**Electronic Thesis and Dissertation (ETD) Repository**
**Submission Agreement Form**

**For MPH/MSPH Thesis or SSP**

| | |
|---|---|
| Student Name: | Cho Hee Shrader |
| Student ID#: | 2108718 |
| Department: | Global Health |
| Thesis Title: | "*I would rather do, practice the sex, condom*": *even if it's without a condom*": A qualitative reinvestigation of barriers and facilitators to condom use in Cape Town, South Africa |

***Please Note***: You are the owner of the copyright in your thesis. By executing this document you are granting permission to Emory University to publish this document on the world wide web (immediately upon graduation unless otherwise specified).

**Part 1 - Author Agreement**:

I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display (subject to the conditions specified below in Part 3) my thesis in whole or in part in all forms of media, now or hereafter known, including the display of the thesis on the world wide web. I retain all ownership rights to the copyright of the thesis. I also retain the right to use in future works (such as articles or books) all or part of this thesis. I certify that my electronic submission is the version of my thesis that was approved by my committee.

Part 2 - **Submission Questionnaire:**

1. Does your thesis or dissertation include any text, audiovisual, or other material not created by you or for which you no longer own copyright? (See the Copyright Education Initiative on Blackboard for more information if you are uncertain how to answer this question)

Yes No ☐ ☐

If yes, have you obtained permission to use these materials?

Examples of materials for which you may need permission include long quotations, images, and articles you authored for which you no longer own copyright. You will need to list the materials for which you obtained permission on the Submission Form.

**Please Note:**
Materials in the public domain, materials with Creative Commons licenses or materials that fit the Fair Use parameters of U.S. Copyright Law DO NOT REQUIRE permission.

See the Copyright Education Initiative on Blackboard for more information on the public domain, fair use, Creative Commons, the permissions process, and example permission letters.

Yes No ☐ ☐

If no, you must obtain permissions or remove the copyrighted content from your ETD before proceeding with submission. Please contact Lisa Macklin or Melanie Kowalski of the Libraries' Scholarly Communications Office at scholcomm@listserv.cc.emory.edu if you have questions.

If yes, complete Part 4 of this form.

2. Does your thesis or dissertation disclose or describe any inventions or discoveries that could potentially have commercial application and therefore may be patented? (If you and/or your faculty advisor(s) have any questions about patents and commercial applications, please contact the Emory Office of Technology Transfer at ott-web@emory.edu).

Yes No ☐ ☐

If yes, further conversation with ETD administrators is required before you can continue with the ETD submission process. Please contact ETD Help at etd-admin@listerv.cc.emory.edu or call (404)727-5301. etd-admin@listerv.cc.emory.edu or call (404)727-5301.

3. Are you requesting an access restriction (see Part 3 below) for your thesis or dissertation?

Yes ☐ No ☐

The ETD system allows for both full and partial embargo of your work. A partial embargo will allow visitors to read your abstract and/or table of contents while the full text of your thesis or dissertation is embargoed. A full embargo allows to you hide this information for the duration of the embargo period. Should your abstract and/or table of contents be included in the access restriction?

Yes No ☐ ☐

If yes, you will need to restrict access to your abstract and/or your table of contents once you have uploaded you document to the ETD repository. If you have already submitted your document to the ETD repository, you can log in and make appropriate changes to your record while it is in draft form.

**Part 3 - Terms of Access:**
*Access restrictions must receive approval from your advisor and the Rollins School of Public Health.*

**Choose Option 1 or 2** by checking **one** box in the left hand column below:

| | |
|---|---|
| **Check Box Below to Choose Option 1:** ☐ | **Option 1: OPEN ACCESS**.<br>By choosing open access you are agreeing to publish your thesis in Emory's ETD repository immediately after graduation. This option will provide the broadest possible access to your work. The full-text of your thesis and any supplemental files will be accessible on the internet for unlimited viewing. Your thesis will be indexed and discoverable via major search engines. |

**⇧ OR ⇩**

| | |
|---|---|
| **Check One (and only one) Box Below to Choose Option 2 and the duration of your embargo** ⇩ ⇩ ⇩ ⇩ ⇩ ⇩ | **Option 2: RESTRICTED ACCESS**<br>By choosing restricted access, you are requesting that the library restrict access to all copies of your thesis – both print and electronic – for a specified period of time. Your thesis will be indexed in the Emory Library Catalog and in the ETD repository, but the content, the full text of your thesis and any supplementary files, will not be accessible until the expiration of the restricted access period. If you choose to restrict access to the full-text copy of your thesis, then you may opt to also restrict access to your abstract or table of contents. You will need to indicate your desire to restrict access to these components of your ETD record during the electronic submission process. If you do not restrict access to your abstract and/or table of contents, then this information will be displayed on the web in the ETD record for your thesis even if you have restricted access to the full-text copy.<br><br>**You will be notified by the library sixty (60) days prior to the expiration of the restricted period that your thesis will be published on the internet. It is your responsibility to notify the library that you need to extend the access restriction, and to provide the library with an updated e-mail address.**<br><br>Please select a time period you would like restricted access below.<br><br>I request that the full text of my thesis (and any supplemental files) be published no sooner than:<br><br>☐ **Six months** after my graduation<br><br>☒ **1 year** after my graduation<br><br>☐ **2 years** after my graduation |

**Part 4 – Inclusion of Previously Copyrighted Material**

I hereby certify that all text, audio-visual, or other material *not created by me* that is included in my submission (a) has been identified in my submission by quotation, if directly quoted, and with appropriate source citations; and (b)

- falls within the parameters of "Fair Use" as defined by US copyright law; or
- is unambiguously a part of the public domain as a matter of law; or
- is the subject of a properly documented permission obtained from the entity that owns or controls the copyright in the material.

I will provide copies of any such permissions upon request. Following is a list of the items for which I have sought and received written permission from the copyright owners to include in my submission (attach a separate page if necessary):

| |
|---|
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |

I, the undersigned, have read this form in its entirety, and by signing below:

(1) Grant the license described in Part 1;
(2) Agree to the terms of access detailed in Part 2; and
(3) Certify that I have obtained the proper permissions, if necessary, for any previously copyright materials included in my thesis as described in Part 3.

_____ _____

Author Signature Date

I, the undersigned, as a committee chair for the Author above, have discussed this form with the author and approve the decisions made herein.

_____ _____

CONFIRMED: Signature of Thesis Advisor Date

**Distribution Agreement**

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

_____ April 11, 2014

Cho Hee Shrader Date

"*I would rather do, practice the sex, even if it's without a condom*":
A qualitative reinvestigation of barriers and facilitators to condom use
in Cape Town, South Africa

By

Cho Hee Shrader
MPH

Global Health

_____ [Chair's signature]
Aaron Siegler
Committee Chair

_____ [Member's signature]
Roger Rochat
Committee Member

"*I would rather do, practice the sex, even if it's without a condom*":
A qualitative reinvestigation of barriers and facilitators to condom use
in Cape Town, South Africa

By

Cho Hee Shrader

B.S. Health and Human Physiology
University of Iowa
2012

Thesis Committee Chair: Aaron Siegler, PhD, MHS

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Global Health
2015

**Abstract**

"*I would rather do, practice the sex, even if it's without a condom*":
A qualitative reinvestigation of barriers and facilitators to condom use in Cape Town, South Africa

By Cho Hee Shrader

South Africa recently experienced a surge in the HIV/AIDS prevalence with 1.2 new million infections from 2008 to 2012. This thesis aims to reinvestigate barriers and facilitators to condom use in Cape Town, South Africa. The study was a mixed-methods cross-sectional design consisting of seven focus group discussions with 40 men, 20 in-depth interviews with both men and women, and an electronically self-administered survey of 200 men and women. Data analysis focused on emergent themes of barriers to condom use such as an increase in the availability of alcohol, a decrease in communication surrounding sexual health, and an increase in dissatisfaction with the currently available free condoms. Participants also suggested several static barriers and challenges to condom use previously identified in the literature, including an imbalance in sexual negotiation between genders, condoms serving as a symbol of mistrust within relationships, violent and nonconsensual sexual behavior, and issues of pleasure and partner-perceived pleasure with condom use. The findings of this reinvestigation indicate several areas where further evidence-based intervention research would be beneficial. Future research should focus on methods to increase condom use, examine the effects of alcohol on risky sexual health behavior and its potential modification of biological HIV/AIDS transmission pathways during sex, assess how to best make available and distribute a larger variety of condom types that men and women prefer to use, increase conversations surrounding condom use within society, and explore the role of gender norms in the context of sexual violence.

"*I would rather do, practice the sex, even if it's without a condom*":
A qualitative reinvestigation of barriers and facilitators to condom use in Cape Town, South Africa

By

Cho Hee Shrader

B.S.
University of Iowa
2012

Thesis Committee Chair: Aaron Siegler, PhD, MHS

A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Global Health
2015

**Acknowledgments**

I am deeply honored and thankful for the assistance of Drs. Aaron Siegler and Roger Rochat for their mentorship and guidance throughout my journey here at Emory. This journey involved countless hours of academic support and emotional support as they helped shaped me to become a more confident researcher, academic and young woman. Aaron, you have been like the godfather I never had- you made those research connections I was too blind to see and lifted me up at the times I needed it the most. Roger, you are indeed my favorite Facebook friend, thank you for easing my transition into Emory and for connecting me- I hope one day our research paths will cross again- hopefully for GEMMA!

I would also like to thank Allanise Cloete and Prof Leickness Simbayi for making this study a real possibility and through the design, implementation and analysis of this study. Allanise, there is not enough chocolate or wine in the world to express my gratitude for your insight. Dr. Simbayi, I hope to one day earn the opportunity to work alongside you in the future.

Kenisha. My colleague. My fan. My friend. My sister. Thank you so much for all of the academic insight, the late night complaints, the early morning cries, and this transformational journey through Cape Town. Through you and Camila, I got to see my favorite city in the world through new lens. Thanks for letting me keep my head in the clouds but my feet on the ground. You are the best partner I could have worked, lived and played with. Camila, thanks for joining the KP and Cho Show, and showing us the business sides of condoms. Without your sweet words and your reality checks, we could not have come as far as we did!

To all of our friends in South Africa- Nati, Zuko, Kevin, baby's arm, Karabo, Esona, Z- thank you for your acceptance, your honesty, and your ability to transform statistics into living people and real words. Khayelitsha used to be a no-man's land to me. Instead, you made it into our playground and showed us the love and transformation that happens everyday there. You have my eternal admiration. I pray for you daily and have you in my thoughts, always.

To my Shrader family- thank you for all of your love and support. I know you must hate hearing about condoms all of the time (looking at you dad), but you still listened, you challenged me, and most importantly, you supported me through all aspects of this incredible journey. Umma, Dad, JaeSungie, you guys are my rock. Your love and patience will always be cherished. I love you. Halmuni, thank you for raising me to be the hard worker I am. Without your love, your sacrifices, your unwavering support and your unrealistically high expectations, I would not have made it this far in life. I love you.

Thank you Ewen for the warm house to sleep in, the opportunity to cook dinners for you, and drink luxurious wine around Constantia. We still poke fun at your handsome white head of hair and your funny Scottish accent. Thank you Sean for teaching us all how to drive, reminding me how great Cape Town is and just being there. Thank you Paul for being the "Best of Me" and being available for FaceTime calls all throughout the night.

Most importantly, thank you Baby Jesus for giving me the strength, the tools and the most encouraging people in the world, to help me discover new things about barriers to condoms, the world, and myself, through this journey.

## Table of Contents

## Chapter 1: Introduction

### *HIV/AIDS in South Africa*

South Africa is home to the largest community of people living with HIV (PLHIV), with 6,500,000 residents infected (UNAIDS, 2013). Currently, estimates for the adult prevalence rates of adults living with HIV/AIDS range from 12.2% to 17.9%, making South Africa the country with the fourth highest prevalence of adults living with HIV/AIDS (O Shisana et al., 2014). The HIV/AIDS epidemic in South Africa is complex and affected by a myriad of factors, such as behavior, country history and the political structure of South Africa (M. E. Beksinska, Smit, & Mantell, 2012).

From 2008 to 2012, the number of PLHIV has increased by 1.2 million people, raising the national prevalence by 1.7%, a significant difference (O Shisana et al., 2014). The Western Cape reported a HIV prevalence of 10.7% in 2002. This figure lowered to 1.9% then increased to 5.1% in 2012- a significant 3.1% percentage point increase. Several behavioral determinants of HIV/AIDS have been explored to explain the increased prevalence of HIV/AIDS in South Africa. These behaviors have been identified to be: an earlier sexual debut (A. Pettifor, O'Brien, MacPhail, Miller, & Rees, 2009), age-disparate (gaps of over five years of age) relationships (O Shisana et al., 2014), multiple sexual partners over the past 12 months (O Shisana et al., 2014), and a decrease in the condom use at last sex, with their most recent partner (O Shisana et al., 2014).

