infectada, y por contacto con jeringues no esterilizados.

UNA ITS PUEDE FACILITAR EL CONTAGIO Y LA TRANSMISION DEL VIH/SIDA>

***8) ¿Cuál experiencia afecto más la mente del chofer, en el vídeo, debido a su vida como camionero?**

<a. Una vez, por no utilizar condón se contagio gonorrea. Le dolía al orinar, tenia un liquido como pus que le salía del pene. El medico le receto unas inyecciones para curarse.

b. O el momento de casi-chocarse.>

9) ¿Qué se debe hacer en caso de tener una señal de Infección sexual?

<a. Acudir preferentemente en pareja al centro de salud para un examen y tratamiento adecuado.

b. Cumplir con el tratamiento indicado, incluso si desaparecen las señales de la ITS.

c. No tener relaciones sexuales hasta terminar el tratamiento.

d. No tratar de curarse usando medicinas no prescritas por personal de salud (uno puede hacerse daño a sí mismo).>

***10) ¿Qué hace, el chofer en el video, cuando casi tiene un accidente?**

<discusión general>

***11) ¿Estaba dispuesto de darles a la gente que encuentra por su ruta , las lecciones de su vida?**
<discusión general>

***12) ¿Por qué le gustaba, al chofer en el vídeo, andar por muchas ciudades y pueblos, conociendo mucha gente?**
<discusión general>

***13) ¿Por más viejos que sean, considerarían evitar embarazos con sus mujeres?**
<discusión general>

14) ¿Cuáles son los pasos para el uso correcto del condón?
a. Abra por la ranura, cuidadosamente, y saque el condón
b. Lo desenrolla completamente sobre el pene erecto
c. Después de eyacular pero antes de perder la erección, sujetar con los dedos la base del condón contra su cuerpo, mientras retira el pene de la vagina (evitando que se chorree el semen dentro de la vagina)
d. Anude o tapa el condón usado y bótelos a la basura.
Use un nuevo condón para cada relación sexual. No use cremas bases de aceite, ni vaselina porque pueden dañar el condón. >

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La curación completa de las ITS es necesaria antes de reasumir relaciones sexuales. Es importante referir a la pareja el servicio de salud para una evaluación y tratamiento y así evitar el riesgo de reinfección>

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<Abstinencia (no tener relaciones sexuales), o fidelidad mutua entre personas no infectadas, o uso del condón.>

17) ¿Donde se van para hacer una prueba de infección sexual o VIH/SIDA?
<*****>

***18) Al fin, ¿recuerda el cartoon? El cartoon mostró 1 hombre recordando su padre, su nueva familia, y luego mirando a otras chicas. Al llegar el ultimo cuarto, ¿Que decía Ud.?**
<recuérdales: el estaba pensando en la falta del uso de condón en su pasado. ¿Por que? - discusión general>

**DISCUSSION GUIDE TO ACCOMPANY THE VIDEO
“LOS CAMINOS DE LA VIDA”,
THE CARTOON, AND CONDOM DEMONSTRATION**

***1) Should we talk about condoms if there are other more important things in life? How do we talk of looking for wellness?**

<general discussion... about family planning and about economic crises, or poverty. The state of the country or community>

2) With whom do you use condoms? Why?

<With all sexual partners; to avoid unwanted pregnancy or sexually transmitted infections. To protect all your loved ones against STI>

3) Where can you get condoms?

<Pharmacies, clinics, drug stores>

4) Which sexual infection was mentioned in the video?

<Gonorrhea>

5) Can you mention the common signs or symptoms of a sexual infection?

<For men: Genital ulcer (open sore on the penis, testicles, or close to them); urethral fluid (discharge from the penis) with or without pain with urinating. For the woman: Genital ulcer; Vaginal discharge (also pain when urinating or itching); Pain in the lower abdomen; Sometimes the symptoms are not forthcoming >

***6) Do you give advice to youth about prevention of sexual infections?**

<various answers .. what do they say of youth now-a-days?>

7) How do you transmit sexual infections? Or HIV/AIDS?

<In the case of STI: By sexual contact with the vagina, anus, or oral (mouth to genitals) without a condom with an infected person. (Also from an infected mother to her baby when pregnant). In the case of HIV: Same, also by transfusion with infected blood, and contact with unclean hypodermic needles. AN STI CAN FACILITATE TRANSMISSION OF HIV/AIDS>

***8) What experience affected most the thoughts of the truck driver, in the video?**

<a. One time, by not using a condom he got gonorrhea. He had pain when urinating. Pus-like liquid discharged from his penis. His doctor prescribed medicine to cure it.
Note: The moment of his almost getting in a wreck and dying>

9) What should you do with you have a sign or symptom that seems like a sexual infection?

<a. Go, preferable with your partner, to a health clinic to get an examination and adequate treatment.
b. Finish the treatment that was prescribed, up until the signs and symptoms disappear.
c. Do not have sexual relations until you finish your treatment.
d. Do not try to cure yourself with herbs or medicines not prescribed by a doctor (you can harm yourself doing so).>

***10) What did the truck driver do, in the video, when he almost wrecked?**

<general discussion>

***11) Are you ready to give lessons about life to the people you encounter on your route?**

<general discussion>

***12) Did the truck driver, in the video, like passing through many cities and towns, and meeting people of all sorts?**

<general discussion>

***13) Even if you were an old guy, would you consider having your partner avoid pregnancy?**

<general discussion>

14) What are the steps for correct condom use?

<a. Open the package where you are supposed to, carefully, and take the condom out

b. unroll it completely on the erect penis

c. After ejaculation, but before losing your erection, apply pressure at the base of the condom with your fingers, while withdrawing the penis from the vagina (avoiding spilling semen inside the vagina)

d. Tie the top of the condom shut; throw it in a trash can.

Use a new condom for every sexual relationship. Do not use oil-based creams (like vaseline) or lubricants, because it can break the condom. >

15) What consequences can happen if you get a sexual disease and its not treated on time?

<Sterility, deformities, pain. In the case of HIV, there is no cure-- it is mortal. Also, a STI can facilitate transmission of HIV/SIDA.

Finishing treatment is necessary in order to cure a sexual infection. It is necessary before resuming sexual relations. It is important to refer your partner also to a health service for evaluation and treatment, and thus eliminate any risk of re-infection>

16) What forms are there to protect one from a sexual infection or HIV/AIDS?

<Abstinence (not having sexual relations), or mutual fidelity between partners who are not infected, or use condoms. >

17) Where can you go to get a test for a sexual infection or HIV/AIDS?

<*****>

***18) At last, remember the cartoon? The cartoon showed 1 man remembering his father, his family, and he was looking at other women. What did you think he said at the end of the cartoon?**

<remembering it: he was thinking of the lack of condoms in his past. Why? ...general discussion>

APPENDIX G

Participant evaluation

Indicar uno de los valores siguientes:

1-----	2-----	3-----	4-----	5-----
ABSOLUTAMENTE	NO	MEDIANO	UN	ABSOLUTAMENTE
NO	MUCHO		POCO	SI

1. _____ Yo tenia que esperar demasiado antes de asistir al taller.
2. _____ La discusión fue un gasto de tiempo
3. _____ Este taller valía la pena.
4. _____ Yo aprendí algo importante del vídeo.
5. _____ Sentí que tenia algo importante que decir en la discusión.
6. _____ Este taller fue demasiado largo.
7. _____ La demostración de condones fue un gasto de tiempo.
8. _____ Estoy interesado en recibir más informes.
9. _____ El equipo de jóvenes sabía lo que hacian.

OTROS COMENTARIOS (otro lado):

For the following indicate:

1-----	2-----	3-----	4-----	5-----
DEFINITELY	NOT	SO-SO	A	DEFINITELY
NO	MUCH		LITTLE	YES

1. _____ I had to wait too long before the workshop.
2. _____ The discussion was a waste of time
3. _____ This workshop was worth going to.
4. _____ I learned something valuable from the video.
5. _____ I felt I had something important to say in the discussion.
6. _____ This workshop was too long.
7. _____ The condom demonstration was a waste of time
8. _____ I'm interested in more information.
9. _____ The staff seemed to know what they were doing.

OTHER COMMENTS (on back):

APPENDIX H

Workshop pamphlet

Llega al Centro PROSALUD

- LA CUCHILLA, 4to Anillo & La Guardia
- LAS PAMPITAS, Guaracachi
- LA MADRE, 4to Anillo & Radial 19

RECIBE BS. 20
Y un descuento
en consulta
medica!!

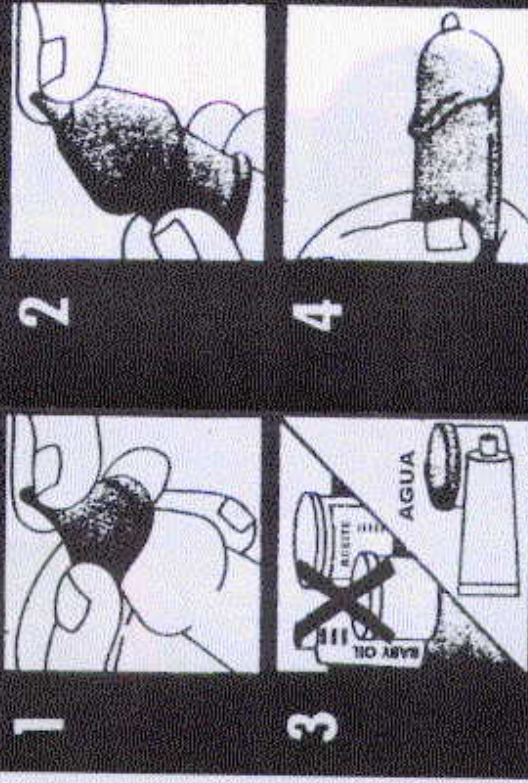
TOMA EN CUENTA estas 4 FORMAS
de cuidarse de infecciones
sexuales:

- Uso del condón para cada relación. Un condón no molesta en el amor sino lo pones mas erótico.
- Piensa en hacerte una prueba de VIH si has tenido una infección sexual- es fácil y barata
- Habla con tu compañera acerca de la sexualidad
- Fidelidad mutua



Centros de PROSALUD
Horas: 24 horas
Vuelve en Septiembre
o Octubre 2002

Cómo usar un condón:



VUELVE AL CENTRO PROSALUD

- LA CUCHILLA, 4to Anillo & Carr. Cochabamba, hasta la Av. Vallegrande, Tel 3527120
- LAS PAMPITAS, Av. Virgen de Cotoca Km 6 frente surtidor y 2 cuadras al norte, tel 3483970
- LA MADRE, Radial 19 frente a Los Mangales, Barrio La Madre, tel 3577699



APPENDIX I

Billfold calendars



Mayo 2002
D L M M J V S
1 2 3 4
5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31

Junio 2002
D L M M J V S
1
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29

Julio 2002
D L M M J V S
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

Agosto 2002
D L M M J V S
1 2 3
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31

2

Septiembre 2002
D L M M J V S
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30

Octubre 2002
D L M M J V S
1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31

Noviembre 2002
D L M M J V S
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30

Diciembre 2002
D L M M J V S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31

0

0

2



APPENDIX J

Follow up poster

CAMIONEROS—***ES TIEMPO!!***

¿RECUERDA LOS MESES EN ROJO POR EL CALENDARIO?

¿RECUERDA LOS Bs. 20?

¿RECUERDA LA CONSULTA MÉDICA?

SI UD. RECUERDA EL PROGRAMA CON LA ENCUESTA,

VAYA

***AL CENTRO PROSALUD
Las Pampitas—***

DIRECCIONES POR SU TRIPTICO
(NO OLVIDE TRAER SU
TRIPTICO y CARNET)

APPENDIX K

Phase I interview guides

VERSIÓN 1 -- Atención a la salud

(Preguntas al precipio)

¿Cuántos años tiene usted?

¿Donde nació?

¿Cuántos hermanos y hermanas tiene usted?

¿Donde vive usted ahora? ¿Vivia antes en otras ciudades/pueblos?

¿Tiene usted una familia? Describela

¿Cuánto tiempo viaja usted? ¿Cómo son las distancias?

¿En que cosas se satisfacen usted de su trabajo?

¿En que cosas se frustran usted de su trabajo?

*****<<Ahora voy a preguntarle usted cosas más íntimo. Se les pregunta para mejor entender el comportamiento de algunos hombres, para la transmisiones de algunas enfermedades. Esta listo? Por favor que sea recto.>>*****

¿Gana bien usted el dinero? ¿O mal gana? (*¿Cuánto?*)

¿Consuman drogas o bebidas alcoholicas los otros camioneros?

(*¿Que tipo de drogas? Cuándo? Cuánto?*)

¿Hay muchas prostitutas por la rutas? Cuánto cobran?

(*¿Hay más ahora o antes? Por qué?*)

*****(*De aquí las versiones son distintas*)*****

Por favor descríbele el cambio en la economía por su ruta de trabajo. ¿Ha crecido su lugar donde nació (*comunidad*) mucho? ¿Hacen problemas el crecimiento?

¿Cuándo hace mas viejo, cómo se siente usted por su familia?

¿Que tipos de peligros o riesgos existen cuándo trabaja?

¿Consuma usted las drogas o bebidas alcoholicas durante trabajo?