Currently, condoms are not only inexpensive, but also the most effective, readily available, technology in the prevention of sexually transmitted infections (STIs), pregnancy, and

HIV/AIDS in South Africa. The National Contraceptive Policy, published in 2001 by the Department of Health, mandated that male condoms must always be available in public facilities(Department of Health, 2001). Correct and consistent use of condoms has shown to decrease HIV/AIDS and STI incidences; thus, condoms are an essential tool in HIV/AIDS prevention approaches (Ghys et al., 2002). However, there have been several barriers in the correct and consistent use of condoms.

***Barriers to correct and consistent use of condoms***

Despite a rapid expansion of condom programs at a national level resulting in male condoms being freely available throughout South Africa, South Africans still face several barriers in accessing and using condoms, ranging from access issues to negative stigma surrounding condoms (M. E. Beksinska et al., 2012). An earlier study in South Africa identified barriers to condom use to include a misperceived risk of HIV infection, an internalization of peers' negative attitudes towards condoms, an internalization of negative stigma associated with condoms, a conflicted messaging of sex between youth with their parents (who viewed youth sex negatively) and an imbalance in gendered power relations (M. E. Beksinska et al., 2012; Chimbindi, McGrath, Herbst, San Tint, & Newell, 2010; MacPhail & Campbell, 2001; Olive Shisana, 2005). These barriers continue to persist today.

More recent studies have identified additional barriers to the correct and consistent use of condoms. For example, Mantell et al. (2011) identifies the media's pervasiveness of condoms, a lack of initiation and communication about condom use, and a decrease in the use of condoms with increasing lengths of partnership as being major barriers to condom use among higher educated South African youth. Young women in South Africa face a unique HIV/AIDS

transmission risk profile, due to unique barriers in the use of condoms, which increases their vulnerability to HIV. Young women, in comparison to young men, are more likely to engage in concurrent sexual partnerships which creates an unfavorable environment dissuading condom use, to be more vulnerable to societal gender inequalities, provide sexual favors in exchange for money and goods due to an unfavorable economic condition, and experience a large knowledge gap that correlates with a poorer condom use outcome (Zembe, Townsend, Thorson, & Ekström, 2012).

Determinants of condom use behavior include partner communication surrounding condom use and HIV risk; later stage of condom use behavior change; personal positive attitudes towards condoms; and higher education. (Reddy, Meyer-Weitz, Van Den Borne, & Kok, 2000; Olive Shisana, 2005).

***Problem Statement***

From 2002 to 2008, the self-reported use of condoms at last sex increased from 27.3% (to 35.4% in 2005) to 45.1% (O Shisana et al., 2014). However, from 2008 to 2012, condom use at last sex decreased 8.9% percentage points nationally, to 36.2% (O Shisana et al., 2014). This decrease occurred throughout eight provinces, including the Western Cape. Self-reports of condom use are collected through a national survey administered every three to four years (Olive Shisana, 2005; O Shisana et al., 2014). Although the survey question sequence identifying condom use at last sex changed, the increase in HIV prevalence is consistent with the finding of a decrease in condom use. In the 2008 survey, the HSRC asked participants if they had ever had sexual intercourse (vaginal or anal sex). Those that answered "yes," were then funneled into a section on condom use and asked if they had ever used a condom. Participants who indicated that they

had indeed previously used a condom were funneled into another set of questions asking if they had used a condom at last sex with their most recent partner. To calculate condom use at last sex for the 2008 survey results, the denominator was individuals who had indicated they had a prior sexual experience. The numerator was the number of individuals who had used a condom at last sex. However, in 2012, the HSRC asked participants if they had ever had a sexual partner, which funneled participants into a question about condom at last sex with their most recent partner. There was no question asking about ever condom use in 2012. This question change may have impacted the most recent survey's results of a lower reported condom use at last sex in comparison to the 2008 survey results.

To explain this lowered condom use at last sex phenomenon, the Health Minister of South Africa, Aaron Motsoaledi, has identified condom fatigue as the most likely explanation (BBC, 2014). His innovative intervention to "condom fatigue" has been a release of colored and flavored condoms to university students (City Press, 2014). While the Health Minister's efforts are applauded, there is neither justification provided (nor literature explicating) how the Health Minister identified condom fatigue as the reason for the condom use decrease from 2008 to 2012.

In the field, researchers and health programming experts identify condom fatigue, or "prevention fatigue," as a population-level phenomenon of decreasing condom use, or a decrease in the effectiveness of safe sex messages which may lead to decreases in condom use due to prolonged exposure to such messaging and/or condoms (Adam, Husbands, Murray, & Maxwell, 2005). However, the Department of Health's current intervention does not address the lowered population condom use as a result of condom fatigue, but rather a general dissatisfaction with the physical properties of the standard government-issued Choice condom.

***Research question***

To identify barriers and facilitators to condom use, this study explored reasons for condom use and nonuse, condom perceptions, attitudes towards condom use, and beliefs about condom use, amongst men and women attending health clinics in Cape Town, South Africa. This study further explored men and women's perceptions, attitudes and beliefs towards condoms. This study also aimed to understand participants' beliefs of "condom fatigue" as a reasonable explanation for the decrease in condom use during the years 2008 – 2012 and explored possible interventions that could increase condom use in South Africa.

Questions explored included:

- What are personal barriers to condom use?
- What are facilitators to condom use?
- What do men and women know about the lower national condom use from 2008 to 2012?
- What do men and women know about condom fatigue, the sole contributor to the decrease of condom use from 2008 to 2012 according to the Minister of Health?
- What are possible interventions that men and women have suggested would best work in Cape Town, to increase condom use?

This study aims to explore barriers and facilitators to condom use in a group of health clinic attendees- individuals who are proactive about their health. Although this study is cross-sectional, this study also aims to explore possible changes in personal or societal attitudes towards condoms; behavioral changes in regards to condom use; general population changes in knowledge towards sexual health; and condom promotion strategies that men and women identify as feasible. Examining reasons why men and women believe condom use has decreased

and the dynamics influencing condom use will inform current and future programs designed to increase condom use. Currently, there is limited research exploring current barriers and facilitators to condom use and reasons for the decrease in reported condom use at last sex from 2008 to 2012. This thesis attempts to fill this knowledge gap to identify any societal attitude shifts or behavioral changes in a nation where condom use was previously increasing.

***Significance Statement***

Exploring current barriers and facilitators to condom use will identify themes to further research in order to increase condom use within a locally and culturally appropriate setting. Currently, condoms are some of the most inexpensive, effective, and widely available medical technologies to reduce the transmission of HIV/AIDS, and the morbidity and mortality resulting from HIV/AIDS infection.

This thesis will ideally guide future research through the creation of evidence-based strategies to promote condom use. Although the literature shows a plethora of articles focused on barriers and facilitators to condom use, this thesis will provide a re-investigation of current barriers and facilitators.

## Chapter 2: Comprehensive Review of the Literature

This literature review aims to provide a synopsis of current and existing research exploring trends explaining potential decreases in condom use globally, investigating barriers to correct and consistent condom use in South Africa, and comparing barriers to correct and consistent condom use from research conducted prior to 2008 and post 2012 within South Africa. A limited amount of research exists exploring condom decrease trends, in nations with rigorous HIV intervention strategies such as South Africa. In addition, while there are numerous quantitative studies that focus mainly on scales and questionnaires, there are considerably fewer qualitative studies. A limitation observed in all of the literature is the use of self-report condom use and the subsequent introduction of social desirability bias.

This literature review is divided into two sections:

A) The first section is a synopsis of a longitudinal research study conducted by the Human Sciences Research Council in South Africa which identified the increase in HIV prevalence and the decrease in condom use,
B) The second section is an exploration of the literature surrounding decreases in condom use in longitudinal studies, and,
C) The third section is directed at synthesizing the literature investigating barriers to correct and consistent condom use globally and within South Africa.

### *Section A: Background and HSRC Research Findings*

The most recent national survey administered by the Human Sciences Research Council (HSRC), the South African National HIV Prevalence, Incidence and Behaviour Survey (NPIBS),

2012, highlighted the implications of the increase in HIV status and the decrease in condom use at last sex (O Shisana et al., 2014). Data collection of this national survey occurs every three to four years, and this section will focus on the changes in the results of surveys collected in 2002, 2005, 2008 and 2012. The NPIBS survey used a multi-stage stratified cluster sampling of South African households to measure demographic information, HIV status through blood specimen collection, and behavioral indicators such as sexual history (including access to condoms, consistency of condom use, sexual debut concurrent and/or multiple sexual partner ships), knowledge and risk perception of HIV/AIDS, alcohol use, and violence in relationships. From December 2011 to November 2012, trained field staff administered the questionnaires to and collected blood specimen from household members. A total of 38,431 participants agreed to participant, resulting in an 89.5% participation rate. A total of 28,997 participants agreed to provide a blood specimen for HIV/AIDS testing- a 67.5% response rate.

Important findings from this survey that led the development of this thesis topic and potential themes to explore are as follows:

- The HIV prevalence in South Africa was declining until 2008, until which it rose from 10.6% (95% CI: 9.8–11.6) to 12.2% (95% CI: 11.4–13.1) in 2012, a statistically significant increase ($p<0.001$),
- There is an increase of 1.2 million more people living with HIV in South Africa,
- Early sexual debut (sex before age 15) increased statistically ($p<0.0001$) from 8.5% (95% CI: 7.1–10.1) in 2008 to 10.7% (95% CI: 9.1–12.6) in 2012,
- Consistency of condom use was reported as follows: 27.4% (26.0 – 29.0) report using condoms “every time,” 4.5% (95% CI: 3.8 – 5.3) report using condoms “almost every

time," 15.2% (95% CI: 14.1 – 16.4%) report using "sometimes" condoms and 52.9 % (95% CI: 51.0 – 54.8) report "never" using condoms,

- Condom use at last sex was higher than the national average (36.2%) among three groups at higher risk of HIV exposure: high risk alcohol drinkers over the age of 15 and black African females aged 20 – 34 years old,
- Condom use at last sex was lowest among people aged 15 – 49 years living together who were not married.

The HSRC concluded that the decrease in condom use is due to the lack of knowledge surrounding correct and consistent use of condoms and the lack of attention given to condom use as a prevention effort. They also suggested that the decrease may be due to either participants being more honest about their condom use and providing more accurate self-reports or participants may be experiencing HIV/AIDS treatment optimism.

A major limitation to the decrease in condom use is the change of the survey question regarding condom use, from 2008 to 2012. Before 2012, the HSRC had asked if participants had ever used a condom previously, then asked questions about condom use at last sex with their most recent partner. In 2012, the HSRC directly asked participants if they had used a condom at last sex with their most recent partner. This may have led to noncomparable datasets; however, the increase in positive HIV diagnoses (a statistically significant difference), supports the idea that condom use may have indeed decreased.

Nevertheless, the Minister of Health, Aaron Motsoaledi claimed that "condom fatigue" was the culprit for the decrease in condom use and that, "the standard-issued choice condoms just aren't cool enough" (BBC, 2014). The ubiquitous term, "HIV prevention fatigue," also known as "condom fatigue," was first studied by Heavner et al. (2007) as an explanation for a resurgence in the high risk sexual behavior, such as having condomless sex, in the men who have sex with men (MSM) community. In a venue-based sample of 635 MSM in New York, the authors measure fatigue with four statements: "you take risks because you are tired of being careful;" "you often tune out HIV messages" "you are burned out about HIV;" and "people are less careful because they are tired of being safe." Using linear and Poisson regression models, the authors found that men with higher amounts of fatigue were more likely to have a higher overall risk (adjusted prevalence risk ratio (aPRR) = 1.1, 95% CI: 1.0-1.3), condomless anal intercourse (aPRR =1.2, CI: 1.0-1.4), and six or more partners (aPRR=1.2, CI: 1.0-1.5). The authors additionally found that "you are tired of being careful," resulted in participants ignoring messages surrounding HIV/AIDS intervention strategies and HIV risk. Limitations to this study include the lack of measurement of the scale's reliability and the limited number of items measuring a complicated behavior such as prevention fatigue. However, the authors note that prevention fatigue must somehow be addressed- perhaps through innovative interventions which target the population who have already developed condom fatigue to ensure a lifetime adoptions of safe sex behaviors such as correct and consistent condom use. In regards to the South African Health Minister's approach in addressing condom fatigue, new colored and flavored condoms are now available to university students and individuals who attend public youth health clinics (BBC, 2014).

***Section B: Decrease in condom use in longitudinal studies***

Condom use has previously been studied as a behavioral outcome through longitudinal studies and longitudinal population based studies (cross-sectional studies occurring over several years). The literature mainly investigates factors influencing condom use and the outcome of interventions, using surveys and scales; however, there is limited qualitative research available. This section will focus on two types of decreases in condom use seen in longitudinal studies: a decrease in the general population's condom use and a specific focus on the decrease of condom discontinuation within a relationship.

One of the largest studies which found a decrease in condom use was conducted by Gremy and Beltzer (2004), who investigated trends in condom use in the population of people aged 18 – 54 years. The researchers found that although condom use first increased after initial sexual health promotional messaging in France, over a span of ten years time, condom use eventually decreased. In this study, the condom use at last sex returned to levels seen in the 1992 survey. Gremy and Beltzer conducted national telephone Knowledge, Attitudes, Beliefs and Practices surveys in 1992, 1994, 1998 and 2011 for a final analysis of 5,920 participants reporting sex in the past 12 months. The sampling design was a two-stage random sampling with unequal probability selection, with surveys being conducted 36 months apart. The researchers also found that individuals who experienced coital debut at a younger age were three times more likely to have used a condom. The authors suggest that the decreased condom use may be a result of a societal shift to condom nonuse as a result of effective highly active antiretroviral therapy, a difficulty in sustaining large HIV prevention campaigns and a difficulty in maintaining preventive behaviors long-term. This type of phenomenon may be the first example of "condom fatigue" observed in a population.

The Centers for Disease Prevention (2012) also discovered a similar phenomenon in high school students. The researchers analyzed data from the Youth Risk Behavior Survey during the period of 1991 - 2011 and found that condom use at most recent sexual intercourse increased from 46.2% (95% CI: 42.8 - 49.6%) in 1991 then peaked at 63.0% (95% CI: 60.5 - 65.5%) in 2003. However, condom use at most recent sexual intercourse then continually declined 2.8% to 60.2% (95% CI: 57.5 - 62.9) in 2011, the lowest since 2003. Although these changes are not significant, this could be due to the authors measuring significance on a yearly basis, instead of comparing values between the steady decline from 2003 to 2011. The authors believed that the decreased in condom use may have been a result of a stalling of the progress in HIV-risk reduction strategies, and suggested that renewed educational efforts amongst other interventions targeting risk reduction are necessary.

Supporting the findings of Gremy and Beltzer and the Centers for Disease Control and Prevention, Hennessy et al. (2013) found that mass media messages were successful in increased condom use; however, condomless sex increased as the study continued, in both the exposure and control group. The researchers investigated the effects of a mass media messaging campaign on 1,139 sexually active African American adolescents between the ages 14 – 17 on condom use during vaginal sex using the Theory of Reasoned Action/Planned Behavior. Using audio computer-assisted self-administered interview surveys, the authors collected data measuring three types of mass media messages on condom use intention and condomless sex in four cities throughout the United States. The mass media messages focused on intention to use a condom and other mediators to condom use such as selection (ability to identify a safer sex partner), pleasure (“condom use increases negative expectancies”) and negotiation (condom negotiation). These mediators were shown to be negatively related to prospective self-reports of condomless

vaginal sex. The authors also found that generally, condomless sex events increased at each wave of the study. Although the authors did not provide an explanation for why condom use decreased, they highlighted that intention to use a condom had the strongest correlation with condom use. A limitation to this study includes the collection of self-reported sexual behavioral data. Regardless, the use of technology was believed to decrease social desirability bias; thus, the use of technology (computer-assisted self-administered audio interview surveys) was adopted in the current study through the use of iPads and laptops in collecting computer-assisted self-administered interview surveys.

In a study investigating 317 American college students, Lam and Lefkowitz (2013) found that condom use inconsistency increased then leveled off over time while coitus involving alcohol consumption increased linearly. Over a span of four years and four waves of data collection, the researchers gathered self-reported retrospective sexual history of the past twelve weeks. Condom use consistency and sexual encounters involving alcohol use were measured using a five-point Likert scale. Thus, the researchers found that students' condom use inconsistency increased while in college, with the rate of inconsistency decreasing during the last wave of data collection. In addition, when students held negative hedonistic thoughts such as more than usual negative attitudes towards condoms, more anxiety about HIV/AIDS than usual, and more encounters involving alcohol use than usual, students were associated with more consistent condom use. Although being in a serious relationship was protective of sexual encounters involving alcohol use, college students still used condoms less consistently. This study highlights the importance of understanding sexual behavior in a developmental time frame, especially in regards to alcohol use.

Brown et al. (2014), found that depressive symptoms were associated with decreased condom use. In this longitudinal study conducted in the United States, the researchers recruited 701 African American female adolescents enrolled in an STI prevention intervention. These participants were assessed using audio computer-assisted self-interview at baseline and at six month intervals over a span of 36 months. In adjusted GEE models, Brown et al. found that higher depressive symptoms were associated with decreased condom use at last sex (adjusted odds ratio of 0.9, 95% CI: 0.86, 0.94) and a decrease in consistent condom use in the past 90 days (adjusted odd ratio of 0.89, 95% CI: 0.85, 0.93). The authors also noted that there was a dose-response relationship, with every one percent increase in depressive symptoms resulting in a 7.2 percentage point decrease in condom use proportion in the past 90 days ($p < 0.0001$). Thus, the authors concluded that STI prevention interventions may benefit by addressing depressive symptoms.

Other factors that influenced HIV infection risk included an imbalance in relationship power and presence of intimate partner violence (R. K. Jewkes, Dunkle, Nduna, & Shai, 2010). Using a previously published cluster-randomized control trial from 2002-2006, the authors measured gender power equity and intimate partner violence to evaluate temporal sequence and causality in HIV acquisition. Through a longitudinal data analysis, 1,099 women aged 15-26 years were HIV negative at baseline; however, 128 of these women acquired HIV. Women who experienced low relationship inequity acquired HIV at a rate of 8.5 per 100 person years while women who experienced medium or high relationship inequity acquired HIV at a rate of 6.2 per 100 person-years (adjusted multivariate Poisson model IRR 1.51, 95% CI 1·05–2·17, p=0·027). Women who reported one or more intimate partner violence episodes at baseline were also more likely to acquire HIV at a rate of 9.6 per 100 person-years, compared to women who reported one or no

episodes at a rate of 5.2 per 100 person years (adjusted multivariable Poisson model IRR 1·51, 1·04–2·21, p=0·032). Thus, HIV infection incidence risk is higher among young South African women who experience relationship power inequity and intimate partner violence- important social constructs that policy, interventions and programs must attempt to address.

Another pattern of decreased condom use is seen in trusted relationships, when couples decide to cease condom use, referred to as condom discontinuation. Fortenberry, Tu, Harezlak, Katz, and Orr (2002) found that after 21 days, participants in "new" relationships were exhibiting the same condom use patterns as those in "established" relationships. Examining condom use in a relationship, this study, conducted between 1995 and 1999, recruited 172 women between the ages of 13 to 22 from adolescent health clinics. The aim of this study was to identify the condom usage occurring in "new" and "established" relationships. Participants completed diary forms for each day in which they engaged in uninterrupted coitus, indicating their partner's initials and condom use for each coital occurrence. These diaries were collected over a seven-month period and data was analyzed by identifying each act of penetrative or anal sex as one "run." The investigators found that although condom use rates were higher in the new relationships (66% of those in new relationships compared to 54% of those in established relationships), over a 21-day period, their condom use declined to levels comparable to women in an established relationship (43% and 41% of condomless sex, respectively); thus, it takes 21 days for new relationships to become established. An uncertainty of this study was the authors did not explicitly define what an "established" versus a "new" relationship was. The authors believed that several factors influenced the decrease in condom use: relationship characteristics such as intimacy, mutual trust and presumed fidelity or higher levels of perceived STD risk in new relationships which decreases as partners obtain more knowledge about each other. This study highlighted the

importance of having clinic patients as study participants; thus, our study recruited men and women attending health clinics. In addition, our quantitative piece asked participants to recall their last two partners and describe whether a condom was used at last sex and what the relationship "type" with that person was.

***Section C: Barriers to correct and consistent condom use***

This section focuses on the barriers to correct and consistent condom use on a global scale, with a specific focus on barriers perceived within South Africa. While the majority of the literature employs cross sectional surveys administered through a trained researcher as the primary method of data collection, there are several qualitative studies available.

A notable systematic narrative conducted in South Africa by M. E. Beksinska et al. (2012) established a review of the current national condom program in South Africa, national guidelines and policies, existing data in regards to condom use (both male and female) and challenges to condom use in addition to solutions for these challenges. Focusing on the challenges to condom use, the authors identified lack of knowledge surrounding the protective effect of condoms; a lack of consistent condom use after initial coitus, suggesting condom discontinuation; incorrect condom use; condom failure; inaccurate self-reported condom use to provide socially desirable responses; the concurrent use of vaginal practices; the acceptability of condoms as STI/HIV prevention, a high quality product, and the physical properties of current free government condoms; gender inequality and gender-based violence within South Africa; and a lack of representation of groups at risk such as the aging HIV/AIDS community and people living with disabilities. This extensive review is somewhat outdated with the release of the South African National HIV Prevalence, Incidence and Behaviour Survey, which includes data collected during

2008 – 2012. On a service-level factor, Beksinska, Smit and Mantell (2012) recognized the effectiveness of a Logistic Management Information System, which monitors condom consumption to ensure a continuous supply of condoms to healthcare venues and has increased condom distribution in recent years. However, providers rely on the use of long-acting injectable hormonal contraception as a primary pregnancy prevention method instead of condoms, deterring the consideration of condoms. This review served as a foundation in understanding condom use barriers within South Africa and guided much of the study's direction.

An important and extensively studied barrier to condom use is the role of education. (Van Loggerenberg et al., 2012)performed a cross sectional analysis using baseline data of a larger prospective cohort study of 245 women in KwaZulu-Natal, South Africa, in 2004. The participants were women at a high risk of acquiring HIV/AIDS, with 78.8% of participants identifying as sex workers. Condom use at last coitus was self-reported by 60.3% of participants and varied based on partner type, 57.0% (Fisher's exact = 0. 36) with a steady partner compared to 64.4% with a casual partner (a non-sex working client that is seen only occasionally or even once). Women experienced a lower self-perceived ability to use condoms with casual partners, in comparison to steady partners ($p = 0.01$). More formal education was associated with condom use at last sex (RR of 1.36 (95% CI: 1.06–1.75) for grade 8 – 10; 1.46 (95% CI 1.13–1.88) for grades 11–12) and viewing condom as a contraceptive method were associated with condom use at last coitus (RR = 2.65 (95% CI 2.15–32.5). Like many of the studies surrounding condom use, a limiting factor is the reliance on self-report data and an interviewer to administer the questionnaire, which would introduce a level of social desirability bias. However, this study highlights the importance of identifying condoms as a means of contraception, gender equality within partnership type and access to formal education in promoting health-seeking behaviors

such as condom use. Other barriers to condom use also included adolescent communication with adults.

Another important finding by Beksinka, Smith and Mantell, originally identified by (Namisi et al., 2013) is the effect of communication between adolescents and adults, regarding condom use. The authors aimed to examine the relationship between adolescent communication with their significant adults and adolescent condom use in schools in South Africa and Tanzania. This study analyzed cross sectional and prospective relationships in the absence of programmatic AIDS prevention intervention, in part of a larger multi-site cluster randomized control trial. Adolescents were between ages 12 and 15 at the start of study in February and March 2004. Follow up data was collected six and twelve months after the start of the study. A total of 6,251 students participated in this study although not all students were present at each wave of data collection. Communication was measured on a scale with a high internal consistency (alpha = 0.83) in measuring HIV/AIDS, abstinence or condoms and condom user self-reported being either a consistent, occasional, or never-user. Using multiple ordinal logistic regression analyses with predictors such as gender, age, condom use, sexuality communication, socioeconomic status, perceived access to condoms and violence exposure, the authors were the first to discover a consistent pattern of communication and condom use within sub-Saharan Africa- as communication with a significant adult increased, so did consistent condom use. Consistent condom users had the highest communication subscores followed by occasional condom users then never condom users. However, the topic of communication (HIV/AIDS, abstinence or condoms) was not more strongly associated than other topics. Condom use consistency increased with being female and having more access to condoms. Limitations to this study include the use of frequency of communication instead of type of communication (e.g. dialogue) and not linking

participant data throughout each wave. This study did not note any potential confounding variables, such as access to condoms and condom use. Nevertheless, this study successfully supports the idea that promoting communication on sexuality between adolescents and adults may result in safer sex behavior such as condom use- an focus for potential intervention strategies.

Another study which explored youth normative beliefs, attitudes, and practices surrounding gender roles and condoms in South Africa was conducted by MacPhail and Campbell (2001). The authors held ten focus groups with men over the age of 18 recruited from South African tertiary universities for a total of 74 participants, in 2005. This study was part of a larger study intended to assist in developing an intervention promoting female condom use in a tertiary institution. The authors noted the emergence of several themes surrounding male condoms: condoms although unpleasant, are necessary; condoms are not consistently used; it was the women's role to resist sex unless a condom was used; condoms should be used at relationship onset however if a condom is not used from the beginning, women who introduce the idea of using a condom may signify mistrust of the partner or signal her own infidelity. The authors also found that men believed it was their responsibility to have male condoms available but the responsibility of condom initiation and negotiation was mixed. The authors concluded that prevention strategies must challenge traditional gender norms and focus on a societal shift to allow women greater sexual agency.