(*¿Que tipo de drogas? Cuándo? Cuánto?*)

¿Si esta en accidente o necesita usted ayuda, hay un hospital o clinica por su ruta?

(*¿O, que tipos de ayuda medica existen? ¿Medico privado? ¿Centros de salud? ¿Farmacia?*

¿Hierbas de la selva? ¿Que tipos a usado usted el ultimo ano? ¿Durante su más grave situación?)

¿Sabe que es una enfermedad sexual? ¿Hay tipos diferentes? ¿Cómo se nombran? ¿Cómo se distinguen? (*¿Cómo se los tratan? ¿Cómo se los previenen?*)

¿Ya ha tenido una enfermedad sexual (o un compañero)? ¿Cuál? ¿Donde se infectó? ¿Donde se trató?

¿Ya ha tenido otras entrevistas o encuestas o videos o panfletos sobre la prevención de ETS? (*¿Cuál? ¿Donde?*)

SEMI-STRUCTURED PILOT - **VERSION 1** -- health care access

Ice Breaker questions:

How old are you?

Where were you born?

How many brothers and sisters do you have?

Where do you live? Have you lived elsewhere?

Do you have a family? Describe

How often are you on the road? What distances?

What are some satisfactions about your work?

What are some frustrations about your work?

(Now I'm going to be a bit more intimate, please be honest)--

What kind of money do you earn?

Do you look for girls while on the road?

How do you seek the girls?

Are drugs or alcohol involved?

Describe the change in the route you travel. Has (pueblo) grown while you've been a trucker? Does this create problems? Describe

As you get older, how do you feel about the changes in this community? In your family?

What are some of the dangers while working?

If in an accident or you need medical help, is there health access on your route, a hospital or clinics, or do you use home-made remedies?

Which have you used already (clinic, private doctor, farmacia, hospital, centro de salud).

Can you tell me what a sexually transmitted disease is? Examples? Are there different kinds?

How do you cure them? How do you prevent them?

Have you ever had an STD? Where did you get it?

Where did you get cured (clinic, private doctor, farmacia, hospital, centro de salud, self)?.

Have you been involved with other interviews or surveys, or seen videos, or read material on condoms?

VERSIÓN 2 -- comportamiento sexual

(Preguntas al principio)

¿Cuántos años tiene usted?

¿Donde nació?

¿Cuántos hermanos y hermanas tiene usted?

¿Donde vive usted ahora? ¿Vivia antes en otras ciudades/pueblos?

¿Tiene usted una familia? Describela

¿Cuánto tiempo viaja usted? ¿Cómo son las distancias?

¿En que cosas se satisfacen usted de su trabajo?

¿En que cosas se frustran usted de su trabajo?

*****<<Ahora voy a preguntarle usted cosas más íntimo. Se les pregunta para mejor entender el comportamiento sexual de algunos hombres, para la transmisiones de algunas enfermedades. Esta listo? Por favor que sea recto.>>*****

¿Gana bien usted el dinero? ¿O mal gana?

(¿Cuánto?)

¿Consuman drogas o bebidas alcoholicas los otros camioneros?

(¿Que tipo de drogas? Cuándo? Cuánto?)

¿Hay muchos prostitutas por la rutas? ¿Cuánto cobran?

(¿Hay mas ahora o antes? Por qué?)

******(De aqui las versiones son distintas)******

¿Busca usted muchachas cuándo trabaja por la carretera?

(¿Que tipo de muchachas? ¿Hay varias tipos de muchachas?)

¿Como las busca usted?

(¿Con compañeros? Solo?)

¿Consuma usted las drogas o bebidas alcoholicas cuándo busca muchachas?

¿Consuma usted las drogas o bebidas alcoholicas cuándo termina su trabajo?

(¿Que tipo de drogas? Cuándo? Cuánto?)

¿Conoce usted compañeros que se han acostado con otro hombres?

(¿Se ha acostado con un hombre?)

¿Sabe que es sexo oral? anal? vaginal? *(¿usted lo hacia?)*

¿Sabe que es SIDA? Describelo, por favor. (transmisión, síntomas, consecuencia)

¿Sabe que es un condón? ¿Cómo se lo usa?

SEMI-STRUCTURED PILOT - **VERSION 2** -- sexual behavior

Ice Breaker questions

How old are you?
Where were you born?
How many brothers and sisters do you have?
Where do you live? Have you lived elsewhere?
Do you have a family? Describe

How often are you on the road? What distances?

What are some satisfactions about your work?

What are some frustrations about your work?

(Now I'm going to be a bit more intimate, please be honest)--
What kind of money do you earn?

Do you look for girls while on the road?

How do you seek the girls?
Are drugs or alcohol involved?

Are other people involved when you find girls?

Are there different types of girls (prostitutes, street girls, married women, friend of male friend, amantes)?

What kind of girls do you sleep with? Why?
What kind of sex do you have with them? (vaginal, oral, anal?)

Are drugs or alcohol involved?
Do you recognize these drugs-- marijuana, cocaine, rebite, LSD, etc
Do you or other truckers inject drugs?

Have you ever slept with a man?

Do you know what SIDA is? Describe.

Do you know what a condom is? How does it work?

APPENDIX L

Focus group guide

GUIA DE GRUPO FOCAL

METAS

1) Para desarrollar mensajes de salud; 2) Para guiar la intervencion; 3) Para sacar palabras o expresiones de acuerdo entre investigadores & participantes; 4) Para determinar hasta que nivel estan mentiendo; 5) Para investigar percepcion del riesgo; 6) Para determinar nivel alfabetismo; 7) Para investigar diferencias en edad.

STRATEGIA para los intravistas:

- ♦ Saul: guie la discusion, fija el tiempo, mire a los participantes, cabecea la cabeza, sace poco notas
- ♦ Bill: sace mucho notas, ofrece algunas preguntas
- ♦ Miran por señales no-verbal
- ♦ Tentas abiertas: podemos repetir lo que dicen, etc
- ♦ De los generales a los especificos
- ♦ Los entrevistas dicen pocos, escuchan lo mas, pero hay momentos donde tiene (Saul) que cortar la conversacion para seguir.
- ♦ Dale a los participantes coraje de disentir

Al precipio: (10 minutos)

Bienvenido, mi nombre es Saul Menacho. Estamos en convenio con una organizacion de salud de descubrir sus opiniones, sentimientos sobre el tema de SIDA y el sexo. Sus pensamientos nos ayudaran desarrollar mensajes y metodos de educacion en prevencion, por la poblacion Boliviana.

Con la tarjeta por favor escribir sus edades y porque quisieron participar ahora, o porque estan interesado participar (no escribir sus nombres). Mientras escriban, nosotros van a pasar el dinero de recompensa.

La discusion duraria un poco mas de una hora. Tambien hay reglas de cubrir antes de comensar:

- ♦ 1 persona habla, lo demas escuchan
- ♦ digan lo que piensan, igual si no estan acuerdo con el persona ultimo. Son importante las palabras de cada uno
- ♦ no hay respuestas corectas o equivocadas
- ♦ La conversacion estaria grabado para que no perdimos ni una palabra, ni opinion. Pero, la discusion es confidencial: es decir que sus nombres no serian imprimados por informes final. Tambien, cuando saldron de aquí no usaremos nuestros nombres para charlar ni propagar rumores.
- ♦ servense a la soda; el baño esta alla si lo necesitan.

Comensamos decir nuestros nombres , y cuantos años de experiencias tienen como camionero. (Bill tambien se introduce)

ELECCIONAR 3 Mensajes que les gustan(pasar las hojas con mensajes) **(15 minutos)**

Ahora, al otro lado de la tarjeta, escriben el numero de los 3, lo que les gustan mas.

Pasanme las tarjetas. Jose, eleccionaste No 27, ♦¿piensa que este agarra mas la atencion si se escuchan por el radio?

Manuel, eleccionaste No. 13, ♦¿es mayor usar la palabra “SIDA” dentro del mensaje, o no? Muy bien, pasanme las hojas grandes

EVALUAR PANFLETO(les pasa el ejemplo) **(20 minutos)**

La idea es de poner un mensaje encima; y cambiar lo que sea aqui.

- ♦ ¿Hay algo aquí que les gustan? Desgustan? ♦ ¿Qué quieren añadir? Que quieren cambiar?
- ♦ ¿Lo leerian si alguien les da por la calle?
- ♦ ¿Lo mostrarian a un amigo?
- ♦ ¿Qué debería cobierto que no esta? Estan bien los dibujos?
- ♦ ¿Hay demasiado informes? ♦ ¿Lo entiendan todo?

PERCEPCION DEL RIESGO (25 minutos)

- ♦ ¿Conocen alguien que tiene SIDA o que esta infectado con VIH? ♦ ¿Si es si, como se afecta a Usted? ♦ ¿Conocen alguien con un ETS?
- ♦ ¿Piensa que vos puede agarrar SIDA? ♦ ¿Si es si, como? ♦ ¿Si es no, porque no?
- ♦ ¿Con que importancia es de saber si tiene VIH o no?

- ♦ ¿Que escucharon de la prueba de SIDA?
- ♦ ¿Qué son los tipos de pruebas cuando sacan sangre, en un clinica o hospital?
- ♦ ¿Qué motivarian a Ustedes para sacar una prueba de VIH? Si quieren hacerlo, que barrera hay contra lograrlo? ♦ ¿Si hacen la prueba, con quien lo dicen el resultado?
- ♦ ¿Qué harian si su compañera le pide hacer la prueba?

- ♦ ¿Qué piensan sobre usar los condones? Como se sienten si tienen que usarlo cada vez? Aun que sea con su esposa? ♦ ¿Esta bien si sus esposas compran los condones?
- ♦ ¿Lo usan Ustedes? Si no, que barrera hay contra lograrlo? ♦ ¿Los usan (condones) con una mujer sola y no otra? ♦ ¿Pueden hablar con sus compañeras libremente sobre el tema del sexo? Do things get in the way?

- ♦ Con cuantas mujeres diferentes cada mes tiene? Esta mentiendo?

FIN (5 minutos)

Otra vez, gracias por sus tiempos. Tienen algunas preguntas antes de salir?

FOCUS GROUP TOOL

PURPOSE

1) To develop health messages; 2) to guide the intervention content; 3) to reach agreement or validation of terms between investigators and participants; 4) to gauge social desirability; 5) to investigation risk perception; 6) to gauge literacy; 7) to investigate differences in age.

STRATEGY for interviewers:

Saul: guide the discussion, watch the time, look at participants, nod your head, few notes

Bill: lots of notes, some questions

Watch non-verbal cues

Open ended probes: rephrasing, etc

From general to specific

Interviewers mainly hear to listen, but we might have to cut off a topic to move on

Participants should be encouraged to disagree.

Ice Breaker: (10 minutes)

Welcome My name is Saul Menacho. We are working in a partnership with the ministry of health to discover your feelings and beliefs about AIDS and sex. Your thoughts will help us develop prevention messages and education for Bolivians later on.

With the card in front of you please write down your age and why you agreed to participate tonight or why you are interested (don't write your names). While you are doing that we will pass out your reimbursement money.

The discussion will last a little over an hour. There are some rules to go over before we begin:

- ◆ *1 person talks at a time so the rest can listen*
- ◆ *say what you think, even if you disagree with the last person. Everybody's words are important*
- ◆ *there are no right or wrong answers*
- ◆ *The conversation will be tape-recorded so that we don't miss any comments. But, this is a confidential meeting: that means that names will not be printed in final reports. And when we leave you will not use each others names to tell stories or spread rumors.*
- ◆ *help yourself to soda; the bathroom is over there if you need to use it.*

Let's start by going around the room with your names, and

How many years experience you have as a truck driver. (Bill also introduces himself)

PICK 3 favorite Messages(hand out sheet with slogans) (15 minutes)

Now on back of your card write down the number of 3 slogans you like the most

Pass in the cards. Jose, you picked # 27, ◆ do you think that will grab attention if its said on the radio?

Manual, you picked # 13, ◆ is it better to use the word "SIDA" in the message, or not?

OK pass these large sheets back in

EVALUATE BROCHURE(pass out sample) **(20 minutes)**

The idea is to put your slogan on front, and change anything you see wrong here.

- ◆ Is there anything you really like here? Dislike? ◆ What would you add? What would you change?
- ◆ Would you read this if someone handed it to you on the street?
- ◆ Would you show this to a friend?
- ◆ What should be covered that isn't? Are the drawings ok?
- ◆ Is there too much information? ◆ Do you understand everything here?

RISK PERCEPTION (25 minutes)

- ◆ Do you know anyone who has AIDS or is infected with HIV? ◆ If yes how has that affected you? ◆ Do you know anyone who has an ETS...?
- ◆ Do you think you could get AIDS? ◆ If yes, how? ◆ If no, why not?
- ◆ How important is it to know that you might have HIV?

- ◆ What have you heard about the AIDS test?
- ◆ What types of tests do they take when you give blood in a clinic?
- ◆ What would make you want to get tested for HIV? What would stop you from getting a test?
- ◆ If you got tested, who would you tell?
- ◆ What would you do if your partner asked you to get tested?