Shifting from the adolescents to the adult population, Delva et al. (2013) found that neither coital frequency (aIRR = 1.05, 95% CI: 0.99, 1.24) nor consistent condom use (aOT = 1.01, 95% CI: 0.38, 2.68) changed during periods of concurrent partnership exceeding an overlap of one week.

Using a cross-sectional survey, the authors collected data during June 2011 to February 2012 in communities surrounding Cape Town, South Africa, from 527 sexually active adults who reported their sexual history for the past year. Using mixed effects logistic and Poisson regression models, Delva et al. identified a weekly average coital frequency of two episodes, per partner, with participants reporting that 36% of relationship episodes resulted in condom use. The authors concluded that frequency of condomless sex remains the same during periods of concurrency, with no changes in coital frequency; thus, concurrent partnerships may be disproportionately contributing to the HIV epidemic in South Africa.

Another prominent theme in the literature was the concurrent use of alcohol and coitus. A study by Nkosi, Rich, and Morojele (2014), conducted in two rural villages located in the North West province of South Africa, investigated an association of both alcohol consumption and sexual relationship power with episode of unprotected sex among 406 participants recruited from bars. A structured questionnaire assessing demographic information, alcohol use, sexual relationship power and condom use in the past six months, was administered through an interviewer in both English and Setswana. The authors found that alcohol consumption was significantly associated with unprotected sex frequency in both males and females. However, an association of sexual relationship power and episodes of unprotected sex was only marginally significant with females and was shown to have no significance for males. Thus, alcohol consumption is more strongly associated with episodes of unprotected sex than participants' sexual relationship power. This research was supported by the following study by Scott-Sheldon et al. (2012)

Scott-Sheldon et al. (2012) analyzed street surveys administered to 1,285 adults who reported alcohol consumption at least once in the past month (76% of the sample) residing in

neighborhoods in a South African township using a street-intercept recruitment method. It was found that most participants (60%) reported having five or more drinks at least once per week in the past 30 days (heavy episodic drinking). Of these heavy episodic drinkers, 79% reported that they were more likely to drink before sex, compared to 66% of non-heavy episodic drinkers. Heavy episodic drinkers, compared to non-heavy drinkers, were less likely to report multiple sexual partners (adjusted OR = 0.74, 95% CI = 0.56, 0.98), and less likely to communicate with partners about condom use (adjusted OR=0.63, 95% CI=0.49, 0.81). In addition, drinking before sex and partner drinking before sex was associated with having multiple sexual partners at an adjusted OR of 1.99 (95% CI = 1.39, 1.91) and 1.62 (95% CI = 1.39, 1.91), respectively. In addition, drinking before sex or a participants' partner was drinking before sex led to more open discussion about condom use with their partners (adjusted OR = 1.24, 95% CI = 1.08, 1.42; adjusted OR = 1.30, 95% CI = 1.12, 1.50, respectively). However, drinking before sex was a significant predictor of condom nonuse before sex. Limitations to this study include the use of self-reported data, the use of street intercept recruitment (as opposed to random sampling), and the collection of cross sectional data, which does not allow for causal inferences.

In addition to binge drinking, early coital debut seems to be correlated with an increased risk of HIV infection. (A. Pettifor et al., 2009) found that early coital debut has also been shown to be associated with factors that increase the risk of HIV infection in South African youth, such as forced sex and having had an older sexual partner. In this study, data from 7,692 sexually active participants who completed a nationally representative survey in South Africa, were asked if they had experienced early sexual debut (as per the World Health Organization definition of having experienced their first vaginal sex at age 14 or younger (World Health Organization, 2004)). Of the 18% of young men and 8% of women who experienced early coital debut, respondents were

more likely to have had an older first partner (adjusted prevalence ratio = 1.1 per year), and especially among females who had forced sex (aPR = 2.5). For males, condomless sex (aPR = 1.5) and forced sex (aPR = 1.6) were found to be associated with early coital debut. For females, condomless sex was associated with early coital debut that was not forced sex (aPR = 1.3) and later coital debut and forced sex (aPR = 1.4). The authors concluded that intervention efforts, which focus on delaying coital debut, might make the first sexual experience of youth safer.

To investigate violence perpetration among men in South Africa, researchers conducted a retrospective study of 53 Black South African men who had previously participated in an intervention, "One Man Can," implemented by Sonke Justice Network (Hatcher, Colvin, Ndlovu, & Dworkin, 2014). This intervention targeted masculinities, HIV risk and intimate partner violence and collected self-reported outcomes. The authors conducted semi-structured in-depth interviews lasting one to two hours during February to September 2010 and included a short quantitative piece to capture socio-demographic information and a self-reported behavioral outcome. Hatcher et al. found that the men discussed several new health outcomes such as a pattern of reduced alcohol intake concurrent with a shifting ideal of manhood, improved partner communication with shifts towards gender equality, increased equity in sexual decision making including an increase of use condom use and reduced violent behavior which was linked to alcohol abstinence. This study demonstrated how issues such as alcohol, IPV and sexual decision-making are interrelated and may be targeted in an intervention. This study had several limitations such as the social desirability bias expected from qualitative data collection methods, an inability to discern whether attitudinal or behavioral changes occurred, a lack of female perspective and a lack of demographic representativeness. Our study benefited from the use of

both qualitative and quantitative data collection methods, as implemented by this study, which allows for a quantification of behavioral outcomes.

To study relationship power and alcohol use, in the United States, Woolf-King and Maisto (2014) conducted an experimental study using a series of vignettes to determine the influence of event-level alcohol use, partner type and relationship power on self-perceive difficulty on condom use. After being presented with eight different hypothetical sexual encounters, a total of 299 heterosexual African American men and women stated the difficulty of using a condom in each scenario. Analysis of covariance as used to analyze the data with gender as a between subjects factor and condom use self-efficacy as a covariate. The authors found that vignettes demonstrating low relationship power and alcohol use resulted in participants reporting significantly higher ratings of difficulty in using condoms. There was no significant main effect of the variables on implementing condom use for men; thus, relationship power, partner type and alcohol use had no effect on men's perceived difficulty in implementing condom use in different vignettes. However, there was a statistically significant effect for relationship power ($p = 0.001$), alcohol ($p = 0.001$) and condom use self-efficacy ($p = 0.001$) for women. Women rated situations in which the male partner had more relationship power or alcohol was consumed immediately before coitus significantly more difficult to use a condom. Furthermore, women also found condom use self-efficacy to be significantly more difficult when they along with their male partner consumed alcohol prior to coitus ($p = 0.05$), but no significance when alcohol was not consumed ($p = 0.051$). Thus, gender, alcohol use and relationship power must be addressed in future interventions targeting the implementation of condom use.

Future research may also benefit from identifying the context of condom use within South Africa. Siegler et al. (2014) thoroughly identified several facilitators and barriers to condom use among a population of MSM. This study sampled 79 men MSM recruited by collaborating community-based organizations and through snowball sampling methods, in 2012. The participants were male at birth, reported anal sex in the last six months with another man, and had language skills satisfactory enough to converse in English, Xhosa or Afrikaans. The study sought to explore themes of sexual identity, sexual practices, HIV prevention experiences, and condom use. Siegler et al., found that barriers to condom use included a participants holding a perception of sexual pleasure/performance decline, having experiences of condom failure, and being in a trusted relationship. The authors further found that behaviors promoting condom use included ready-made condom negotiation scripts and condom sourcing (an expectation of which partner is responsible for providing condoms); motivational beliefs promoting condom use included high levels of self-worth linked to protective behavior and decreased pain during anal sex from condom use; behaviors discouraging condom use included having sex while intoxicated, the receptive partner ceding the control of condom, and condom failure as a result of petroleum based lubrication; motivational beliefs discouraging condom use included condoms decreasing pleasure, condoms negatively influencing performance and nonaltruism of some HIV-positive men; partnership characteristics promoting or discouraging condom use such as condom use in known HIV-serodiscordant relationships and condom discontinuation in trust-established relationships; and interpersonal factors such as a supportive family environment and when a partner prefers condom use. However, this study has several limitations: the sample recruitment was through methods that placed additional emphasis on younger men, men who have access to HIV intervention programs, and men who do not have sex with women.

Furthermore, this study was conducted in three languages, allowing for bias from translation and interpretation of results. Furthermore, men in the study were more focused on proximal factors instead of environmental influences that may have influenced condom use. Siegler et. al, suggest future research oft the context of condom use and how it may influence culturally appropriate behavioral interventions and future HIV intervention programs to directly target condom use to guide culturally nuanced and effective HIV prevention messaging.

### *Gaps in the Literature*

A plethora of studies have investigated correlates and explorations of condom use barriers and facilitators. However, none of these studies provide a recent exploration (within the past ten years) of current barriers and facilitators to condom use within the Western Cape. Although many studies report an increase, then decline of condom use, to date no published studies qualitatively assess any decrease of condom use. Researchers have assumed these declines to be due to “condom fatigue” or “prevention/intervention fatigue;” however, no qualitative emic perspectives have been explored to support these findings. Barriers to condom use may be analyzed at different time periods within South Africa, however, the lack of focus on the societal shifts or attitude changes that may have resulted in this decrease of condom use are still unexplored. Although the decline is a recent finding, intervention programs must address the decrease of condom use to prevent the continuing increase of HIV/AIDS incidence within South Africa, a nation that disproportionately suffers the global burden of the virus.

## Chapter 3: Manuscript

# "*I would rather do, practice the sex, even if it's without a condom*": A qualitative reinvestigation of barriers and facilitators to condom use in Cape Town, South Africa

Author: Cho Hee Shrader, MPH Candidate, 2015
Hubert Department of Global Health, Emory University

Thesis Advisor:
Dr. Aaron Siegler
Department of Epidemiology, Emory University

Thesis Committee:
Dr. Roger Rochat
Hubert Department of Global Health, Emory University

***Contribution of student***

I am the sole author of this paper as well as one of the primary investigators of this study. The primary investigators consisted of a team of two graduate and two undergraduate students from Emory University, working in collaboration with stakeholders at the Human Sciences Research Council in Cape Town, South Africa. I analyzed and interpreted all data using MAXqda 10 and SAS 9.0 with the guidance of Dr. Aaron Siegler, my thesis advisor. Dr. Roger Rochat also provided guidance with document revision.

***Abstract***

South Africa recently experienced a surge in the HIV/AIDS prevalence with 1.2 new million infections from 2008 to 2012. This thesis aims to reinvestigate barriers and facilitators to condom use in Cape Town, South Africa. The study was a mixed-methods cross-sectional design consisting of seven focus group discussions with 40 men, 20 in-depth interviews with both men and women, and an electronically self-administered survey of 200 men and women. Data analysis focused on emergent themes of barriers to condom use such as an increase in the availability of alcohol, a decrease in communication surrounding sexual health, and an increase in dissatisfaction with the currently available free condoms. Participants also suggested several static barriers and challenges to condom use previously identified in the literature, including an imbalance in sexual negotiation between genders, condoms serving as a symbol of mistrust within relationships, violent and nonconsensual sexual behavior, and issues of pleasure and partner-perceived pleasure with condom use. The findings of this reinvestigation indicate several areas where further evidence-based intervention research would be beneficial. Future research should focus on methods to increase condom use, examine the effects of alcohol on risky sexual health behavior and its potential modification of biological HIV/AIDS transmission pathways during sex, assess how to best make available and distribute a larger variety of condom types that men and women prefer to use, increase conversations surrounding condom use within society, and explore the role of gender norms in the context of sexual violence.

***Introduction***

In South Africa, the incidence and prevalence of HIV/AIDS has risen significantly, by 1.2 million adults, from 2008 to 2012 (O Shisana et al., 2014). Specifically in the Western Cape, the HIV/AIDS prevalence decreased from 10.7% in 2002 to 1.9% in 2005, then increased again to 5.1% in 2012. One of the most effective strategies in the fight against HIV/AIDS transmission has been the use of condoms. The correct and consistent use of condoms has shown to decrease HIV/AIDS and sexually transmitted infections (STIs) (Ghys et al., 2002). Condoms are not only inexpensive, but also the most effective, readily available, technology in the prevention of STIs, pregnancy, and HIV/AIDS in South Africa.

The city of Cape Town has been the most proactive in distributing condoms within South Africa: in 2008/2009, 47 condoms were distributed per man, per year- a stark contrast to the national average of 12.3 condoms per man, per year (Health Systems Trust, 2011). The total number of public sector government condoms distributed in 2008 was approximately 300 million (Pallin, Meekers, Lupu, & Longfield, 2013). In 2012, the total number of public sector condoms distributed increased by almost 100 million, to 392 million condoms (Pallin, Meekers, et al., 2013). However, the self-reported condom use of men and women was lower in 2012 than previous self-reports in 2008 (O Shisana et al., 2014).