- ◆ What do you think about using a condom? How would you feel if you had to use one all the time? Even with your wife? ◆ Is it alright that your wife go out and buy condoms?
- ◆ Do you use a condom? Do other things get in the way? ◆ Do you use the condoms only with one woman and not another? ◆ How comfortable are you talking about sex with your woman? Do things get in the way?

- ◆ How many different women do you have every month? Are you lying?

END (5 minutes)

Again, thanks for your time. Do you have any questions dealing with this subject before we go?

APPENDIX M

Tool content validity committee

ORGANIZATIONS RELEVANT TO PROPOSAL:

CARE-BOLIVIA, CENETROP	Headquarters, Washington DC Centro Nacional de Enfermedades Tropicales, Santa Cruz
CIES	Headquarters, La Paz
MARIE STOPES	Headquarters, London
PROSALUD	Headquarters, Santa Cruz
PROSIN	Bilateral Government Health arm, La Paz
PSI	Population Services International, Washington DC
SEXSALUD	Headquarters, Holland

CONTENT VALIDITY PANEL:

- 1) Dr. Luis Fernandez, CARE-Bolivia, Program Manager
- 2) Sr. Saul Menacho, SEXSALUD, Educator
- 3) Lic. Melvy Quiroz, PROSIN, Information/Education Specialist
- 4) Sra. Anna Maria Tambore, PROSIN, Counselor
- 5) Lic. Jose Enrique Vilches, PROSIN/Uneldys, Educator

PEER DEBRIEFER:

Mr. Jamie Browder, Management Sciences for Health (MSH), Program Manager

APPENDIX N

Questionnaire

Cuestionario para Camioneros

Participante No:

__ __ __

¿K? o ¿C?

Fecha:

Lugar:

Duración de entrevista:

Hora Inicio:

Hora Terminó:

Terminado antes de cumplirlo?

Entrevistador:

1. TRABAJO

1. ¿Qué tipo de carga acostumbra transportar?

- | | |
|--|--|
| <input type="checkbox"/> A. Productos de agricultura | <input type="checkbox"/> B. Cargas de partes mecánicas/tractores |
| <input type="checkbox"/> C. Químicos/petróleo | <input type="checkbox"/> D. Cargas de construcción/madera |
| <input type="checkbox"/> E. Ganados | <input type="checkbox"/> F. Tierra/piedras |
| <input type="checkbox"/> G. Cosas domésticas | <input type="checkbox"/> H. Otros _____ |

2. ¿Está Ud. afiliado a algún sindicato?

☐ A. Si ☐ B. No

Si la respuesta es 'sí', ¿cuál?

3. ¿Hace cuánto tiempo que Ud. trabaja como camionero?

- | | |
|--|---|
| <input type="checkbox"/> A. Menos de 1 año | <input type="checkbox"/> B. Un año a 5 años |
| <input type="checkbox"/> C. 5 a 10 años | <input type="checkbox"/> D. Mas de 10 años |

4. ¿Acostumbra Ud. a trabajar?

- ☐ A. Solo (*Leer la lista*)
- ☐ B. Con ayudante
- ☐ C. Con compañero

5. ¿Cuál es su vínculo de trabajo?

- | | |
|--|---|
| <input type="checkbox"/> A. Propietario de camión | <input type="checkbox"/> B. Empleado registrado |
| <input type="checkbox"/> C. Independiente sin registro | <input type="checkbox"/> D. Otros _____ |

6. ¿Cuáles son las ciudades/pueblos por los que Ud. pasa con más frecuencia?

- A. _____
- B. _____
- C. _____
- D. _____

7. ¿En general, cuánto tiempo acostumbra Ud. estar fuera de casa por su trabajo?

- ☐ A. Menos de una semana
- ☐ B. Una semana a un mes
- ☐ C. 1 mes a 3 meses
- ☐ D. Más de 3 meses

8. ¿Está Ud. expuesto a muchos riesgos en su profesión?

- ☐ 1. Sí
- ☐ 2. No

9. Si es 'sí' ¿Cuáles son los riesgos? *(leer la lista)*

- ☐ A. Riesgos de choques
- ☐ B. Asaltos
- ☐ C. Exceso de alcohol/drogas
- ☐ D. Riesgos de enfermedades
- ☐ E. Otros _____

2. SALUD

10. ¿Cómo considera su salud?

- ☐ A. Excelente
- ☐ B. Buena
- ☐ C. Regular
- ☐ D. Mala

Si es 'C' o 'D' ¿Por qué? _____

11. ¿Dónde recibe atención cuando tiene problemas de salud?

- ☐ A. Centro de Salud
- ☐ B. Hospital
- ☐ C. Sindicato
- ☐ D. Farmacia
- ☐ E. Médico Particular
- ☐ F. Otros _____

12. ¿Cuándo fue la última vez que Ud. fue al lugar indicado en el No. 11?

- ☐ A. La última semana
- ☐ B. El último mes
- ☐ C. En los últimos 6 meses
- ☐ D. El último año
- ☐ E. 1 a 3 años
- ☐ F. Más de 3 años

13. ¿Recibió alguna transfusión de sangre? ☐ A. Si ☐ B. No
 Si es 'sí': motivo: _____
 año: _____
 lugar: _____

14. ¿Cuántas veces ha tenido relaciones sexuales el último mes? ____

3. USO DE DROGAS

15. En su juventud o ahora ¿Usted experimentó alguna de estas drogas?

- | | | |
|--------------|--------------------------------|--------------------------------|
| A. Marihuana | <input type="checkbox"/> 1. Si | <input type="checkbox"/> 2. No |
| B. Cocaína | <input type="checkbox"/> 1. Si | <input type="checkbox"/> 2. No |
| C. Pitillo | <input type="checkbox"/> 1. Si | <input type="checkbox"/> 2. No |
| D. Calmante | <input type="checkbox"/> 1. Si | <input type="checkbox"/> 2. No |
| E. Inhalante | <input type="checkbox"/> 1. Si | <input type="checkbox"/> 2. No |

F. Otros _____

16. ¿Se ha inyectado Ud. alguna vez de esas drogas? ☐ 1. Si ☐ 2. No
 (Si es 'no' pasa al No. 19)

17. Cuando se inyecta drogas, ¿acostumbra compartir la jeringa?:
☐ 1. Siempre ☐ 2. Casi siempre ☐ 3. A veces ☐ 4. Nunca

18. ¿Cuántas veces se ha inyectado alguna droga en los últimos 3 meses?
 ¿El último año? ☐ ☐ (total 3 meses) ☐ ☐ (último año)

4. INDICE DE INTIMADAD/GENERATIVIDAD – 16 partes

Indicar uno de los valores siguientes (*mirar gráfica*) (9- No Aplica)

1-----	2-----	3-----	4-----	5
Siempre	Mayoría	A Veces	Poco	Nunca
	del Tiempo		Tiempo	

19. Se preocupa de los cambios en su comunidad _____

20. Le gusta guiar a los jóvenes _____

21. Siente que la vida lo ha dejado atrás _____
22. Ud. habla con la gente para que mejore su comunidad _____
23. Se siente solo _____
24. Se siente totalmente cerca de alguien (como su mujer) _____
25. Comparte sus pensamientos íntimos con alguien _____
26. Cuando necesita ayuda no puede encontrarla _____
27. Quiere comenzar de nuevo la vida _____
28. Está deseoso por aprender (mejor) algún instrumento musical _____
29. Aconseja a otros hombres con menos experiencia _____
30. Su vida anda de problema en problema _____
31. Siente que lucha con esfuerzo para ganarse la vida _____
32. Tiene al menos un amigo (hombre) que admira _____
33. Siente Ud. que debe pasar más tiempo con su familia _____
34. Está orgulloso del trabajo duro que hace _____

5. INDICE DE CERTIDUD DE RESPUESTA - 10 partes

Indicar uno de los valores siguientes (*mirar gráfica*)

1-----	2-----	3-----	4-----	5
Absolutamente	No	Mediano	Un	Absolutamente
No	Mucho		Poco	Si

35. Le importa lo que piensa la gente de Ud. _____
36. Su manera de pensar cambia cuando sus emociones aumentan _____
37. Cuando Ud. decide algunas cosas, la gente puede hacer cambiar su opinión _____
38. Le interesa si a algunas personas les gusta _____
39. Miente, si es necesario _____

40. Ud. no charla de sus asuntos con otras personas _____
41. No le incomoda cuando desconoce algo _____
42. No le es difícil llevarse bien con otras personas más toscas y malas _____
43. Nunca le molesta cuando algunas personas tienen ideas muy diferentes a las de Ud. _____
44. A veces, piensa mucho en la buena fortuna de otras personas _____

6. CONOCIMIENTO SOBRE VIH/SIDA

45. La gente está hablando mucho de VIH/SIDA. ¿Cómo Ud. se informa acerca de la enfermedad del VIH/SIDA?

- | | |
|--|---|
| <input type="checkbox"/> A. Por la radio | <input type="checkbox"/> B. Por periódicos locales o revistas |
| <input type="checkbox"/> C. Conversando con sus amigos | <input type="checkbox"/> D. Por reuniones de la compañía |
| <input type="checkbox"/> E. Médico o enfermera | <input type="checkbox"/> F. Compañera |
| <input type="checkbox"/> G. Familia | <input type="checkbox"/> H. Panfleto |
| <input type="checkbox"/> I. Por la tele | <input type="checkbox"/> J. Otros _____ |

46. ¿Cómo se transmite el virus de SIDA? (Marcar todo que mencione)

- | | |
|---|---|
| <input type="checkbox"/> A. Por sangre contaminada | <input type="checkbox"/> B. Por relaciones sexuales |
| <input type="checkbox"/> C. De madre infectada a su feto | <input type="checkbox"/> D. Por semen o secreción vaginal |
| <input type="checkbox"/> E. Por uso de drogas inyectables | <input type="checkbox"/> F. No sabe |
| <input type="checkbox"/> G. Otros _____ | |

47. A las preguntas siguientes responda 'verdadero' o 'falso'

A. Solamente las personas que no parecen sanas pueden transmitir VIH/SIDA.

- | | | |
|---------------------------------------|-----------------------------------|-------------------------------------|
| <input type="checkbox"/> 1. Verdadero | <input type="checkbox"/> 2. Falso | <input type="checkbox"/> 3. No sabe |
|---------------------------------------|-----------------------------------|-------------------------------------|

B. Los condones disminuyen el riesgo de infectarse del VIH/SIDA.

- | | | |
|---------------------------------------|-----------------------------------|-------------------------------------|
| <input type="checkbox"/> 1. Verdadero | <input type="checkbox"/> 2. Falso | <input type="checkbox"/> 3. No sabe |
|---------------------------------------|-----------------------------------|-------------------------------------|

C. Una persona cuya sangre probada ha salido negativo para VIH/SIDA puede ya transmitir el virus de VIH/SIDA

- | | | |
|---------------------------------------|-----------------------------------|-------------------------------------|
| <input type="checkbox"/> 1. Verdadero | <input type="checkbox"/> 2. Falso | <input type="checkbox"/> 3. No sabe |
|---------------------------------------|-----------------------------------|-------------------------------------|

D. Por abrazar a una persona que tiene el VIH/SIDA se puede adquirirlo.

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

E. Una persona sucia es más probable que pueda de adquirir el VIH/SIDA

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

F. El VIH/SIDA puede curarse si acude a un tratamiento temprano.

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

G. Una persona que tenga VIH/SIDA puede transmitir el virus por una relación sexual.

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

H. Ud. puede adquirir VIH/SIDA por comer la comida de otra persona infectada con SIDA.

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

7. PERCEPCION DEL RIESGO

48. ¿Piensa Ud. que corre el riesgo de transmitirse con VIH/SIDA?

☐ 1. Sí ☐ 2. No ☐ 3. No sabe

Si es 'sí', ¿por qué? _____

49. Si es 'no', (que no tiene riesgo de transmitirse con VIH/SIDA) ¿por qué?
(no leer la lista)

- | | |
|--|---|
| <input type="checkbox"/> A. Su pareja no es del tipo de tener VIH/SIDA | <input type="checkbox"/> B. Tiene una sola pareja |
| <input type="checkbox"/> C. Sólo tiene relaciones con personas sanas | <input type="checkbox"/> D. Siempre usa condones |
| <input type="checkbox"/> E. No acostumbra acostarse con nadie | <input type="checkbox"/> F. No usa drogas |
| <input type="checkbox"/> G. Conoce bien a sus compañeras | <input type="checkbox"/> H. Tiene solamente 2 o 3 parejas |
| <input type="checkbox"/> I. No es homosexual | <input type="checkbox"/> J. Otro _____ |

50. ¿Usted tiene miedo de transmitirse con VIH/SIDA?

☐ 1.No tiene miedo ☐ 2.poco miedo ☐ 3.miedo moderado ☐ 4.mucho miedo

51. ¿Usted piensa que una persona puede evitar el VIH/SIDA cambiando su comportamiento?

☐ 1. Si ☐ 2. No ☐ 3. No sabe

52. ¿Para disminuir el riesgo de transmitirse con VIH/SIDA Usted cambió de alguna forma su comportamiento?

☐ 1. Si ☐ 2. No ☐ 3. No sabe (Si es 'no' pasa al No. 55)

Espontáneo / Por entrevist

53. ¿Cómo?
- | | | |
|--|--------------------------|--------------------------|
| A. Disminuyendo el No. de parejas sexuales | <input type="checkbox"/> | <input type="checkbox"/> |
| B. Se mete con menos chicas | <input type="checkbox"/> | <input type="checkbox"/> |
| C. Usando siempre condones | <input type="checkbox"/> | <input type="checkbox"/> |
| D. Evitando comprar drogas | <input type="checkbox"/> | <input type="checkbox"/> |
| E. No se mete con homosexuales | <input type="checkbox"/> | <input type="checkbox"/> |
| F. Evitando usar drogas inyectables | <input type="checkbox"/> | <input type="checkbox"/> |
| G. Otros _____ | | |

54. ¿Usted ya se hizo la prueba en el laboratorio para saber si tiene el virus de VIH/SIDA? ☐ 1. Si ☐ 2. No

(si es 'sí'):

¿Dónde? _____ ¿Cuándo? _____

¿Por qué? _____

8. INFLUENCIAS SOCIALES

55. A las preguntas siguientes responda 'verdadero' o 'falso'

A. Muy pocos camioneros en Bolivia cambian su comportamiento a causa de VIH/SIDA.

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

B. Mucha gente que Ud. conoce se protege usando condones.

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

C. La mayoría de los camioneros tiene condones disponibles.

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

D. La mayoría de las chicas tiene condones disponibles

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

E. El VIH/SIDA ha cambiado a muchos camioneros y ahora ellos son más cuidadosos al tener relaciones sexuales.

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

F. Muchos de sus amigos han tenido relaciones sexuales con prostitutas o chicas casuales.

☐ 1. Verdadero ☐ 2. Falso ☐ 3. No sabe

56. De sus amigos más cercanos, ¿cuántos cree que usan condones cuando tienen relaciones sexuales con una compañera casual? (*Leer la lista*)

☐ A. Casi Todos

☐ B. Más de la mitad

☐ C. La mitad

☐ D. Menos de la mitad

☐ E. Casi ninguno

☐ F. No sabe

57. De sus amigos más cercanos, ¿cuántos cree que usan condones cuando tienen relaciones sexuales con una compañera habitual? (*Leer la lista*)

☐ A. Casi Todos

☐ B. Más de la mitad

☐ C. La mitad

☐ D. Menos de la mitad

☐ E. Casi ninguno

☐ F. No sabe

<<LLEGAMOS CASI A LA MITAD DE LA ENCUESTA. ¿COMO ESTA ? UN RECUERDO—CUANDO VUELVE (donde) HACERLO DE NUEVO EN 2 A 3 MESES SERIA MAS PEQUEÑO, Y POR SI SOLO, LEYENDO LAS PREGUNTAS. PERO RECIBE BS.20 DESPUES -- BUENO. AHORA LAS PREGUNTAS SON MAS INTIMAS. ¿LISTO?>>

9. SEXO CON MUJERES

Para que Ud. responda las próximas preguntas se debe entender por PAREJA FIJA, aquella persona con que usted tiene relaciones sexuales con más frecuencia (novia o esposa)

58. ¿Qué tipo de relaciones sexuales Ud. acostumbra mantener con su pareja fija? (*lea la lista*)

A. Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca

B. Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca

C. Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca

59. Usa Ud. el condón con su pareja fija en su relación sexual: (*lea la lista*)

A. Sexo Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

B. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

C. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

60. ¿Con qué frecuencia mantiene Ud. relaciones sexuales con parejas regulares después de haber consumido bebidas alcohólicas o drogas?

- ☐ A. Siempre ☐ B. La mayoría del tiempo
☐ C. A Veces ☐ D. Nunca
☐ E. No se aplica

61. ¿Alguna vez ha hablado con las parejas regulares sobre usar de condones antes de tener sexo? ☐ A. Si ☐ B. No

PAREJAS CASUALES, mujeres con quienes usted acostumbra tener relaciones sexuales casuales, una o dos veces, o fuera de su pareja fija

62. ¿Aparte de su pareja fija, Ud. tiene otras parejas sexuales?

- ☐ A. Sí ☐ B. No Si es 'sí', cuántas en los últimos 3 meses? ☐ ☐

63. ¿Con qué tipo de mujeres casuales Ud. acostumbra tener relaciones sexuales?
(Marca todas las que sea necesario, y usarlo por No.66)

- ☐ A. Ninguna ☐ B. Prostitutas
☐ C. Amigas ☐ D. Colegas
☐ E. Chicas de la calle ☐ F. Mujeres casadas
☐ G. Amantes ☐ H. Chicas viajando
☐ I. Otras _____

64. ¿En qué ciudad/pueblo mantiene Ud. relaciones sexuales con mujeres casuales?

- ☐ A. Santa Cruz ☐ B. Pueblo donde vive _____
☐ C. Otras pueblos que hacen parte de su ruta _____
☐ D. Otras _____

65. ¿En qué lugares tiene relaciones sexuales más frecuentemente con la pareja casual?

- ☐ A. Hotel/Alojamiento ☐ B. Motel
☐ C. Burdel/Show ☐ D. En el camión
☐ E. Otros _____

66. *****de No. 63 *****

Ud. usa el condón con las prostitutas que ha dicho en su relación:

- A. Sexo Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
B. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
C. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

Ud. usa el condón con las amigas que ha dicho en su relación:

- A. Sexo Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
B. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
C. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

Ud. usa el condón con las colegas que ha dicho en su relación:

- A. Sexo Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
B. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
C. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

Ud. usa el condón con las chicas de la calle que ha dicho en su relación:

- A. Sexo Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
B. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
C. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

Ud. usa el condón con las mujeres casadas que ha dicho en su relación:

- A. Sexo Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
B. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
C. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

Ud. usa el condón con las amantes que ha dicho en su relación:

- A. Sexo Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
B. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
C. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

Ud. usa el condón con las chicas viajando que ha dicho en su relación:

- A. Sexo Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
B. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
C. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

Ud. usa el condón con [otras _____] que ha dicho en su relación:

- A. Sexo Vaginal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
B. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
C. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica

67. ¿Con qué frecuencia mantiene Ud. relaciones sexuales con parejas casuales después de haber consumido bebidas alcohólicas o drogas?

- ☐ A. Siempre ☐ B. La mayoría del tiempo
☐ C. A Veces ☐ D. Nunca
☐ E. No se aplica

68. ¿Alguna vez ha hablado con las parejas casuales sobre usar de condones antes de tener sexo? ☐ A. Si ☐ B. No

69. ¿Con qué frecuencia usa Ud. condones después de haber consumido bebidas alcohólicas o drogas?

- ☐ A. Siempre ☐ B. La mayoría del tiempo
☐ C. A Veces ☐ D. Nunca
☐ E. No se aplica

10. SEXO CON HOMBRES

70. ¿Alguna vez en su vida, ya sea en la niñez o en la adolescencia, tuvo relaciones sexuales con otro hombre?

- ☐ A. Si ☐ B. No

71. ¿Aproximadamente a qué edad (fue la primera vez)?

72. ¿Usted se acostó con hombres en los últimos 3 meses? ☐ A. Si ☐ B. No
 ¿El último año? (Si es 'no' pasa a No. 76) ☐ A. Si ☐ B. No
73. ¿Cuántos? ☐☐ (total 3 meses) ☐☐ (total año)
74. Cuando se acuesta con otro hombre ¿Ud. usa condón con qué frecuencia ?:
 A. Sexo Oral ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
 B. Sexo Anal ☐ 1. Siempre ☐ 2. A veces ☐ 3. Nunca ☐ 4. No se aplica
75. ¿Con qué tipo de hombre acostumbra acostarse?
☐ A. Amigo ☐ B. Compañero
☐ C. Prostituto ☐ D. Muchacho de la calle
☐ E. Otros _____

<<GRACIAS POR LA INFORMACION. NO SE PREOCUPA— TODA LA INFORMACION ES ANONIMA. LA INFORMACION SERIA UTILIZANDO PRESENTANDO TALLERES EDUCATIVOS PARA ADULTOS. SU ATENCION Y RESPUESTAS SON MUY IMPORTANTE. BUENO. SIGAMOS ADELANTE>>

11. ACTITUD DE USO DE CONDONES

76. ¿Ud. usaba condones? ☐ 1. Si ☐ 2. No (si 'no' pasa a no. 80)
77. Si es 'sí' ¿Ud. usaba condones en los ultimos 3 meses? ☐ 1. Si ☐ 2. No
78. Si es 'sí' ¿Cuántas veces ha usado condones en el último mes? _____
79. Si es 'sí' ¿Cuánto le cuesta un condón? Bs. _____
80. Si es 'no' ¿Sabe cómo usar los condones? ☐ 1. Si ☐ 2. No
81. La próxima vez que tenga una relación sexual, planeará:
☐ A. Usar un condón y no tendrá una relación sexual sin uno
☐ B. Usar un condón sólo si es conveniente
☐ C. Usar un condón sólo si su compañera no se queja
☐ D. Usar un condón sólo si su compañera insiste
☐ E. No usar un condón

82. Que tipo de persona debe usar condones con más frecuencia? (no leer la lista)

Espontáneo / Por entrevist

- | | | |
|--|--------------------------|--------------------------|
| A. Gente con la cual quiere evitar el SIDA | <input type="checkbox"/> | <input type="checkbox"/> |
| B. Los jóvenes | <input type="checkbox"/> | <input type="checkbox"/> |
| C. Gente que no confía en su pareja | <input type="checkbox"/> | <input type="checkbox"/> |
| D. Todas las mujeres | <input type="checkbox"/> | <input type="checkbox"/> |
| E. Todos los hombres | <input type="checkbox"/> | <input type="checkbox"/> |
| F. Homosexuales | <input type="checkbox"/> | <input type="checkbox"/> |
| G. Gente con muchos niños | <input type="checkbox"/> | <input type="checkbox"/> |
| H. Otros _____ | | |

83. Ud. considera que el condón:

A. Es importante para evitar adquirir una infección sexual

☐ 1. Si ☐ 2. No ☐ 3. No sabe

B. Es contra su religión

☐ 1. Si ☐ 2. No ☐ 3. No sabe

C. Es importante cuando lo usa con otras fuera de su mujer (o pareja fija)

☐ 1. Si ☐ 2. No ☐ 3. No sabe

D. Disminuye el placer sexual

☐ 1. Si ☐ 2. No ☐ 3. No sabe

E. Es fácil usarlo

☐ 1. Si ☐ 2. No ☐ 3. No sabe

F. Es una cosa que no le gusta a la pareja

☐ 1. Si ☐ 2. No ☐ 3. No sabe

G. No le queda a su tamaño

☐ 1. Si ☐ 2. No ☐ 3. No sabe

H. Es la única forma para prevenir el VIH/SIDA

☐ 1. Si ☐ 2. No ☐ 3. No sabe

I. No es cosa de macho

☐ 1. Si ☐ 2. No ☐ 3. No sabe

J. Es caro

☐ 1. Si ☐ 2. No ☐ 3. No sabe

K. Es importante cuando se usa con su mujer (o pareja fija)

☐ 1. Si ☐ 2. No ☐ 3. No sabe

L. Siente vergüenza para comprarlo

☐ 1. Si ☐ 2. No ☐ 3. No sabe

M. Es fácil de encontrar

☐ 1. Si ☐ 2. No ☐ 3. No sabe

N. Es una cosa que causa la sospecha de infidelidad entre parejas

☐ 1. Si ☐ 2. No ☐ 3. No sabe

O. Es una cosa para prolongar el placer en la relación sexual

☐ 1. Si ☐ 2. No ☐ 3. No sabe

P. Podría quedarse dentro de su compañera sexual

☐ 1. Si ☐ 2. No ☐ 3. No sabe

Q. Es una cosa de responsabilidad

☐ 1. Si ☐ 2. No ☐ 3. No sabe

R. Podría romperse

☐ 1. Si ☐ 2. No ☐ 3. No sabe

S. Es mas limpio usarlo que no usarlo

☐ 1. Si ☐ 2. No ☐ 3. No sabe

T. Se usan solo con prostitutas

☐ 1. Si ☐ 2. No ☐ 3. No sabe

U. Disminuye el miedo de preñar a su pareja

☐ 1. Si ☐ 2. No ☐ 3. No sabe

V. Siempre falta instrucciones para usarlo

☐ 1. Si ☐ 2. No ☐ 3. No sabe

W. Podría causar cáncer

☐ 1. Si ☐ 2. No ☐ 3. No sabe

X. Es una cosa de respeto mutuo entre parejas

☐ 1. Si ☐ 2. No ☐ 3. No sabe

84. ¿Ud. piensa que las personas que llevan los condones tienen muchas más relaciones sexuales que la mayoría de la gente?

☐ 1. Si ☐ 2. No ☐ 3. No sabe

85. ¿Si conoce una chica buena y no tiene un condón tendría una relación sexual de todas maneras ?

☐ 1. Si ☐ 2. No ☐ 3. No sabe

86. ¿Usaría un condón igual si está borracho?

☐ 1. Si ☐ 2. No ☐ 3. No sabe

87. ¿Ud. piensa que una chica que lleva los condones en su bolsillo se cuida de sí misma?

- ☐ 1. Si ☐ 2. No ☐ 3. No sabe

88. ¿Con qué frecuencia lleva Ud. los condones consigo ?