From 2002 to 2008, the self-reported use of condoms at last sex increased from 27.3% (to 35.4% in 2005) to 45.1% (O Shisana et al., 2014). However, from 2008 to 2012, condom use at last sex decreased 8.9% nationally to 36.2%. This decrease occurred nationally and in eight provinces, including the Western Cape. Although the survey question sequence identifying condom use at last sex changed, and may have impacted the most recent survey's results of a lower reported condom use at last sex in comparison to the 2008 survey results, the increase in HIV prevalence is consistent with the finding of a lower condom use.

Previous barriers to correct and consistent use of condoms include a misperceived risk of HIV infection, an internalization of peers' negative attitudes towards condoms, an internalization of negative stigma associated with condoms, a conflicted messaging of sex between youth with their parents (who viewed youth sex negatively) and an imbalance in gendered power relations (M. E. Beksinska et al., 2012; Chimbindi et al., 2010; MacPhail & Campbell, 2001; Olive Shisana, 2005). There have also been access barriers due to a lengthy condom process, an unreliable condom supply and condom shortages due to a lack of funding (Pallin, D. Meekers, O. Lupu, & Longfield, 2013). Condom use facilitators include partner communication surrounding condom use and HIV risk; later stage of condom use behavior change; personal positive attitudes towards condoms; and higher education determining individuals who are more likely to be consistent condom users. (Reddy et al., 2000).

However, to explain the lower condom use at last sex in 2012, compared to 2008, the Health Minister of South Africa, Aaron Motsoaledi, has identified "condom fatigue" as the most likely explanation (BBC, 2014). His innovative intervention to condom fatigue has been a release of colored and flavored condoms to university students (City Press, 2014). While the Health Minister's efforts are applauded, there is neither justification provided (nor literature explicating) how the Health Minister identified condom fatigue as the reason for the condom use decrease from 2008 to 2012.

This study seeks to understand and further contextualize the lower condom use at last sex, with a specific focus on exploring current barriers and facilitators to condom use in Cape Town, South Africa. Themes that were further explored surrounded alcohol use, the technology of condoms, a lack of conversation surrounding condoms and sexual violence.

## *Methods*

This study is part of a larger study that seeks to identify condom innovations desired by South African men, and to create a fitted condom-sizing chart appropriate for men interested in fitted condoms, in Cape Town, South Africa. The aim of the present study is to explore barriers and challenges to condom use and to investigate participants' beliefs on how and whether these factors have recently changed, according to a population of men and women attending four health clinics (one youth clinic, one general clinic and one men's clinic) in the Cape Town metropolitan area. Two clinics are located in predominantly Black African townships, and one site is located in a mixed-race suburb.

The present study employs a mixed-methods approach consisting of focus group discussions (FGD), in-depth interviews (IDI) and a quantitative electronic self-administered survey. The overarching goal of these methods is to explore health clinic attendees' attitudes, perceptions and experiences surrounding condoms. As this investigation is exploratory, the qualitative sections aim to understand participants' barriers to condom use in order to identify the magnitude of these barriers using the survey. The qualitative pieces are developed through principles of grounded theory as the semi-structured guides encouraged participants to reflect on their own experiences and for the investigators to remain aware of their own reflexivity (Hennink, Hutter, & Bailey, 2010). The reporting of qualitative data also is in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ) 32-item checklist (Tong, Sainsbury, & Craig, 2007). Midway through qualitative data collection, the survey was created, informed by preliminary analysis of themes gathered in the qualitative data collection, to assess the magnitude of prominent themes for condom nonuse.

The study used convenience sampling to recruit participants. Study researchers recruited health clinic attendees and health clinic workers, as the study sought to gain insight into condom practices from lay people and a population with expertise and higher levels of health literacy. Data was collected during the months of June to August 2014.

### Focus groups

To recruit men at health clinics, the study researchers and health clinic workers made a study announcement in the morning then advertised the study once an hour thereafter in health clinic waiting rooms. Study investigators also approached men in the immediate vicinity outside of health clinics to recruit male participants. Focus group eligibility criteria included: (i) male aged 18 and over, (ii) an ability to read and summarize the consent form, (iii) the provision of written consent and (iv) reporting penetrative sex in the past year, and v) prior "ever" condom use during penetrative intercourse. The researchers recruited a total of 40 male participants for seven focus groups, each consisting of four to eight men. Discussions ranged in duration from 60 to 120 minutes. All but two of the focus groups were homogenous for self-reported Black African race.

One of the two non-homogenous groups consisted of White, Coloured and Black-African men and the other group consisted of Black and Coloured men, as self-identified in accordance with South African census categories. There was no difference in the richness of conversation between the mixed-race groups and homogenous-race groups. All groups had similar ranges in participant age.

Using a semi-structured moderator guide, the domains of the guide explored a culturally appropriate fitted condom sizing chart, innovative physical condom properties, and the male community's perception of condoms in a group setting. The present analysis uses data from FGD regarding men's attitudes and experiences with condoms in addition to their perceptions on novel physical properties of innovative condom designs. Questions include, "In 2008 and 2012, the HSRC did a survey about condom use in South Africa. Do you think that in both years, the percentage of people who used a condom stayed the same? Let's talk about this." Other questions also ask, "Does the (reported decrease in condom use) surprise you?" An attribute ranking and rating activity to explore men's perceptions towards novel condom physical properties would query, "What do you like about these condoms?" and "What don't you like about these condoms?" The full text of the guide is included in appendix A. A total of seven FGDs were conducted with health clinic attendees. Upon FGD completion, study participants were given 50 ZAR (approximately 5 USD).

**In-depth interviews**

Recruiting for IDI followed the same methodology as that for FGD described above. The in-depth interview (IDI) eligibility criteria were: (i) aged 18 years and over, (ii) an ability to read and summarize the consent form, (iii) the provision of written consent, and (iv) reporting penetrative sex in the past year.

The interview guides were semi-structured. As data was collected and themes begin to saturate (theses saturate across interviews, not usually within an interview), a pile sorting activity was introduced one-third of the way through interviews to ask participants to quickly identify barriers to condom use. The interviews explored past experiences influencing condom use, perceived barriers and challenges to condom use, and attitudes towards "condom fatigue" in South Africa. Questions included, "Can you tell me about a situation that convinced you to use or not use a condom?" and "Can you tell me about condom fatigue?" Participants were also asked, "Let's say that you're the Health Minister of South Africa. What would you do to increase condom use?" Upon prompting, participants suggested several solutions, ranging from individual-responsibility to government and corporation.

A total of 20 in-depth interviews were conducted, seventeen with health clinic attendees and three with local community health workers. The full text of the IDI guide is included in appendix B. Study participants were given 50 ZAR (approximately 5 USD) for participation.

**Surveys**

Survey participants were recruited in the same manner as FGDs and IDIs. Eligibility criteria for survey participation were: (i) aged 18 and over, (ii) an ability to read and summarize the consent form, (iii) prior condom use during penetrative intercourse, (iv) the provision of written consent and (v) reporting penetrative sex in the past year. The survey consisted of six modules:

demographic information, sexual history during the past year, prior and current barriers to condom nonuse, physical preferences of condoms, marketing information to guide TheyFit condoms, and a section for women only consisting of a scale to measure abortion stigma.

Survey questions surrounding barriers to condom use are based on the questions used in the *South African National HIV Prevalence, Incidence and Behaviour Survey, 2012,* and themes developed from the qualitative pieces of our study (O Shisana et al., 2014). Respondents are asked questions such as, "With the most recent person you had sex with, did you use a condom the entire time during penetrative (anal or vaginal) sex, the last time that you had sex?" and "From 2008 to 2012, I believe that condom use in South Africa has _____." (with options being "Increased," "Decreased," and "Stayed the same." Other questions identifying participants' past experiences with condoms included, "Please select the TOP 3 reasons to explain why you have not used a condom in the past (choose all that apply)." and "Please think about the last time that you used a condom. Who brought the condom?" Using the SurveyGizmo platform on iPads and laptops in private clinic waiting rooms, the survey was self-administered to up to six participants concurrently. When designing the survey using SurveyGizmo, the study team rigorously checked for appropriate skip and logic patterns, cultural appropriateness, and ease of readability. Several pilot surveys conducted among two Emory University professors also ensured the integrity of the skip and logic patterns of the survey.

SurveyGizmo uses a secure server that features data encryption, secure web protocols and a HIPAA-businesses affiliate agreement with Emory University. At least two Emory student researchers were available throughout the data collection period to provide technical assistance and answer questions. All surveys were confidential. A total of 200 participants would complete the approximately 30 – 45 minute long survey. Participants were given 20 ZAR (approximately 2 USD) for survey completion.

**Ethical Review:**

The Emory Institutional Review Board (Study No.: IRB00066402) and the Human Sciences Research Council Research Ethics Committee (ID 10350) provide expedited ethical clearance to conduct the study. Further permission was granted by the City of Cape Town to conduct research at four City of Cape Town public health clinics. All participants completed a written, informed consent procedure; these forms are stored in secure locked rooms. Appendices C, D and E contain consent forms for the Focus Groups, In-depth Interviews and Surveys, respectively.

**Data Analysis of Focus Group Discussion and In-depth Interviews:**

Data was recorded with a digital recorder for a total of seven FGDs and twenty IDIs. All FGDs are transcribed verbatim and captured through field notes. Thirteen interviews are transcribed verbatim and seven interviews' field notes were analyzed for themes. Transcription is not possible for seven interviews due to lost data. MAXQDA software is used to code, manage, and analyze data. Data analysis draws on principles of grounded theory; thus, data are preliminarily analyzed during the research process, with emerging themes and areas of inquiry guiding future interviews and other study materials. The principles of grounded theory, such as the development of concepts from codes, and categories from concepts, and a theory from categories, allows for a deeper understanding of the data and the development of a codebook that captures the nuanced responses of participants (Hennink et al., 2010).

During analysis, the author follows a sequence of data analysis guided by principles of grounded theory: transcribe the data, create extensive memos to note key themes and explore theme intersections, and draft then apply a codebook to data (Hennink et al., 2010). Overall, the codebook consists of 23 main codes, covering domains of emerging attitudes towards condoms and barriers to condom use. Inductive codes (such as "*Perfect Condom*" defined as "*Any references to how standard condoms may be improved physically and performance-wise to create the perfect condom. Does not include any complaint with current condoms- only constructive suggestions*") were developed through a basic thematic analysis of participant responses, and are supplemented by deductive codes (such as "*No Choice,"* defined as *"Any negative references, complaints or frustrations voiced with Choice condoms.*") informed by existing literature. Inductive codes included in vivo codes such as, "*Freak*," which is defined as, "*Any reference to sex in combination with 'freaking,' or attending a party which involves alcohol, marijuana, cigarette and water tobacco pipe use*." The author also developed etic codes such as, "*Transactional sex,"* defined as, "*Non-formal agreements that result in a transaction involving sex. Only includes transactions involving men offering non-monetary "currency" such as alcohol or social status for sex from women or other men*."

Codes, code intersections, and themes were compared across transcripts to identify relationships and nuances with the aim to develop thick descriptions, as suggested by Hennink et al. (2010). The development of thick descriptions allows the author to utilize conceptual mapping, which results in a visual analysis of themes. Visual thematic mapping involves developing a conceptual framework through comparisons of participants and identification of relationships between themes. In the present analysis, the resulting map allows for the understanding of how attitudes and perceptions towards condoms may result in condom nonuse. After re-conceptualizing the data in light of the conceptual framework, the findings are further analyzed for meaningful connections to the themes.

**Data Analysis of Survey**

Survey responses were captured through SurveyGizmo. SAS version 9.4 software is utilized to perform quantitative data analyses. A total of 196 surveys are included in data analysis: 101 men and 95 women, excluding participants with missing data. The analysis consists of finding associations between gender as an independent variable (man or woman) and dependent variables, which consisted of detailed information regarding condomless sex and frequency of use, attitudes towards societal condom use, and previous barriers to condom use. We used Chi-squared tests to measure associations with significance of $p<0.05$.

*Results*

The focus group sample consists of 40 men aged 18 – 50 years who are predominantly Black African. The in-depth interview sample consists of eleven women and nine men ranging in age from 19 to 53 years who are also predominantly Black African. Whites and Coloureds comprised 20% of the IDI population (5/20). Of the IDI participants, 55% (11/20) believed they were using condoms less now than in the past. Table 1 further details the demographic and survey information of the in-depth interview participants. Table 2 delineates the demographic information of the survey participants.