- ☐ A. Siempre ☐ B. A veces
☐ C. Casi nunca ☐ D. Nunca

12. OTRAS ITS

89. ¿Cuál es la infección sexual que usted conoce?

(No leer la lista)

- ☐ A. Sífilis
☐ B. Gonorrea
☐ C. Herpes
☐ D. Chancro
☐ E. Condiloma
☐ F. Secreciones del pené
☐ G. Otros _____

90. ¿Cómo piensa Ud. que una persona puede adquirir una infección de transmisión sexual?

A. Usando la misma letrina que alguien con una infección sexual

- ☐ 1. Si ☐ 2. No ☐ 3. No sabe

B. No usando condones cuando tiene relaciones sexuales

- ☐ 1. Si ☐ 2. No ☐ 3. No sabe

C. Sentándose en el mismo asiento

- ☐ 1. Si ☐ 2. No ☐ 3. No sabe

D. Acostándose con prostitutas

- ☐ 1. Si ☐ 2. No ☐ 3. No sabe

91. Voy a leer una lista (completa) de infecciones sexuales; quiero saber si Ud. ya tuvo alguna de ellas: (si 'no tuvo' pasa al No. 99)

	Una vez	dos veces	Tres veces	+ de cuatro
<input type="checkbox"/> A. Sífilis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> B. Gonorrea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> C. Herpes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> D. Chancro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> E. Condiloma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> F. Secreciones de pené	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> G. Otros	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

¿Cuándo (para el segundo, tercero, etc, ITS) ? _____

92. ¿Cuándo fue la última vez que tuvo una infección sexual?

- | | |
|--|---|
| <input type="checkbox"/> A. Menos de 6 meses | <input type="checkbox"/> B. De 6 meses a un año |
| <input type="checkbox"/> C. Hace 1 a 4 años | <input type="checkbox"/> D. Más de 4 años |
| <input type="checkbox"/> E. Ninguna vez | |

¿Cuáles fueron los síntomas de su última infección sexual ?

93. La última vez ¿De quién piensa Ud. se contagió la infección sexual?

- | | |
|--|---|
| <input type="checkbox"/> A. Prostituta | <input type="checkbox"/> B. Amiga |
| <input type="checkbox"/> C. Colega | <input type="checkbox"/> D. Chica de la calle |
| <input type="checkbox"/> E. Mujer casada | <input type="checkbox"/> F. Chica viajando |
| <input type="checkbox"/> G. Esposa o Novia | <input type="checkbox"/> H. Otra _____ |

94. La última vez, ¿Cómo se convenció de que tenía una infección sexual ?

- | | |
|---|---|
| <input type="checkbox"/> A. Por un amigo | <input type="checkbox"/> B. Yo mismo |
| <input type="checkbox"/> C. Médico/ enfermera | <input type="checkbox"/> D. Gerente de farmacia |
| <input type="checkbox"/> E. Familia | <input type="checkbox"/> F. Otro _____ |

95. La última vez, ¿Recibió una forma de remedio o tratamiento?

- ☐ 1.Si ☐ 2. No ☐ 3. No sabe/ No recuerdo

96. La última vez, ¿dónde hizo tratamiento o dónde lo atendieron?

- ☐ A. Posta de salud ☐ B. Clínica
☐ C. Médico particular ☐ D. Farmacia
☐ E. Nunca fue tratado ☐ F. Hospital
☐ G. Se curó solo ¿Cómo? _____

97. La última vez, volvió Ud. a la consulta después de la terminación del tratamiento?

- ☐ 1.Si ☐ 2. No ☐ 3. No sabe/ No recuerdo

98. La última vez, mencionó Ud. a su compañera sexual o pareja que tenía una infección sexual ?

- ☐ 1.Si ☐ 2. No ☐ 3. No sabe/ No recuerdo

99. ¿Hay una relación entre esas infecciones sexuales y VIH/SIDA?

- ☐ 1.Si ☐ 2. No ☐ 3. No sabe

<<FALTAN SOLO DIEZ PREGUNTAS MAS. ¿COMO ESTA ? UN RECUERDO— CUANDO VUELVE HACERLO DE NUEVO EN 2 o 3 MESES EL CUESTIONARIO SERIA MAS PEQUEÑO, Y VOS, SOLO, LEYENDO LAS PREGUNTAS POR SIMISMO. PERO RECIBE BS.20 DESPUES . (guiarles donde se van) -- BUENO. ADELANTE.>>

13. ACTITUD DE LA PRUEBA de VIH/SIDA

100. Con respecto a una prueba de sangre, Ud. considera que:

A. El centro para la prueba es muy lejos

- ☐ 1. Si ☐ 2. No ☐ 3. No sabe

B. Es barata la prueba

- ☐ 1. Si ☐ 2. No ☐ 3. No sabe

C. Es difícil encontrar el centro para la prueba

- ☐ 1. Si ☐ 2. No ☐ 3. No sabe

D. Ud. no tiene miedo de un resultado positivo

- ☐ 1. no tiene ☐ 2. tiene ☐ 3. No sabe

E. No necesita hacer Ud. una prueba

- ☐ 1. No necesita ☐ 2. necesita ☐ 3. No sabe

F. Ud. es incómodo de encuentra gente conocida en el centro

- ☐ 1. Si ☐ 2. No ☐ 3. No sabe

G. Es fácil hacer una prueba

☐ 1. Si ☐ 2. No ☐ 3. No sabe

H. La prueba toma mucho tiempo

☐ 1. Si ☐ 2. No ☐ 3. No sabe

I. Es importante hacerlo si su compañera lo quiere

☐ 1. Si ☐ 2. No ☐ 3. No sabe

101. ¿Sabe Ud. dónde ir para hacer una prueba si piensa que tiene una infección sexual?

☐ 1. Si ☐ 2. No ☐ 3. No sabe

Si es 'Sí', ¿Donde? _____

14. IDENTIFICACION

102. Edad _____

103. Estado civil ☐ A. Casado ☐ B. Soltero
☐ C. Divorciado/Separado ☐ D. Unión Libre
☐ E. Otro _____

104. ¿En qué ciudad o pueblo vive Ud.? _____

105. ¿Cuál es su nivel de estudios alcanzado?

☐ A. Básico

☐ B. Intermedio

☐ C. Medio

☐ D. Técnico Superior

☐ E. Universitario

☐ F. Ninguno

106. ¿Cuál es su religión?

☐ A. Católica ☐ B. Protestante

☐ C. Evangelista ☐ D. Ninguna

☐ E. Otra

107. ¿Cuál es su nivel salarial por mes?

- ☐ A. Bs. 0-1000
☐ B. Bs. 1001-2000
☐ C. Bs. 2001-3000
☐ D. Bs. 3001-4000
☐ E. Más de Bs. 4000

108. ¿En qué mes y año nació?

☐☐ 19☐☐ (para su no.
de Identificación)

109. ¿Cuántos hijos tiene y de que edades?

☐☐ ☐☐ ☐☐ ☐☐
(Escribe 'm' si es muerto) ☐☐ ☐☐ ☐☐ ☐☐

15. COMUNICACION AL PASADO

110. ¿Alguna vez (antes), le hicieron estas mismas preguntas, una entrevista semejante, o vio videos sobre SIDA, o recibió materiales impresos sobre VIH/SIDA, o le hicieron una encuesta sobre VIH/SIDA antes? ¿Dónde y cuándo?

- ☐ A. Entrevista/Encuesta _____
☐ B. Vídeo _____
☐ C. Materiales impresos _____
☐ D. Otros _____

111. ¿Cuál marca de condones fue el último que usó?

- ☐ A. Protektor ☐ B. Pantera
☐ C. Te amo ☐ D. Moods
☐ E. Trustex ☐ F. Preventor
☐ G. Sultan ☐ H. Sin Nombre
☐ I. Sanamed Duo ☐ J. Otro _____
☐ K. No sabe ☐ L. No los usa

<<BUENO. AHORA TENEMOS UN TALLER DE 45 MINUTOS. MUCHAS GRACIAS POR SU PARTICIPACION HASTA AHORA; HAY RECOMPENSA PERO NECESITA ASISTIR AL TALLER. >>

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IMPORTANTE-

(Recordar el tiempo final y su no. de identificación [mes & año de nacimiento] encima la primera página) -- Luego darle una ficha pequeña con el mismo no.

Truck Drivers Questionnaire

Participant #: _ _ _ _ _

K? or C?

Date:

Place:

Length of interview

Start Time:

End Time:

Left before finishing?

Interviewed by:

1. WORK

1. What kind of cargo do you usually transport?

- | | |
|--|---|
| <input type="checkbox"/> A. Agricultural products | <input type="checkbox"/> B. Mechanical parts /tractors |
| <input type="checkbox"/> C. Chemicals/petroleum | <input type="checkbox"/> D. Construction material/ wood |
| <input type="checkbox"/> E. Cattle/other large animals | <input type="checkbox"/> F. Soil/Dirt/Stones |
| <input type="checkbox"/> G. Domestic products | <input type="checkbox"/> H. Other_____ |

2. Are you affiliated with a union?

☐ A. Yes ☐ B. No

If 'yes', which?

3. How long have you been a truck driver?

- | | |
|--|--|
| <input type="checkbox"/> A. Less than 1 year | <input type="checkbox"/> B. 1 year to 5 years |
| <input type="checkbox"/> C. 5 to 10 years | <input type="checkbox"/> D. More than 10 years |

4. Are you used to working?

(Leer la lista)

- ☐ A. Alone
☐ B. With an aide
☐ C. With a colleague

5. What is your work situation?

- | | |
|--|--|
| <input type="checkbox"/> A. Owner of the truck | <input type="checkbox"/> B. Registered |
| <input type="checkbox"/> C. Independent not registered | <input type="checkbox"/> D. Other_____ |

6. What are the cities/towns that you pass through the most often?

- A. _____
- B. _____
- C. _____
- D. _____

7. In general, how much time due to work are you used to spending away from your house?

- ☐ A. Less than 1 week
- ☐ B. 1 week to 1 month
- ☐ C. 1 month to 3 months
- ☐ D. More than 3 months

8. Are you exposed to many risks in your profession?

- ☐ 1. Yes
- ☐ 2. No

9. If 'yes' What are the risks? *(read the list)*

- ☐ A. Wrecks
- ☐ B. Assault
- ☐ C. Excessive alcohol/drugs
- ☐ D. Risks of diseases
- ☐ E. Others _____

2. HEALTH

10. How do you consider your health?

- ☐ A. Excellent
- ☐ B. Very good
- ☐ C. Good
- ☐ D. Normal
- ☐ E. Poor

If 'D' or 'E' Why? _____

11. Where do you normally go to take care of health problems?

- ☐ A. Clinic
- ☐ B. Hospital
- ☐ C. Union
- ☐ D. Pharmacy
- ☐ E. Private doctor
- ☐ F. Other _____

12. When was the last time you went to the place mentioned in #11?

- ☐ A. Last week
- ☐ B. Last month
- ☐ C. In the last 6 months
- ☐ D. Last year
- ☐ E. 1 to 3 years ago
- ☐ F. More than 3 years

13. Have you received a blood transfusion? ☐ A. Yes ☐ B. No

If 'yes':motive:_____

year: _____

place: _____

14. How many times did you have sex last month? ____

3. DRUG USE

15. In you youth or now, have you ever experimented with these drugs?

A. Marijuana ☐ 1. Yes ☐ 2. No

B. Cocaine ☐ 1. Yes ☐ 2. No

C. "Pitillo" ☐ 1. Yes ☐ 2. No

D. Relaxant ☐ 1. Yes ☐ 2. No

E. Inhalables ☐ 1. Yes ☐ 2. No

F. Others _____

16. Have you every injected these drugs? ☐ 1. Yes ☐ 2. No
(If 'no' go to #19)

17. When you inject, do you ever share the needle?

☐ 1. Always ☐ 2. Almost always ☐ 3. Sometimes ☐ 4. Never

18. How many times have you injected in the last 6 months? In the last year?

☐ ☐ (total 6 months) ☐ ☐ (total year)

4. INTIMACY/GENERATIVITY INDEX – 12 items

Mark one of the following values (*show scale*) (9- Not applicable)

1-----2-----3-----4-----5
Always Most of the Sometimes A little Never
Time

19. I worry about changes in the community _____

20. I like to guide youth _____

21. I feel that life has passed me by _____
22. I talk to people about making the community better _____
23. I feel alone _____
24. I feel completely close to someone (like my partner) _____
25. I share my intimate thoughts with someone _____
26. When I need help I can't find it _____
27. I want to start life over again _____
28. I want to learn (or improve on) a musical instrument _____
29. I give advice to men with less experience _____
30. My life moves from one crisis to another _____
31. I feel that I fight to earn a living _____
32. I have at least one friend (man) whom I admire _____
33. I feel that I should spend more time with my family _____
34. I am proud of the hard work I do _____

5. SOCIAL DESIRABILITY INDEX - 11 items

Mark one of the following values (*show scale*) (9- Not applicable)

1-----2-----3-----4-----5
 Absolutely Not So-So A Absolutely
 No much Little yes

35. It matters what people think of me _____
36. My way of thinking changes when I get emotional _____
37. When I decide something, nobody can change my opinion _____
38. It matters when some people like me _____
39. I would lie if necessary _____

40. You don't speak about affairs of other people _____
41. I am not bothered if I don't know something _____
42. It is not difficult to be around bad or obnoxious people _____
43. It never bothers me when some people have ideals completely different than mine _____
44. Sometimes, I envy the good fortune of other people _____

6. KNOWLEDGE ABOUT HIV/AIDS

45. People talk a lot about AIDS. How did you first learn of it?

- | | |
|---|---|
| <input type="checkbox"/> A. By radio | <input type="checkbox"/> B. Newspapers or magazines |
| <input type="checkbox"/> C. Talking to your friends | <input type="checkbox"/> D. meetings through work |
| <input type="checkbox"/> E. Doctor or nurse | <input type="checkbox"/> F. Partner |
| <input type="checkbox"/> G. Family | <input type="checkbox"/> H. Pamphlets |
| <input type="checkbox"/> I. By T.V. | <input type="checkbox"/> J. Other _____ |

46. How is HIV/AIDS transmitted? (Mark all that are mentioned)

- | | |
|--|--|
| <input type="checkbox"/> A. Contaminated blood | <input type="checkbox"/> B. By sexual relationships |
| <input type="checkbox"/> C. From mother to her fetus | <input type="checkbox"/> D. By semen or vaginal secretions |
| <input type="checkbox"/> E. By injection drug use | <input type="checkbox"/> F. Don't know |
| <input type="checkbox"/> G. Other _____ | |

47. To the following statements answer 'true' or 'false'

A. Only people who seem sick can transmit AIDS?

- ☐ 1. True ☐ 2. False ☐ 3. Don't know

B. Condoms reduce the risk of transmitting AIDS.

- ☐ 1. True ☐ 2. False ☐ 3. Don't know

C. A person whose blood has tested negative for HIV can still transmit HIV/AIDS

- ☐ 1. True ☐ 2. False ☐ 3. Don't know

D. Someone can receive AIDS by hugging someone else who has it.

☐ 1. True

☐ 2. False

☐ 3. Don't know

E. An un-kept, dirty person is more likely to get HIV/AIDS

☐ 1. True

☐ 2. False

☐ 3. Don't know

F. HIV/AIDS can be cured if you get early treatment

☐ 1. True

☐ 2. False

☐ 3. Don't know

G. A person with HIV/AIDS can transmit it through sex

☐ 1. True

☐ 2. False

☐ 3. Don't know

H. You can get AIDS by eating the same foods as someone with AIDS

☐ 1. True

☐ 2. False

☐ 3. Don't know

7. PERCEPTION of RISK

48. Are you at risk for getting HIV/AIDS?

☐ 1. Yes

☐ 2. No

☐ 3. Don't know

If 'yes', why? _____

49. If 'no', (that you are not at risk for getting HIV/AIDS) Why?

(don't read from this list)

☐ A. My partner is not the type to have HIV

☐ B. I have only one partner

☐ C. I only have relations with healthy people

☐ D. I always use condoms

☐ E. I don't sleep around with anyone

☐ F. I don't use drugs

☐ G. I know well my partners

☐ H. I only have 2 or 3 partners

☐ I. I am not homosexual

☐ J. Other _____

50. Are you afraid of getting HIV/AIDS?

☐ 1. No fear

☐ 2. a little fear

☐ 3. some fear

☐ 4. a lot of fear

51. Do you think that a person can evade HIV/AIDS by changing his behavior?

☐ 1. Yes

☐ 2. No

☐ 3. Don't know

52. To decrease the risk of getting HIV/AIDS, have you changed in any way your behavior? ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

(If 'no' pass to #. 56)

Spontaneous / Prompt by Intr.

53. How?
- | | | |
|---|--------------------------|--------------------------|
| <input type="checkbox"/> A. Diminish the number of sex partners | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> B. Go out with fewer prostitutes | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> C. Always use condoms | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> D. Quit buying drugs | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> E. Stop going out with homosexuals | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> F. Stop using injectable drugs | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> G. Other _____ | | |

54. Have you already taken a test for HIV/AIDS from a laboratory?

- ☐ 1. Yes ☐ 2. No

(if 'yes'):

Where _____ When? _____

Why? _____

8. SOCIAL INFLUENCE

55. To the following statements respond 'true' or 'false'

A. Very few truck drivers in Bolivia change their behavior because of HIV/AIDS

- ☐ 1. True ☐ 2. False ☐ 3. Don't know

B. Many people you know protect themselves by using condoms

- ☐ 1. True ☐ 2. False ☐ 3. Don't know

C. The majority of truck drivers have condoms with them.

- ☐ 1. True ☐ 2. False ☐ 3. Don't know

D. La majority of *chicas* [girls] have condoms with them.

- ☐ 1. True ☐ 2. False ☐ 3. Don't know

E. HIV/AIDS has changed many truck drivers, and now, they are more careful in their sexual relationships.

- ☐ 1. True ☐ 2. False ☐ 3. Don't know

F. Many of your friends have had sexual relationships with prostitutes or casual partners.

- ☐ 1. True ☐ 2. False ☐ 3. Don't know

56. From your closest friends, how many do you think use condoms when they have sex with casual partners? (*Read the list*)

☐ A. Almost all

☐ B. More than half

☐ C. Half

☐ D. Less than half

☐ E. No one

☐ F. Don't know

57. Of your closest friends, how many do you think use condoms when they have sex with regular partners? (*Read the list*)

☐ A. Almost all

☐ B. More than half

☐ C. Half

☐ D. Less than half

☐ E. No one

☐ F. Don't know

<<WE ARE ABOUT HALF WAY DONE WITH THE INTERVIEW. HOW IS IT GOING? REMEMBER, WHEN YOU RETURN TO DO IT IN 5 TO 6 MONTHS IT WILL BE SMALLER, AND YOU WILL BE READING THE QUESTIONS BY YOURSELF. BUT YOU WILL RECEIVE BS. 20 AFTERWARDS -- GOOD, NOW THE QUESTIONS BECOME MORE INTIMATE. READY?>>

9. SEX WITH WOMEN

To answer these next questions please understand the meaning of PRIMARY PARTNER, a woman you have sexual relations with most often (girl friend or wife)

58. What type of sex do you generally maintain with your primary partner?

A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never

B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never

C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never

59. Do you use a condom with your primary partner in respect to (*read the list*):

A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

60. How often do you maintain sexual relations with your regular partner after having consumed alcoholic drinks or drugs?

- ☐ A. Always ☐ B. Most of the time
☐ C. Sometimes ☐ D. Never
☐ E. Doesn't apply

61. Have you sometimes talked to your regular partner about using condoms before having sex?

- ☐ 1. Yes ☐ 2. No

CASUAL PARTNER, a woman you have sexual relations with casually, once or twice, outside of a primary partner

62. Outside of your primary partner, do you maintain relations with other regular sex partners?

- ☐ A. Yes ☐ B. No If yes, how many in the last 3 months? ☐ ☐

63. What type of casual partner do you have sex with?
(Indicate all are mentioned- use in reference to #66)

- ☐ A. None ☐ B. Prostitute
☐ C. Friend ☐ D. work mate
☐ E. Street girl ☐ F. Married women
☐ G. Lovers ☐ H. traveling girls
☐ F. Other _____

64. In which cities/towns do you maintain sexual relations with casual partners?

- ☐ A. Santa Cruz ☐ B. town where you live _____
☐ C. Other towns that are on your route _____
☐ D. Other _____

65. Where do you have sex with your casual partner?

- ☐ A. Hotel/Lodging ☐ B. Motel
☐ C. Bordello/Stripshow ☐ D. In the truck
☐ E. Other _____

66.

***** (referral from #63) *****

Do you use a condom with the prostitute(s) you report in respect to:

- A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

Do you use a condom with the female friend(s) you report in respect to:

- A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

Do you use a condom with the female colleague(s) you report in respect to:

- A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

Do you use a condom with the street girl(s) you report in respect to:

- A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

Do you use a condom with the married woman (women) you report in respect to:

- A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

Do you use a condom with the lover(s) you report in respect to:

- A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

Do you use a condom with the traveling girl(s) you report in respect to:

- A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

Do you use a condom with the [other _____] you report in respect to:

- A. Vaginal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
B. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable
C. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

67. How often do you maintain sexual relations with your casual partners after having consumed alcoholic drinks or drugs?

- ☐ A. Always ☐ B. Most of the time
☐ C. Sometimes ☐ D. Never
☐ E. Doesn't apply

68. Have you sometimes talked to your casual partners about using condoms before having sex?

- ☐ 1. Yes ☐ 2. No

69. How often do you use condoms after having consumed alcoholic drinks or drugs?

- ☐ A. Always ☐ B. Most of the time
☐ C. Sometimes ☐ D. Never
☐ E. Doesn't apply

10. SEX WITH MEN

70. Sometime in your life, even as a child or adolescent, have you ever had sexual relations with another man?

- ☐ A. Yes ☐ B. No

71. Approximately at what age (was your first encounter)?

72. Have you had sex with men during the last 3 months? ☐ A. Yes ☐ B. No
The last year? ☐ A. Yes ☐ B. No
(If 'no' please pass to #76).

73. How many men? ☐☐ (total last 3 months) ☐☐ (total last year)

74. How many times do you use a condom with other men in respect to:

A. Oral sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

B. Anal sex ☐ 1. Always ☐ 2. Sometimes ☐ 3. Never ☐ 4. Not applicable

75. How would you describe the type of man do you sleep with?

☐ A. Friend ☐ B. Colleague

☐ C. Prostitute ☐ D. Street boys

☐ E. Other _____

<<THANK YOU FOR THE INFORMATION. DON'T WORRY—ALL INFORMATION IS ANONYMOUS. THE INFORMATION WILL BE USED FOR EDUCATION WORKSHOPS FOR ADULTS. YOUR ATTENTION AND ANSWERS ARE VERY IMPORTANT. GOOD. LET'S CONTINUE>>

11. ATTITUDE OF CONDOMS

76. Do you use condoms? ☐ 1. Yes ☐ 2. No (if 'no' pass to #80)

77. If 'yes' Have you used condoms in the last 3 months? ☐ 1. Yes ☐ 2. No

78. If 'yes' How many times have you used condoms in the last month? _____

79. If 'yes' How much does a condom cost? _____

80. If 'no' Do you know how to use condoms? ☐ 1. Yes ☐ 2. No

81. The next time you have a sexual relation, do you plan:

☐ A. Use a condom and I won't have a relation without one

☐ B. Use a condom if it is convenient

☐ C. Use a condom only if my partner doesn't complain

☐ D. Use a condom only if my partner insists

☐ E. Not to use a condom

82. What kind of person should use condoms the most often? *(do not read the list)*

Spontaneous / Prompt by Intr

- | | | |
|---|--------------------------|--------------------------|
| <input type="checkbox"/> A. People who want to avoid AIDS | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> B. Youth | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> C. People who don't trust their partners | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> D. All women | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> E. All men | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> F. Homosexuals | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> G. People with a lot of children | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> H. Others_____ | | |

83. Do you consider the condom:

A. Important in order to avoid sexual infections

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

B. Against your religion

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

C. Important when you use it with others outside of your regular partner

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

D. Diminishes sexual pleasure

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

E. Easy to use

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

F. Something that your partner doesn't like

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

G. Is not your size

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

H. The only measure to prevent HIV/AIDS

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

I. Not a macho thing

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

J. Expensive

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

K. Important when you use it with your regular partner

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

L. Something embarrassing when you buy it

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

M. Easy to find

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

N. Something that causes the suspicion of infidelity between partners

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

O. Something that prolongs sexual pleasure

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

P. Can stay inside your partner on withdrawal

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

Q. Something of responsibility

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

R. Can break

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

S. Cleaner using it than not using it

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

T. Use only with prostitutes

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

U. Diminishes fear of getting your partner pregnant

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

V. Always missing instructions on how to use it

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

W. Something that your partner talks about sometimes using

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

X. Can cause cancer

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

Y. Something of mutual respect between partners

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

84. Do you think that people who carry condoms have more sex than most people?

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

85. If you met a nice girl and you did not have condoms, would you have a sexual relation with her anyway?

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

86. Would you use a condom even if you were drunk?

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

87. Do you think that a girl who carries condoms with her knows how to take care of herself?

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

88. How often do you carry condoms with yourself ?

- ☐ A. Always ☐ B. Sometimes
☐ C. Almost never ☐ D. Never

12. OTHER STI

89. Which other STIs have you heard of?

(don't read from the list)

- ☐ A. Syphilis
☐ B. Gonorrhea
☐ C. Herpes
☐ D. Chancre
☐ E. Condyloma
☐ F. Secretions from the penis
☐ G. Other_____

90. How do you think someone can get a sexually transmitted infection?

A. They use the same toilet as someone with STIs

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

B. They don't use condoms when having sex

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

C. They sit on the same chair

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

D. Sleep with prostitutes

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know

91. I'm going to read a list (*complete*) of sexual infections; I want to know if you have ever had one of these: (*if 'not had' pass to # 102*)

	One time	two times	three times	> three
<input type="checkbox"/> A. Syphilis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> B. Gonorrhea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> C. Herpes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> D. Chancre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> E. Condyloma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> F. Penis secretions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> G. Others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

When (for the 2nd, 3rd, etc STI) ? _____

92. When was the last time you had a sexual infection?

- ☐ A. Less than 6 months ☐ B. From 6 months to 1 year
☐ C. Between 1 and 4 years ☐ D. More than 4 years ago
☐ E. Never

What were the symptoms of the last sexual infection?