Table 1: In-depth Interview Demographic and Survey Results

| **N = 20** | | |
|---|---|---|
| **Age** | | |
| Mean Age | 28.1 years | |
| SD | 9 years | |
| Range | 19 – 53 years | |
| **Gender** | | |
| Male | N = 9 | 45% |
| Female | N = 11 | 55% |
| **Race** | | |
| Black African | N = 14 | 70% |
| White | N = 4 | 20% |
| Coloured | N = 1 | 5% |
| Refused to Answer | N = 1 | 5% |
| **Highest Education** | | |
| Grades 8 - 11 | N = 3 | 15% |
| Grade 12 | N = 12 | 60% |
| Higher | N = 5 | 25% |
| **Religion (can select more than one)** | | |
| Christian | N = 16 | 80% |
| Traditional African Religion | N = 4 | 20% |
| No religion | N = 1 | 5% |
| **Income** | | |
| No Income | N = 7 | 35% |
| Less than R6,000 per year | N = 2 | 10% |
| R6,001 – R24,000 p/year | N = 4 | 20% |
| R24,001 - 96,000 p/year | N = 4 | 20% |
| Refuse to answer | N = 3 | 15% |
| **Sexually active in last 30 days?** | | |
| Yes | N = 17 | 85% |
| No | N = 3 | 15% |
| **Ever used a condom with most recent partner?** | | |
| Yes | N = 17 | 85% |
| No | N = 3 | 15% |
| **Sexual partners in past month** | | |
| Mean number of partners | 1.5 sexual partners | |
| SD | 1 sexual partner | |
| 0 Sexual partners | N = 2 | 10% |
| 1 Sexual partners | N = 11 | 55% |
| 2 Sexual partners | N = 4 | 20% |
| 3 Sexual partners | N = 2 | 10% |
| 4 Sexual partners | N = 1 | 5% |

Table 2: Demographic Overview of Survey Participants

| **N = 196** | | |
|---|---|---|
| **Age** | | |
| Mean Age | 24.3 years | |
| SD | 5.7 years | |
| Range | 18 – 52 years | |
| **Gender** | | |
| Male | N = 101 | 51.3% |
| Female | N = 96 | 48.7% |
| **Race** | | |
| Black African | N = 193 | 97.7% |
| White | N = 0 | 0% |
| Coloured | N = 4 | 2.0% |
| **Religion (can select more than one)** | | |
| Christian | N = 157 | 77.3% |
| Traditional African Religion | N = 44 | 21.7% |
| No religion | N = 2 | 1.0% |
| **Income** | | |
| No Income | N = 112 | 60.9% |
| Less than R6,000 per year | N = 30 | 16.3% |
| R6,001 – R24,000 p/year | N = 21 | 11.4% |
| R24,001 - 96,000 p/year | N = 21 | 11.3% |
| **Number of sexual partners in the past year** | | |
| 1 | N = 59 | 30.3% |
| 2 | N = 50 | 25.6% |
| 3 | N = 34 | 17.4% |
| 4 | N = 19 | 9.7% |
| 5 | N = 7 | 3.6% |
| 6 | N = 11 | 5.6% |
| 7+ | N = 15 | 7.7% |
| **How often do you use male condoms (and are not trying to get pregnant)?** | | |
| Always | N = 49 | 30.3% |
| Most of the time | N = 52 | 32.1% |
| Half the time | N = 19 | 11.7% |
| Occasionally | N = 31 | 19.1% |
| Never | N = 11 | 6.8% |

Participants in FGDs and IDIs identified a number of societal shifts that may influence condom use trends in recent years, including the increased availability of alcohol, the increased uptake and misappropriation of the a government social grant, a decrease in communication surrounding sexual health, and an increased dissatisfaction with the currently available free condoms. Participants also suggested several static barriers and challenges to condom use previously identified in the literature, such as an imbalance in sexual negotiation between genders, the symbolization of condoms as mistrust within relationships, violent and nonconsensual sexual behavior, and issues of pleasure and partner-perceived pleasure with condom use. The results section is divided into an exploration of recent shifts that could impact condom use, and a reinvestigation into themes surrounding condom nonuse that have been previously identified (or that are static factors and have not recently changed). Each of these sections uses data from both in-depth interviews and focus groups supplemented by survey data. There were some notable differences between IDI and FGD data, further explored in greater depth. Recurring themes

include Men were more likely to report consistent condom use during IDIs in comparison to FGDs. Men in FGDs used a noticeably stronger gendered vocabulary in comparison to men and women in IDIs.

**Exploration of condom use decrease from 2008 to 2012**

When asked about factors that could result in a change in condom use, participants in FGDs and IDIs discussed the increase in availability and use of alcohol, the increase in the awarding and improper use of the Children's Grant (a governmental financial cash support for those with children) a decrease in condom discourse throughout society, a younger age of sexual debut, and an increase in dissatisfaction with the free condoms publicly available.

To assess if participants were aware of a lower condom use noted by the South African Government in public forums (BBC, 2014; Child, 2015; City Press, 2014), survey participants were asked, "*From 2008 to 2012, I believe that condom use in South Africa has _____.*" Participants were asked to fill in the blank with the options: "Increased," "Stayed the same," "Decreased," or "I don't know." Over half of the survey participants believed that condom use had increased from 2008 to 2012, while only approximately one-fourth of participants believed that condom use had decreased and one-quarter indicated that things stayed the same. In IDIs, there was also a general belief that condom use had increased. Nine out of thirteen, or 69%, of the IDI participants were surprised to hear that condom use was reported by the SA government to have decreased while four participants either stated that condom use decreased or were not surprised to hear that use decreased.

Table 3: Magnitude of condom use change from 2008 to 2012

| N = 197 | Total | Men | Women |
|---|---|---|---|
| Condom use has increased from 2008 to 2012 | 51.8% (n = 102) | 53.5% (n = 54) | 49.5% (n = 47) |
| Condom use has decreased from 2008 to 2012 | 28.9% (n = 57) | 24.8% (n = 25) | 33.7% (n = 32) |
| Condom use has stayed the same from 2008 to 2012 | 8.6% (n = 17) | 10.9% (n = 11) | 6.3% (n = 6) |
| I don't know if condom use has changed from 2008 to 2012 | 10.7% (n = 21) | 10.9% (n = 11) | 10.9% (n = 10) |

*Increased alcohol availability and use*

In-depth interview and focus group discussion participants generally viewed an increased availability of alcohol as the main catalyst for condomless sex in the general population. Fourteen IDI participants agreed that alcohol was one the top five barriers to condom use. The majority of FGD participants either stated or agreed through head nods and verbal affirmation that alcohol was a large barrier to condom use personally, and throughout society. Most participants either reported that they and others frequented taverns and other alcohol-serving venues more now than previously. Taverns were believed to facilitate transactional sex, with participants describing an environment in which men offering alcohol to women in exchange for sex, either with or without a condom. One participant repeatedly stated the phrase, *"nothing is Mahala (free)*," to imply that women cannot expect a man to gift them with alcohol without expecting sex in return. Participants suggested that these transactions could either be a single event or become a relationship. One participant, when asked to, shared his tactic of finding sex and discouraging condom use, based on using alcohol as leverage,

"*(I) go to taverns, (I) drink alcohol, and then afterwards, (I) will see by the way she looks at (me) … and then* ***(I) buy her some drinks …and then she will come with (me).*** *Some they don't, but some, they do. And then if she tells (me) that (I) must put a condom on and (I) try to look at her and (I) don't find a condom****. (I) try to persuade her (to have condomless sex) and convince her, you see****."* M/FG

In addition, nearly all participants voiced concern with youth (pre-adolescents and adolescents) experiencing an earlier sexual debut, and the role that alcohol plays in the frequency of vaginal sex of youth. According to some participants, teenage women respond similarly to adult women and when faced with an opportunity to consume alcohol, they engage in transactions, which result in accepting alcohol in exchange for sex. Female participants said that females are overwhelmingly perceived as being at a disadvantage when negotiating sex with men in this gender imbalanced society, as females are often younger and alcohol increases violent behavior in men. According to the majority of female participants, female youth are especially at risk of engaging in condomless sex due to alcohol because they seek alcohol on weekends and alcohol decreases decision-making abilities.

"***I think most important reason (for not using condoms) is alcohol****. It's when the people are drunk… Especially the youth…Maybe (the youth) go in the tavern and see someone with money that can buy them alcohol (for sex).*" F/IDI

Participants also indicated a belief that alcohol use leads to impaired decision-making for both genders, resulting in a higher likelihood of sex and a lower likelihood of condom use, as displayed below.

"*You see, (I) get drunk and … (if) there's no condom near my room,* ***I would rather do, practice the sex, even if it's without a condom***." M/FG

Most participants believed that when consuming alcohol, barriers to condom use included physical and monetary barriers to condom acquisition, decreased self-efficacy in using condoms, the time it takes to put on a condom, and less willingness to use condoms due to sexual performance issues experienced while intoxicated. These barriers, according to participants, resulted in condomless sex for themselves and general society. Performance issues identified while combining alcohol use and condoms included an inability to obtain or maintain an erection and an inability to reach orgasm.

"*It takes a few seconds for us as men (to get an erection while using condoms), especially the ones that drinks a lot. (So)* ***it's easy for us to not use a condom****."* M/FG

Most participants expressed dissatisfaction with having to use a condom while consuming alcohol. Even novel ideas such as placing condoms on with an applicator, which would reduce time to condom placement, were not regarded favorably by most in an environment with alcohol consumption by the male partner involved. Furthermore, women and men alike shared narratives in which condoms were not used because of alcohol's decision-making effect. One male FGD participant, accompanied by head nods of agreement from other participants, described how some sex occurs during weekends, a popular time for socialization and celebration in comparison to working days.

*"**Most of the time you are getting drunk**, you see. Ne? You get **these girls who just come to you (outside taverns) and say, "Hey you! Let's go over there (to have sex)!**"* M/FG

One participant listed herself as a consistent condom use with the exception of a sexual encounter, involving a night spent drinking alcohol with her friends and boyfriend. At the end of the night, she stated,

"*(My partner and I) didn't use (a condom) the last time because we went out (to drink alcohol), ne. **And then we just had fun and got home and just like Bah! So we didn't (use a condom).***" (F/IDI)

*The debated influence of the governmental social security grant*

There was substantial disagreement among participants regarding the influence of government programs on condom use behaviors- this discord was along gender lines. According to most male participants, another prominent societal change that decreased condom use is the misappropriation of government money by the government and grant beneficiaries. Conversely, according to most females, men's belief that the government grant could cause a woman to pursue having a child was misguided.

Most male participants held a blaming and patronizing tone as they spoke of the issues surrounding the Child Support Grant, a government social security grant awarding caretakers of children under the age of 18 years, 310 ZAR (approximately $30 USD as of July 2014) per month for each child. Although no participants admit to receiving the Child Support Grant, most report personally knowing someone who does. Male participants have a consensus belief across FGD that young women are intentionally engaging in condomless sex with hopes of having more children due to this incentive. Male and female participants have negative attitudes regarding this program, with the majority of men sharing the belief that funds intended for children are instead spent on alcohol and personal items and that the government is wasting valuable and limited funding. One male participant spoke passionately about this government social support grant.

"*For (women) to use a condom, they are losing (welfare money), you see. If (women) don't have kids or if she had one kid, she will not make a lot of money at the end of the month. But by having these kids and not using these condoms, she is making money, you see. …. That's where the regular usage of condoms went down … **(women) are making kids like pigs***."

Nearly all women interviewed do not believe that the grant influenced women's decisions to use a condom. Three women laughed at the idea that women would seek a relative pittance of money by having more children, particularly given that supporting a child is expensive. Female participants with children were very skeptical about the utility of 310R in supporting a child, as follows:

*"I think the one that the one with the **310 R (30 USD) is the most stupid reason because you cannot**! How can you maintain a child with 310 Rand (per month?)?"* F/IDI

*The intersection of less conversation surrounding condom use and an earlier sexual debut*

Participants also attributed the government-reported decrease in condom use from 2008 to 2012

to be a direct result of a decrease in condom discourse throughout society, further impacted by an increase in earlier sexual debut. Participants had a tendency to juxtapose these two thoughts together during conversations. Across interviews, participants described a new generation of parents, already educated on safe sex practices during their youth through early HIV intervention strategies, not engaging their children in conversations surrounding safe sex practices. Since "the youth" were believed to be entering sexual debut at an earlier age, participants also believed that these youth were less likely to be holding conversations surrounding safe sex practices. All participants emphasized the importance of conversation surrounding condom use outside of school, with a significant adult such as a parent or a grandparent.