93. Who do you think gave you the STD?

- ☐ A. Prostitute ☐ B. A friend
☐ C. Colleague ☐ D. Street girl
☐ E. Married woman ☐ F. Traveling girl
☐ G. Wife or girlfriend ☐ D. Other _____

94. The last time, Who convinced you that you have a sexual infection?

- ☐ A. A friend ☐ B. Yourself
☐ C. Doctor/physician ☐ D. Pharmacy manager
☐ G. Family ☐ D. Other _____

95. The last time, Did you receive some form of medicine or treatment?

- ☐ 1. Yes ☐ 2. No ☐ 3. Don't know/Don't remember

96. The last time, where did you go for treatment?

☐ A. Health post

☐ B. Clinic

☐ C. Private physician/doctor

☐ D. Pharmacy

☐ E. Never treated

☐ F. Hospital

☐ G. Self-treated- How? _____

97. The last time, Did you return for follow up care after finishing the treatment?

☐ 1. Yes

☐ 2. No

☐ 3. Don't know/Don't remember

98. The last time, Did you mention to your sex partner that you had a sexual infection?

☐ 1. Yes

☐ 2. No

☐ 3. Don't know/Don't remember

99. Is there a relation between these sexual infections and HIV/AIDS

☐ 1. Yes

☐ 2. No

☐ 3. Don't know/Don't remember

<<THERE ARE ONLY 10 QUESTIONS LEFT. HOW ARE YOU DOING?

REMEMBER—WHEN YOU COME BACK TO DO THIS AGAIN IN 2 TO 3 MONTHS

THE QUESTIONNAIRE WILL BE SMALLER, AND YOU, ALONE, WILL READ THE

QUESTIONS. BUT YOU WILL RECEIVE BS. 20 AFTERWARDS. (guide them where they can go) – GOOD. LET'S FINISH IT>>

13. ATTITUDE OF HIV TESTING

100. Do you think, in regards to a blood test, that:

A. The clinic taking the test is too far

☐ 1. Yes

☐ 2. No

☐ 3. Don't know

B. The test is inexpensive

☐ 1. Yes

☐ 2. No

☐ 3. Don't know

C. It is difficult to find a clinic that offers the test

☐ 1. Yes

☐ 2. No

☐ 3. Don't know

D. You would be afraid of getting a positive result

☐ 1. I am not

☐ 2. I am

☐ 3. Don't know

E. It is not necessary for me to get tested

☐ 1. Not necessary

☐ 2. Necessary

☐ 3. Don't know

F. You would be afraid of meeting people at the clinic who know you

☐ 1. Yes

☐ 2. No

☐ 3. Don't know

G. It is easy to get a test

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

H. The test takes too much time

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

I. It is important to get a test if your partner wants you to

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

101. Do you know where to go to get a test if you think you have a sexual infection?

☐ 1. Yes ☐ 2. No ☐ 3. Don't know

If 'yes', Where? _____

14. IDENTIFICATION

102. Age _____

103. Civil status ☐ A. Married ☐ B. Single
 ☐ C. Divorced/separated ☐ D. Living together
 ☐ E. Other _____

104. What city or town do you live in? _____

105. What is your highest level of education?

☐ A. Basic (primary) ☐ B. Intermediate (middle)
☐ C. Secondary school ☐ D. Tech school
☐ E. University ☐ F. None

106. What is your religion? ☐ A. Catholic ☐ B. Protestant

☐ C. Evangelist ☐ D. None
☐ E. Other _____

107. What is your net monthly salary? ☐ A. \$0 - 160
☐ B. \$161 - 327
☐ C. \$328 - 491
☐ D. \$492 - 655
☐ E. Greater than \$655

108. What month and year were you born? 19
(for identification purposes)

109. How many children do you have? What ages?
(Indicate 'd' for deceased)

15. PAST COMMUNICATION

110. Have you had a similar interview before, or seen videos on AIDS, or received special reading material on AIDS? If yes, when and where?

- ☐ A. Interview _____
☐ B. Video _____
☐ C. Small print material _____
☐ D. Survey _____
☐ E. Other _____

111. What brand of condoms was your last one?

- ☐ A. Protektor ☐ B. Pantera
☐ C. Te amo ☐ D. Moods
☐ E. Trustex ☐ F. Preventor
☐ G. Sultan ☐ H. Sin Nombre
☐ I. Other _____
☐ J. No sabe ☐ K. Don't use

<<GOOD. NOW WE HAVE A WORKSHOP WHICH LASTS ABOUT 45 MINUTES.
THANK YOU VERY MUCH FOR YOUR PARTICIPATION UP TILL NOW. THERE IS A
TOKEN OF COMPENSATION, BUT YOU NEED TO SIT IN THE WORKSHOP. >>

IMPORTANT--

*(Record the final time and his identification number [month & year of birth] on the first
page)-- Then give him a ticket with the same number.*

APPENDIX O

Letter to UNO seeking permission

Sept. 14, 2000

Dr. Stanford
Dept of Psychology
UNO

Per our conversation on the telephone this morning, this letter is a request to expedite the human subjects approval application. Attached to this letter is the formal protocol for your perusal, to outline the salient points of my research plan.

As stated in section nine, all participant information is anonymous. Though the design is a comparative field trial with pre and post questionnaire items to measure behavior, the link will be done through an arbitrary number assigned to participants on a ticket at the end of the pre test. This ticket shows a map and lists hours of the clinic in which they take the follow up questionnaire. They present this ticket (and not their name) to complete the post test. The number on the ticket links their pre and post results. This ticket also serves as a reimbursement tool.

I hope this is sufficient to expedite the application process. If you have any other questions please contact me at **wcshp@yahoo.com** or my chairperson, Dr. Richard Speaker, at the department of Education.

Sincerely,

William Sorensen
Doctoral Candidate
Dept. of Education, UNO

APPENDIX P

UNO permission response

*DEPARTMENT OF PSYCHOLOGY
University of New Orleans*

Campus Correspondence

To: Richard Speaker, Ph.D.
Professor, Curriculum and Instruction

From: Matthew S. Stanford, Ph.D. *M.S.*
Associate Professor and Chair
University Committee for the Protection of Human Subjects in Research

RE: Proposal: Using mixed methodology to assess high risk sexual behavior by adult stage theory in a sample of east Bolivian truck drivers.

Because of the anonymous nature of your project it is exempt from committee review as stated in section 46.101 B, paragraph 2 of the OPRR guidelines.

APPENDIX Q

Bolivian Ministry of Heath permission response



Ministerio de Salud
y Previsión Social

MINISTERIO DE SALUD Y PREVISIÓN SOCIAL
UNIDAD NACIONAL DE ATENCIÓN A LAS PERSONAS

PROGRAMA NACIONAL DE ETS/VIH/SIDA

La Paz, 20 de abril de 2000
CITE: DTS/CART/N°234/00

Señor
William Sorensen
Casilla # 791
Santa Cruz.-

De nuestra consideración:

Me permito poner en su conocimiento que el Programa Nacional de ETS/SIDA, de la Unidad Nacional de atención a las personas (UNAP) del Ministerio de Salud y Previsión Social, ha considerado importante y necesario contar con información respecto a factores que intervienen en la epidemiología de las ETS y VIH/SIDA, tal como se propone el desarrollo de la investigación sobre "El Impacto de Dos Sesiones Educativas sobre el Comportamiento Sexual en una población de Camioneros Bolivianos". En este sentido el Programa de ETS/SIDA, concede el permiso correspondiente para realizar esta investigación, tomando en cuenta los siguientes criterios:

- En atención a que la investigación se efectuará la jurisdicción del Departamento de Santa Cruz, deben coordinar estrechamente con el Responsable Nacional del Programa de ETS/SIDA y la Dirección de SEDES.
- Presentación del informe final a la conclusión de la investigación e informes periódicos del avance de la investigación.
- Los datos obtenidos en la investigación deben ser entregados al Programa Nacional de ETS/SIDA quien dispondrá y autorizará la difusión y utilización de los mismos, en condición de propietarios.

Con este motivo, saludamos a usted muy atentamente.


Dr. Vito Rivas Vargas
RESPONSABLE NACIONAL
PROGRAMA DE ETS/VIH/SIDA
sgm.


Dr. Jaime Tellería Guzmán
JEFE UNIDAD NACIONAL
DE ATENCIÓN A LAS PERSONAS
M. S. P. S.

Capitán Ravelo 2199 frente al parque Mario Mercado 3er piso
Teléfono: Fax - Casilla 13392
La Paz - Bolivia

NUEVA Dirección: Av. Villazón
Pasaje B Trigo # 451
Teléfono/Fax: 02-440483

APPENDIX R

Bolivian Health Educator contract

CONTRATO DE TRABAJO PARA INVESTIGADOR COLABORANTE

Quiero que Usted me ayude en una investigación piloto llamado "Comportamiento Sexual de Camioneros Bolivianos". El propósito del estudio es hacer un encuesta y luego un taller de salud sexual a los camioneros. Su responsabilidad será de ENTREVISTADOR y EDUCADOR. Ud. trabajará varios días por un tiempo que comienza el 3 de Junio y termina el 4 de Agosto, 2002.

1) Si Usted decide ayudar, se le solicita hacer las entrevistas y enseñanzas de una manera profesional. Todos los datos al fin de cada día se entregarán al Sr. Sorensen. Además Ud. trabaja como jefe del equipo por tal día.

2) También, tiene la responsabilidad de, en caso de enfermedad, llamar un replazante para este día de trabajo, y avisar al Sr. Sorensen.

3) Por fin, todo lo que escuche de los participantes es confidencial y de ninguna manera repetirá sus nombres, ni sus direcciones.

Su pago es \$4.00 por hora. Será pagado cada 2 semanas como se muestra en las horas acumulativas del trabajo. El Sr. Sorensen le ofrece transporte de un lugar central, pero las horas del trabajo comienzan al llegar al lugar para entrevistar, y terminan a la hora de salir del lugar.

Las firmas confirman que el Sr. _____ trabajará para el Sr. William Sorensen, el investigador principal

YO ENTIENDO QUE EI TRABAJO DETALLADO ARRIBA CORESPONDE AL PAGO. EL INVESTIGADOR PRINCIPAL TIENE DERECHO DE DESPEDIR AL INVESTIGADOR COLABORANTE EN CUALQUIER MOMENTO SI NO SIGUE LOS EXIGENCIAS INDICADAS.

Investigador Colaborante _____ Fecha _____

Investigador Principal _____ Fecha _____

Si tiene preguntas o esta interesado en recibir los resultados finales puede ponerse en contacto con el Sr. Sorensen a:

Ave. Mutualista Calle 9 No.2000
Santa Cruz, Bolivia
(Tel) 346-0271
wcshp@yahoo.com

WORK CONTRACT for COLLABORATIVE INVESTIGATOR
--

I would like you to help me on an investigation called "Sexual Behavior in Bolivian Truck Drivers". The goal of this study is to interview, then give workshops about safe sex to truck drivers. Your responsibility will be as INTERVIEWER and EDUCATOR. You will work some days for a few hours each day beginning June 3, and terminated August 4, 2002.

1) If you decide to help, I ask that you carry out all interviews and workshops in a professional manner. All data at the end of every day will be given to Mr. Sorensen. Also, you will work as a team leader some days.

2) In addition, you are responsible, in case of being sick, of finding a replacement for that work day, then notifying Mr. Sorensen.

3) Lastly, all that you hear from the participants is confidential and in no way will you repeat these conversations, their names, or their addresses to anyone outside of this work.

You pay is \$4.00 per hour. You will be paid every 2 weeks counting the number of hours you have worked in those previous 2 weeks. The time of work is defined as arriving at the interviewing location, and the moment of leaving the same location. Mr. Sorensen will offer transportation from a central location.

The signature confirms that Mr. _____ will work
For Mr. William Sorensen, the principal investigator

**I UNDERSTAND THAT THE WORK DESCRIBED ABOVE CORRESPONDS TO THE
PAYMENT OFFERED. THE PRINCIPAL INVESTIGATOR HAS THE RIGHT TO DISMISS
THE COLLABORATIVE INVESTIGATOR AT ANY TIME IF THE CONDITIONS
DESCRIBED ABOVE ARE NOT MET.**

Collaborative Investigator_____ Date_____

Principal Investigator_____ Date_____

If you have questions or are interested in receiving the final results, please contact Mr. Sorensen at:

Ave. Mutualista Calle 9 No.2000
Santa Cruz, Bolivia
(Tel) 346-0271
wcshp@yahoo.com

APPENDIX S

Participant consent form

CONSENTIMIENTO PARA PARTICIPAR

Queremos que Usted participe en una investigación llamada "Comportamiento de Salud de Adultos Bolivianos". El propósito del estudio es encontrar temas de la salud en adultos.

Su participación es ANONIMA, CONFIDENCIAL, y completamente VOLUNTARIA. Algunas preguntas serán íntimas, y apreciamos su sinceridad. Está libre de negar cualquier pregunta, o de parar en cualquier momento.