"*So the children do anything they want to do,* ***because parents don't talk to them anymore because they are like still living in … the old century****. Some of them (worry that) if they teach their children about safe sex, they are sending their children to have sex. So that's why they don't talk too much. That's why* ***the number of condom users has decreased too much because they (children) were not taught****.*" M/IDI

The perceptions of youth participants, also self-referred to as "Mandela's children," (all children born in Post-Apartheid South Africa), were split into two distinct groups. One group voiced frustration with an inability to openly talk about sexual health promotion tactics with their parents, while another group described speaking openly about sexual health and condom use with their parents. The youth unable to talk about reproductive health with their parents often reported ever having not used a condom in the recent past, or having never used a condom. One youth participant noted,

*"(My parents) don't talk to me (about sex or condoms)…Parents, especially our parents,* ***black parents, is always secretive- they don't wanna talk about sex."*** F/IDI

Of the Mandela's children participants, those reporting regular condom use often cited their parent(s) as a primary reason why they use condoms. This point led other participants to describe how open discourse about sex and reproductive health between parents and children generally protect children from engaging in condomless sex. The following participant reported always using a condom (when alcohol was not involved), listing her mother's guidance as the sole reason why she used condoms during sex.

"*My mom told me straight. She said,* ***"This is your life. This is your rules. You came into this earth alone, with no man. So you have to tell him, that you have to use a condom. If he don't want to use a condom, then no sex then.***"

Another dimension of a decrease of sexual health and condom communication is the increased presence of peer pressure in light of a gap in parental discourse. Mandela's children participants without a prior informational conversation surrounding condom discourse described a lack of sexual health information as leading them to turn to their peers for sexual health advice. One participant, a 23-year old female, acquired HIV when she began dating an older man while she was in grade ten. She had never used a condom with him and learned of her positive HIV status when she found out that she was pregnant, a pregnancy which she eventually terminated. She pointed to her peers' negative influence and "advice" in finding a boyfriend to consume alcohol and have condomless sex as reasons for why she did not use a condom. Due to a lack of parental

discourse surrounding condoms, she instead decided to take the advice of her friends who dissuaded her from condom use to "find a boyfriend." She stated throughout the interview several times the regret she feels about having condomless sex with the man during first vaginal sex at their first encounter and onwards. Another participant described negative feelings towards condoms without ever having used them:

*"I always hear people talking- yes. And **I haven't tried (sex with a condom). But I know**."* F/IDI

There was also a verbal agreement among male participants in one focus group that partners should not use condoms when having sex with a virgin. Because there was a lack of prevention from mother to child transmission (PMTCT) in the early stage of the HIV epidemic, there is also currently a cohort of HIV-positive virgins entering sexual debut. However, not all men are aware of this cohort's status and if they are, it does not seem to deter men from forgoing condom use. During this FGD, men stated the high value that society placed on a woman's sexual debut, her virginity, until one participant redefined the consequences that may result from the encounter, as explained below.

*"The man takes her home, gets in, the child (female) can't explain because they is very scared to actually tell. Now you get in there- **boom- this is a virgin**. And now the problem with the men for me is teaching the men to use a condom. Because **they don't use a condom because is a virgin**. They get through there, after that you're HIV positive.*" M/FG

*Condom dissatisfaction, mistrust & fatigue*

Nearly all participants were highly dissatisfied with condoms as the prime HIV prevention method due to available condoms' physical properties. Men were generally more dissatisfied than women. Two women said they could not distinguish when a condom was being used (as opposed to having condomless sex), while men who voiced an opinion stated or agreed with others that condoms were not the ideal intervention. When participants were asked if they had ever heard of the term, "condom fatigue," all participants said they had not, including community health workers. Some participants were able to correctly deduce what "condom fatigue" meant; however, all participants, including healthcare workers, were not entirely sure of the term's technical definition nor its implications. Participants were then given the standard definition of "condom fatigue:" when "people start to use condoms less because they ignore safe sex messages." Upon hearing this definition, all IDI participants and most FGD participants believed that condom fatigue was not a likely reason for the decrease in condom use from 2008 to 2012. Instead, participants offered other reasons for nonuse being linked to currently available condoms' physical properties such as,

- *"I think it's because **condoms are boring**."* F/IDI,
- *"(Condoms) feels like, when I experience it, it quite hurts. Maybe it should be, uhh, lubri-**lubrication**."* F/IDI
- *"Because some of those other condoms, some of them are **softer**. Softer, ne? **They like to break too much**."* M/FG
- *"Ya **some type of smell** but also it must be big. **Must be big! You mustn't feel a condom** while you are wearing it when you are having sex. **Must be thin**."* M/FG
- *"I got a **big** condom and **during sex I took it off**."* M/FG

Participants' main concern was how "boring" condoms are. Participants voiced the most frustration with the lack of different condom properties and condom brands available in public for free. There was also a strong sense of frustration with the government for only providing Choice condoms as opposed to other perceived higher quality socially-marketed condoms such as LoversPlus and Trust. The majority of men and women claimed that they, and the general population, were beginning to use condoms less as a result of the increasing dissatisfaction with government Choice condoms' physical properties, wrapper design and reputation. The minority of participants voiced frustration with the physical properties of all plain (non-flavored, non-fitted, non-colored) condoms but the overwhelming criticism was aimed towards Choice condoms.

Men reported holding pre-existing negative attitudes towards condom use. When men experienced condom failure during times of condom use, they stated that a deep mistrust of condoms led men to use condoms less in the future. Women in IDIs varied in their responses to condom trust: four women stated using condoms as their prime and only method of contraception and STI transmission. Three men in IDIs reported using condoms as their prime method. The majority of men during FGDs stated a belief that condoms are "not safe" and would not make a difference in the prevention of HIV/AIDS and STI transmission. This mistrust and fatalistic view also permeated into men's ability to relax during sexual activity, feeling that they are protected from STIs and pregnancy. There was also a disruption of sex from a breaking condom that men reported disliking, as stated below.

"*I've been frightened because **(Choice is) not safe** and, and, and with all my experience, I've found that it breaks in the middle and then that is frightening. (The breakage) interrupts the flow of things and it can actually destroy the, the, the, the whole, the whole of it."* M/FG

The dislike of government-issued condoms was so strong that one man, with agreement during the FGD in the form of nodding heads and others saying "yes," even suggested a connection between government-issued condoms and the increase of HIV/AIDS prevalence in South Africa.

*"**STDs increases, AIDS increases, HIV, because they use Choice**."* M/FG

Furthermore, all contributing participants, except one female, voiced a heavy mistrust of Choice condoms. With the descriptions of how men reported using condoms, it is also possible that men are using condoms incorrectly or without lubrication. Lubrication was mentioned only being used with anal sex among a FGD consisting of a population of men who have sex with men, but not in a predominantly men who have sex with women population. Men report that they may be incorrectly using condoms, resulting in breakage, but contributing to condom mistrust.

*"Another thing that makes (condoms) break is how it fits**, because if you fit it wrong and then you try to push it harder or that kind of thing, you will end up breaking it**."* M/FG

The fit of condoms was also large focus during our study. When participants were asked what could be done to increase condom use, one of the suggestions was to offer an enhanced variety of condoms. Most participants believed that the availability of scented, colored, flavored and fitted condoms could increase future condom use. Participants in the study were elated to hear that colored and flavored/scented condoms were available and felt that it was unjust that this variety

of condoms were unavailable at all health clinics- and also only at selected health clinics as opposed to other venues. Men viewed the availability of only one government condom as the reason for condom nonuse: the South African population is dissatisfied with a product and is refusing to use it.

*"We are still going to be making babies because* ***they (South Africans) are not going to use a condom because they only have Choice****."* M/FG

During this discussion, the majority of men and women shared a belief a larger selection of different condoms is a human right and is absolutely necessary to combat the HIV/AIDS epidemic. A minority (two IDI participants and one FGD participants) disagreed that condoms are an effective HIV/AIDS strategy. One focus group and male IDI participant believed that their condom selection should be similar to the access available to higher socioeconomic status white populations. As one man put it,

*"You see a white man walking here and take those (which) condoms…****if we can have something in common with (white men) you see and then we can say it's alright****."* M/FG

Some male participants viewed condoms to be culturally offensive and reinforce structural racism. One man passionately protested,

*"We say that* ***(condoms) is the white thing****...Why do I have to be using it? Why? It's made by white people you see…Our father, our forefathers, they never told us about condoms you see."* M/FG

**Reinvestigation of condom nonuse in 2014: emerging themes**

Participants believed that barriers to condom use included impaired decision making as a result of alcohol's decision-impairing effects; a gendered perception of condom nonuse amongst the other sex; violent or nonconsensual sexual behavior by men; reduced pleasure due to the physical and performance properties of Choice condoms; and to increase love and trust within a relationship.

*Gendered comparisons of perceptions - The Blame Game*

During interviews and FGDs, participants blamed the other sex for not wanting to use condoms; however, the survey found contrasting results. In the survey, both men and women believed that men were more likely to not want to use condoms. Slightly over half of men believed that men did not want to use condoms more than women, compared to a staggering 89% of women who believed that it was men who did not want to use condoms more than women, as seen in Table 4. Although there is a gendered perception of which sex does not want to use condoms more during discussions, the majority of survey participants identified men as the sex that is most likely to not want to use condoms. Men and women alike seem to be highly concerned with their partner's pleasure during intercourse, to the extent that some engage in condomless sex when their partner expresses dissatisfaction with condom use. Men and women differed significantly in their answers ($p<0.0001$).

Table 4: Gendered comparison of which sex does not want to use condoms

| Between men and women, who do you think DO NOT want to use condoms the most? | Men want to use condoms less than women | Women want to use condoms less than men | Both men and women equally do not want to use condoms |
|---|---|---|---|
| Men (answered) | 51% (n = 51) | 24% (n = 24) | 26% (n = 26) |
| Women (answered) | 89% (n = 72) | 6% (n = 5) | 5% (n = 4) |

Through IDIs and FGDs, men stated a belief that women do not want to use condoms for several reasons: women hope to bear a child and gain economic and social favor with the family or cash through the government social grant, women feel discomfort, pain and reduced pleasure from using a condom, women do not like to use the free government Choice condoms, and women hope to achieve higher relationship security with their partners. Men in focus groups and interviews specifically focused on women wanting to achieve pregnancy to obtain the Children's Grant (as aforementioned) and for social status, as noted in the following quote:

*"The best way to become the number one (girlfriend in a polygamous relationship) is (for the woman) to give that guy a child so that (she) can be in that guy's parents' good books…* ***she's going to be supported by the father*** *of that child's parents."* M/FG

Men also emphasized their belief that women viewed any free condom such as Choice condoms unfavorably and women refused to use a free condom when it was presented before or during coitus. Men reported that women accused men of perceiving women as "cheap" when a Choice condom was introduced during sexual activity. For example, one man spoke of his experience with Choice condoms and introducing the brand to women, claiming,

"***If it's Choice then you're not getting [sex]****."* M/FG, and another man supporting him that,

"*There are girls who doesn't like condom for free like Choice (All: Agree). You take a girl and you take a Choice and she tells you that she doesn't like to use things for free."* M/FG

Men also agreed with each other that their partners "complain" of free condoms because of the physical discomfort and pain that Choice condoms cause during sex. Instead of using free condoms, some men suggested that they chose not to use condoms when they only had free condoms available because it causes their partner too much pain. This resulted in men further perceiving condoms as "*useless.*" According to one man,

*"Girls will say, "Hey but no, these (Choice) condoms are 'eee' (sound of pain) you see? "It gives hurt to my vagina"…* ***If you can't buy condom, you better leave it … flesh to flesh*** *you see?"* M/FG

Of female condom users, only one female participant reported pain from condoms because it was "*too dry*" as she was not applying adequate lubrication during sex. Women reported engaging in condomless sex to gain relationship quality such as feelings of trust or love; however, condomless sex is not to increase social or economic gains as a result of pregnancy. Men's pleasure was seen by female participants as extremely important during sex due to preexisting gender norms that expect an elevation of men's pleasure over women's own general health. Women view condomless sex as a joint decision and experience, and were willing to take risky measures that jeopardize their own sexual health to heighten their partner's pleasure or decrease

their partner's discomfort during sex, as seen in the following quote,

*"(My boyfriend) always complains that (condoms are) too tight. So I hate that. It's like he's doing it for me now. No, I don't want that… I don't think he enjoys it. So* ***when he's not enjoying it, I'm not enjoying it too… So we don't use condoms****."* F/IDI

Women, having been told by men and peers that condoms reduce sexual pleasure for men, forgo condom use at men's request to ensure their male partners experience optimal sexual pleasure. Although this is not true for all women, each participant shared a story in which a condom was not used at their male partner's suggestion or force. Women reported that the unique gender inequities prevalent in these communities as well as the physiological advantages of the male sex allow men to be the deciding power of condom use. Physiological advantages include men holding the responsibility of condom placement and being able to force sex on women due to their larger size and physical power. Women affirmed that in situations when they wanted to use a condom, but did not, it was either due to an internalized expectation that women must please men in this gender-imbalanced patriarchal society or because the man purposively did not put a condom on after agreeing he would. In addition, women also report having condomless sex for to increase relationship quality because,

*"Sometimes we love men, more than men love us.* ***And then if you love a guy a lot, and your guy says, "I don't want to use a condom" you just stop cause you don't want to lose him****."* F/IDI

Men claim to be aware of women sacrificing their own sexual health for men's pleasure, engaging in condomless sex at their partner's request. Men seem to take advantage of their sexual negotiation power during relationships to have condomless sex, as the participant below states.