No hay ningún riesgo al participar. Su identidad nunca será revelada. No habrán perjuicios negativos de compañeros ni sindicatos.

Si Usted acepta participar, se le pide realizar una entrevista con profesionales en salud pública, que alcanza unos 40 minutos. Luego hay un taller de 45 minutos. ¿Puede Ud. participar de hora y media hasta dos horas?

DESENSITACION- 3 minutos

ENTREVISTADOR: Mi nombre es Soy un estudiante/educador/.....

¿Alguna vez has escuchado del SIDA? <discusión: ¿Donde? ¿Cuándo? Vamos usar la frase 'VIH/SIDA' por toda la encuesta. >

Bueno, tenemos condones gratis hoy día, si quiere participar. Y al fin de programa hay una recompensa de Bs. 20 y una descuento a una consulta medica. Pero necesito unos 2 horas de su tiempo. ¿Listo?

-si acepta, que haga comenzar el cuestionario grande por marcar el tiempo

-si rechaza que haga el panfleto

CONSENT FORM FOR PARTICIPATION

We would like you to participate in an investigation called “Health behaviors of Bolivian adults”. The purpose of this study is to discover themes of health in adults.

Your participation is ANONYMOUS, CONFIDENTIAL, and completely VOLUNTARY. Some questions will be very intimate, and we appreciate your sincerity. You will be free to refuse to answer any particular question or stop at any time.

There are no risks from your participation. Your identity will never be revealed. No one can bother you about this, neither colleagues nor management, because they won't know what you've said.

If you decide to participate in the study, we will ask you to interview with health professionals , which will last about 40 minutes. Then there will be a workshop of about 45 minutes. Can you donate about 1 ½ to 2 hours of your time?

De-sensitizing - 3 minutes

INTERVIEWER: My name isI am a student/educator....

Have you ever heard of the word AIDS? <discussion: Where? When? “We will use the phrase ‘HIV/AIDS’ throughout the interview.

Good. We have free condoms today, if you want to participate. At the end of the program there will be a compensation of Bs. 20 and a discount for a medical check-up. But I need about 2 hours of your time. Ready?

<if he accepts, start the large questionnaire and mark down the time

if he does not accept, enroll with pamphlet>

APPENDIX T

Investigator interview/workshop evaluations

INTERVIEWING EVALUATION

For the following indicate:

1-----2-----3-----4-----5
NO NOT SO-SO A YES
MUCH LITTLE

2. _____ The interviewer seems nervous.
2. _____ The trucker seems distracted.
3. _____ The interviewer is convincing
4. _____ The trucker seems sincere
5. _____ The interviewer is moving along at a good pace.

OTHER COMMENTS (on back):

WORKSHOP EVALUATION

For the following indicate:

1-----2-----3-----4-----5
NO NOT SO-SO A YES
MUCH LITTLE

3. _____ The Team seems nervous.
2. _____ The participants seem distracted.
3. _____ The team is convincing
4. _____ The truckers seem sincere to learn and participate
5. _____ the team is moving along at the expected pace
6. _____ the discussion stalled.
7. _____ the condom demonstration went well
8. _____ the registration had snags
9. _____ The staff seems to know what they were doing.

OTHER COMMENTS (on back):

APPENDIX U

Bolivian Health Educator evaluation

EVALUACION DE ENCUESTADOR

- 1) ¿Qué método es el mejor para motivar un camionero a hacer una encuesta?
- 2) ¿Cómo se siente sobre el cuestionario? ¿Qué cambiaría si se puede (en el cuestionario)?
- 3) ¿Hay partes del cuestionario donde piensa Ud. que los camioneros no contestan honestamente, o mientan?
- 4) ¿Piensa Ud. que los talleres ofrecen bastante de información para los camioneros? Si no, ¿sobre qué se necesita hablar más?
- 5) ¿Piensa Ud. que los talleres atraen la atención de los choferes? ¿Que los atrae más?
- 6) ¿Qué cambiaría en los talleres si se puede?
- 7) ¿Qué puede hacer Sr. William para mejorar el programa?
- 8) ¿Hacen un buen equipo los encuestadores? ¿Por qué? ¿O por qué no?

HEALTH COLLABORATOR EVALUATION

- 1) What is the best method to motivate a truck driver to do an interview?
- 2) How do you feel about the questionnaire? What would you change if you could (in the questionnaire)?
- 3) Are there parts of the questionnaire where you think that truck drivers do not answer honestly, or lie?
- 4) Do you think that the workshops offer enough information for truck drivers? If not, what more should we talk about?
- 5) Do you think that the workshops attract the attention of the truck drivers? What are they most attracted to (in the workshops)?
- 6) What would you change in the workshops if you could?
- 7) How can Mr. William make the program better?
- 8) Does our group make a good team? Why? Or why not?

APPENDIX V

Truck company/Union manager evaluation

EVALUACION DE GERENTES

Favor usar la escala del No. 1-6

1-----	2-----	3-----	4-----	5-----
ABSOLUTAMENTE	NO	MEDIANO	UN	ABSOLUTAMENTE
NO	MUCHO		POCO	SI

1. _____ Este programa de salud valía la pena.
2. _____ El jefe del equipo de PROSALUD molesta mucho.
3. _____ Los miembros del equipo de PROSALUD fueron muy corteses y amables.
4. _____ El taller es importante para los choferes.
5. _____ Este programa fue demasiado largo.
6. _____ Estoy interesado en ayudar a otro programa de salud en el futuro.

PREGUNTAS ABIERTAS

7) ¿Ha escuchado algún comentario de los choferes sobre el taller? ¿Qué mencionaron?

8) ¿Piensa Ud. que los talleres ofrecen bastante información para los camioneros? Si no, ¿sobre qué se necesita hablar más?

9) ¿Qué cambiaría en el programa si pudiera?

10) ¿Piensa Ud. que sus choferes han ganado con este programa? ¿Por qué O por qué no?

11) ¿Le gustaría a Ud. que PROSALUD haga otros tipos de programas de salud para los choferes? ¿Que tipos de programas diferentes?

Muchas gracias por su ayuda.

Para facilitar el fin del programa en Septiembre y Octubre, les solicitamos ayuda en poner la propaganda en las paredes para qué vuelvan los choferes al centro de PROSALUD para recoger su recompensa.

Si Ud. tiene preguntas, por favor comuníquese con el sub-jefe del programa mediante el teléfono tel 3-536483 (16:00-20:00) o cel 72182833

Sin otro particular.

Atentamente,

William Sorensen
Jefe del equipo
"Comportamiento de Salud de Adultos Bolivianos"

Jose Enrique Vilches
Sub-Jefe del equipo

TRUCK COMPANY/UNION MANAGEMENT EVALUATION

Please use the scale for #1-6

1-----	2-----	3-----	4-----	5
ABSOLUTELY	NOT	SO-SO	A	ABSOLUTELY
NO	MUCH		LITTLE	YESI

1. _____ This program is worth it.
2. _____ The chief of the Prosalud team bothers us too much.
3. _____ The members of the Prosalud team are very polite and friendly.
4. _____ The workshop is important for truck drivers.
5. _____ The program is too long.
6. _____ I am interested in helping with other, future programs.

OPEN QUESTIONS

7) Have you heard comments from the truck drivers about the workshops? What do they say, if so?

8) Do you think that the workshops offer enough information for the truck drivers? If not, what do we need to talk about more?

9) What would you change in the program if you could?

10) Do you think that the truckers have gained from this program? Why or why not?

11) Would you like Prosalud to do other workshops for truck drivers, with other types of subjects, in the future? What other subjects would you suggest?

Thank you for your help.

To facilitate the post-interview in September and October, we are asking your help in putting up small posters on your walls so that truck drivers can read them and remember to return to the Prosalud clinics, to receive their compensation.

If you have any questions, please do not hesitate to give me a call at **3460271**.

Again, thank you so much for your time and consideration.

Sincerely,

William Sorensen
Principle Investigator of the team "Health Behaviors of Adult Bolivians"
Prosalud, PSI.

Jose Enrique Vilches
Team-leader

APPENDIX W

**Letter of request for permission to use
Prosalud clinics for follow up**

15 Mayo, 2002

Sra. Medida
Prosalud
Santa Cruz, Bolivia

Estimada Sra:

Después de saludarla muy atentamente me dirijo a Usted para informarle.

Como es de su conocimiento, me encuentro investigando las conductas sexuales de choferes de camión en las rutas del oriente (la literatura científica muestra que los choferes de camiones constituyen una población de alto riesgo para ITS o VIH/SIDA).

Recién terminé la tercera fase del estudio y tengo los datos sobre 71 camioneros. Ahora estoy planeando la cuarta e última fase. Mi plan consta de encuestas a más de 200 choferes sobre sus conocimientos, actitudes, y conductas sexuales (Junio-Julio) luego un taller educativo (también en Junio-Julio), y al final una post-encuesta 4 ó 5 meses más tarde.

Las Dras. Lara y Timyan de USAID sugirieron que hable y trabaje con PROSALUD para realizar la terminación del estudio.

Es por este motivo que le escribo, para solicitar ayuda en varias formas:

1. Solicito permiso utilizar 3-4 centros de PROSALUD para la pre-encuesta y el taller educativo, por barrios donde se reunirán muchos camioneros. Pueden ser las clínicas de PROSALUD La Cuchilla, Las Pampitas, y La Madre.
2. Para facilitar el trabajo para 2 meses, le solicito un ayudante en IEC, (o dos), los cuales pueden trabajar unas 15 horas por semana estos dos meses.
3. Ayuda de imprimir unos 250 panfletos y calendarios pequeños.
4. Para motivar los camioneros, le solicito un consulto médico con descuento para ellos (menos de 100 camioneros) que vuelvan hacer un post-encuesta (por Octubre a Diciembre, 2002), por dichos centros de PROSALUD.

Adjunto a esta carta una copia del permiso del Ministro de Salud, los informes de los componentes anteriores, y la propuesta de la última fase del estudio.

Le ruego haga el favor de leer y reflexionar sobre la justificación del estudio, y la necesidad de su realización. Me agradecería otra reunión con Ud. después de considerar mi carta.

Si Ud. tiene preguntas, por favor comuníquese conmigo mediante el teléfono **3460271** o mediante E-mail **wcshp@yahoo.com**.

Sin otro particular y a la espera de una respuesta favorable le hago llegar mis consideraciones mas distinguidas.

Atentamente,

William Sorensen

May 15, 2002

Ms. Medida
Prosalud
Santa Cruz, Bolivia

Dear Ms. Medida:

This letter is to ask your consideration in helping the community with an important project.

As you know, I am working on a study with truck drivers about their sexual behavior along the oriental routes in Bolivia (the scientific literature demonstrates this population to be at high risk for HIV/STI transmission).

We have just completed the third phase of the study and we have data on 71 truck drivers throughout Santa Cruz. Now we are planning the fourth, and last, phase. The plan is to interview up to 200 truck drivers about their knowledge, attitudes, and behavior concerning sexual behaviors (June-July); then, there will be a workshop (also in June-July), and finally, another interview in four or five months later.

Drs. Lara and Timyan of USAID suggest that I speak with you, and eventually work with Prosalud, in order to finish the study.

Quite simply I am writing to ask for specific help in a few areas.

1. I am seeking permission to use 3-4 Prosalud clinics to conduct a questionnaire and a workshop, in neighborhoods where truck drivers are known to gather. They could very well be the clinics La Cuchilla, Las Pampitas, y La Madre.
2. To facilitate this work for a duration of two months, I ask help in supplying an educator (or two), experienced interviewers who can work some 15 hours per week (for 2 months).
3. Can Prosalud help in printing about 250 pamphlets and small pocket calendars?
4. To motivate truck drivers, I propose a medical checkup for the truck drivers (less than 100 of them), with a discounted charge so that they return to do a post interview (by October to December, 2002). Again, in the same mentioned Prosalud clinics.

I am including with this letter a copy of permission to conduct such a study from the Ministry of Health, information from the pilot phases, and the proposal on the last phase of the study.

I ask that you read through the attached material and reflect on the study's justification. Also its necessity, and its realization. I will try to meet with you after you can digest this letter and its contents.

If you have any questions, please do not hesitate to give me a call at **3460271**, or e-mail me at **wcshp@yahoo.com**.

Thank you so much for your time and consideration.

Sincerely,

William Sorensen

VITA

William Carl Sorensen was born on February 24, 1960, in Omaha, Nebraska. He attended high school in Glenwood Springs, Colorado. In 1982, he graduated from St. John's College in Santa Fe, New Mexico, with a Bachelor of Arts degree in Liberal Arts. From 1983 - 1985 he served with the U.S. Peace Corps in former Zaire, Africa. In 1986 he was awarded the Columbia University's Teachers College/Peace Corps Fellowship, whereby he embarked for New York. In 1988, he graduated from Teachers College with a Master of Arts in Science Education. In 1994, he received a Master of Science in Public Health from Tulane University School of Public Health and Tropical Medicine. Since entering the joint Curriculum & Instruction and Human Performance/Health Promotion doctoral program at University of New Orleans, he has worked as a data manager and epidemiologist for the Louisiana Office of Public Health in HIV/AIDS services, a science, mathematics, and computer teacher in Santa Cruz, Bolivia, and an epidemiologist in Houston, Texas.