"*I would say* ***95% of girls do want to use a condom****, but ok, we as guys persuade her to, persuade them to say 'No baby, like no I don't want to use a condom.' Okay. They will let you do it. They will not do it for themself…for themselves, they will do it for you.* ***Because, okay, they don't want to lose you. Then they know like, okay, if they, they want to use this condom and, and you don't want to, I will go and find someone who will do it if you want to use a condom.***" M/IDI

Women repeatedly stated that they did not have condomless sex in order to fall pregnant. None of the female IDI participants were attempting to fall pregnant. According to one female participant, they and other women refrain from condom use to symbolize trust and love within the relationship, to establish an emotional connection and to increase pleasure for their male partners. However, as aforementioned, women generally do not want to achieve pregnancy as they do not believe that it is possible to live on the Children's Grant of 30 USD per month. In addition, contrary to men's beliefs, women do not consider themselves cheap when men use free condoms. However, women did mirror the "blame" back to men and claimed that it was men that did not want to use a condom: according to women, men claim that condoms reduce their sexual pleasure and men are the sex that want to have more children. Women's assumptions of men are also somewhat accurate- most men admit to wanting to achieve a "skin-to-skin" through "the original" fashion- without a condom. Reduced pleasure with condom use was indeed the prime concern of men.

"*As we said,* ***we want to feel that skin-to-skin,*** *that feeling…But if you use condom, it takes time and you get tired and like you don't feel like doing it (using a condom) anymore.*" M

Men indicated that they were justified in forgoing condoms, as they also felt that their pleasure was more important than women's pleasure. One man justified why he engaged in condomless sex,

*"9 out of 10 (times?), a condom don't stimulate me. I mean, I don't get stimulation like I would without a condom,* ***so the girl gets all the adrenaline.****"* M/FG

The majority of women's experiences reveal that men ultimately hold the majority of the power during sexual negotiation. Although women generally report being able to successfully negotiate condom use, it is entirely up to the man on whether or not he used a condom. Men seem to have the physical advantage of condom placement, for the most part. During instances in which women do not want to use a condom, men seem to be the final deciding factor in condom use and instead of refusing sex from a woman, men successfully negotiate condom use.

*"The girl didn't want to use a condom. She said to me, if I get pregnant, I won't say it's your baby because the boyfriend she has,* ***they are not using a condom, so I mustn't use a condom****… I told her, sissy, I am still young, still young, so if you don't want us to use a condom, there is my brother's car, I can take you home. Serious. But she didn't want to go, so she said, "****Okay, we can use a condom****."* M/IDI

However, when women successfully negotiated the use of a condom, they are at a physiological disadvantage, as they neither consistently see the condom being put on nor always feel the difference between condomless sex and sex with a condom. According to one male health clinic worker, sex in Xhosa culture often occurs underneath blankets, so that partners cannot see each other's naked bodies. Thus, women cannot always observe condom placement and only assume that men are indeed using a condom when the condom has been opened. This is a reoccurring event, according to several participants and is further detailed in the section, "Violent/Nonconsensual sexual behavior."

*"Not all men use the condom. They* ***pretend that they are putting on the condom and then not****."* F/30, IDI

Quantitative data also captured participants' perception of condom use responsibility in this culture. When survey participants were asked about condoms decreasing pleasure during sex, there was some predictive power in both genders' perceptions of their partner's pleasure. Women and men were generally correct about condoms decreasing or having no effect on the opposite sex's pleasure. Of women, 40% strongly agreed or agreed that condoms decreased their sexual pleasure; similarly, 43% of men strongly agreed or agreed that condoms decreased their last partner's sexual pleasure. However, 45% of women disagreed or strongly disagreed that condom use decreased their pleasure while 33% of men disagreed or strongly disagreed that condoms decreased their last partner's pleasure. Of men, 57.5% strongly agreed or agreed that condoms decreased their sexual pleasure while 51.5% of women agreed or strongly agreed about their last sexual partner. In addition, 26.8% of men strongly disagreed or disagreed that condoms decreased their sexual pleasure while 35% of women strongly disagreed or disagreed that

condoms decreased their last partner's sexual pleasure.

Table 5: Gendered comparison of condoms decreasing own sexual pleasure and condoms decreasing most recent partner's sexual pleasure

| 'Condoms decrease my sexual pleasure' vs 'Condoms decrease my most recent partner's sexual pleasure' | | | | | |
|---|---|---|---|---|---|
| | Condoms decrease **my** sexual pleasure (Women) | Condoms decrease **my most recent partner's** sexual pleasure (Men) | | Condoms decrease **my** sexual pleasure (Men) | Condoms decrease **my most recent partner's** sexual pleasure (Women) |
| Strongly Agree | 20% (n = 16) | 14% (n = 14) | | 23% (n = 23) | 21% (n = 17) |
| Agree | 19% (n = 15) | 29% (n = 29) | | 35% (n = 35) | 28% (n = 23) |
| Neither Agree /Disagree | 16% (n = 13) | 24% (n = 22) | | 16% (n = 16) | 15% (n = 12) |
| Disagree | 24% (n = 19) | 21% (n = 21) | | 14% (n = 14) | 25% (n = 20) |
| Strongly Disagree | 22% (n = 10) | 12% (n = 12) | | 13% (n = 13) | 11% (n = 9) |

Of men, 86% claimed that they had brought the condom while 54% of women claimed that it was their male partner. Women and men differed significantly in reporting who brought the condom at last sex, when a condom was used last ($p<0.001$). Interestingly, while 13% of men indicated that it was the woman who brought a condom the last time they used one, 42% of women noted that they had brought the condom the last time a condom was used.

Table 6: Gendered comparison of condom provider at last sex

| Who brought a condom the last time that you used one? | Myself | My partner |
|---|---|---|
| Men answered | 86% (n = 87) | 13% (n = 13) |
| Women answered | 44% (n = 36) | 54% (n = 54) |

When survey participants were asked whose responsibility it was to bring the condom (either the participant or their most recent sexual partner), participants were most likely to believe that it was a joint responsibility: 70% of women and 51% of men indicated so. Men and women significantly differed on their answers ($p=0.0036$).

Table 7: Gendered comparison of condom providing responsibility within partnerships

| Who do you think is responsible for bringing the condom? | My Partner | Myself | Myself and my partner are equally responsible |
|---|---|---|---|
| Men answered | 5% (n = 5) | 45% (n = 45) | 51% (n = 51) |
| Women answered | 9% (n = 7) | 21% (n = 17) | 70% (n = 57) |

However, when survey participants were asked who was responsible for bringing condoms in the general population, survey participants overwhelmingly believed that men and women are equally responsible, (74% of men and 71% of women). About 12% of men and 3% of women thought it was the other gender's responsibility to provide the condom. Men and women differed significantly on their responses ($p=0.0018$).

Table 8: Gendered comparison of condom providing responsibility within society

| Who do you think is responsible for bringing a condom? | Men | Women | Men and women are equally responsible |
|---|---|---|---|
| Men answered | 22.80% | 3% | 74.30% |
| Women answered | 11.60% | 17.90% | 70.50% |

*Trust does not allow for the use of condoms*

According to most participants, simultaneously being in a trusting relationship and using condoms is impossible. Most participants believe that in order to facilitate high relationship satisfaction, condoms should not be used, as condoms symbolize infidelity and mistrust. One notable problem was that when condoms were not used at first sex, participants believe that introducing a condom would arouse suspicion that the individual may have another sexual partner or that they may accurse their partner of having another sexual partner. However, when condoms were used from the first sexual encounter, condoms may continued to be used throughout the relationship until a conversation surrounding condom discontinuation organically occurs or condom discontinuation occurs without a conversation, as stated in a focus group. Most participants when speaking about condom discontinuation, framed the conversation that occurred as being casual and in passing.

*"What I've realized is like if, lets say,* ***I start to date, in the first one month we use condoms, by the second month I say, no we are faithful to each other and we do not use condoms anymore****. That happens in most cases."* M/FG

One focus group participant described questions that he asked a partner who did not want to discontinue condom use.

*"****Why*** *would we use a condom? Are you* ***cheating*** *on me? Or* ***you don't trust me****, because* ***I'm not HIV*** *positive. So* ***what's the use*** *of us using a condom?"* M/FG

However, women acknowledge that men will often seek sexual partners beyond their primary relationship; yet, continue to engage in condomless sex with their primary female partner. By not using condoms, partners may symbolize their trust of each other, regardless of whether or not they are being faithful. One female participant had come to the health clinic to seek symptoms for an STI that she believed her ex-boyfriend had infected her with. Although she was currently in a relationship in which she did not use condoms, she still engaged in condomless sex with her ex-boyfriend, to symbolize her trust for him. In reality, she did not actually trust her ex-boyfriend, she only wanted to symbolize that she did by not using a condom.

"***No, I don't trust [my ex-boyfriend****]. Because he was gone for a long time. So I don't trust him. He's like a player. That one likes women*." F/19

When survey participants were asked, "Was there an overlap in time during the relationship with most recent person and second most recent person that you had sex with?" approximately one-fourths of men and women said they didn't know. Approximately 20% of women and 30% of men reported overlapping the relationship with their most recent and second most recent partners. Women and men did not statistically differ on their responses (p=0.1699).

Table 9: Gendered comparison of overlap between participants' most recent and second most recent partner

| Was there an overlap in time during your most recent and second most recent partner? | Yes | No | I don't know |
|---|---|---|---|
| Men | 30% (n = 27) | 46% (n = 42) | 21% (n = 15) |
| Women | 19% (n = 13) | 60% (n = 42) | 24% (n = 22) |

*Violent/Nonconsensual sexual behavior*

Both sexes shared personal stories of intimate partner violence and sexual violence, with men reporting being the perpetrators and women being the victims. Several female participants shared narratives of men enacting acts of violence on women and some males reported having perpetrated acts of violence on women. These acts of sexual violence ranged from feigning condom use to violent and nonconsensual sex. Physical violence ranged from a man cutting off a female participant's hair for thinking that she had cheated on him, to a male participant beating an ex-girlfriend for refusing condom use. One female shared a story in which she engaged in an affair outside of a monogamous relationship. In order to prevent pregnancy from her affair, she had consistently used a condom with her affair partner, except for one instance in which she explained,

*"I didn't use a condom with my side… I gave him a condom to put it on. But when we finished having sex and then I saw that the condom,* ***he opened it but didn't put it****."* F/IDI

Every female participant shared a story of sexual or physical violence against themselves, unprompted. One HCW was an exception and shared a story of sexual and physical violence against a female patient. Nonconsensual condomless sex (as opposed to sex with a condom) was experienced by two women after successful condom negotiation and rape was also reported by three female IDI participants. These women shared personal stories of when they had been raped, and were not able to use or even think to request a condom. One female participant, who was raped at last sex, tried to explain the powerlessness that she felt in this gender imbalanced society and the fatalistic view that she holds towards rape.

"*But when you get raped, you know, and you wanted to (use a condom) you have a choice. But* ***they don't give you that choice (to use a condom)****. You know? You just grab your what (vagina)."* F/IDI

Another female participant shared numerous narratives of when she had been repeatedly raped by several people- a family friend, her boyfriend's best friend, someone who had kidnapped her. The following quote explains the physical and sexual violence she experienced when kidnapped by gang members.

*"I was* ***high jacked for three days…people high jacked me and raped me, the one guy. And they did this tattoo… I was brutally raped 26 times****."* F/IDI

Men appear to be aware of their violent behavior. Although they do not condone violence, they do not seem to find fault in it either. Each man differed in their personal use of violence; however, one male participant during IDIs and one male participant during FGDs shared stories of when he had enacted physical and sexual violence, unprompted. One male participant during

IDIs claimed he had beaten a girl previously for refusing to use a condom. In another instance, he cut off the tip of a condom before sex to make his partner believe that a condom was being used, when it was not. The aforementioned male participant claimed that he realized that his previous actions were unacceptable. However, when another male FGD participant was asked about a time when he had sex without a condom, he gave the following story while laughing along with his focus group audience,

"*I met this girl from the tavern… But then, we were in my place I told her I wanted,* ***'Let's do this, let's do this (without a condom).****' But then she didn't want to do so. And then, but uh at first she didn't say. She stripped and got in my bed you see? And then I do the same thing and then when I shook her to do some… and then she didn't you see. And then what I did, I stole her panties and then…I told her,* ***'If you not going to do this, if you don't want to have sex with me, I'm not going to give you your panties. I'm going to take these panties and when I meet you again at the bar, I'm going to throw it on the floor'****... I wasn't going to do that! I would never do such a thing! But then* ***I needed pussy.*** *You see, I needed to do, now she didn't think I was funny because my facial expression was like (makes angry face) but I was just acting up because I wouldn't do such a thing to her* ***but then she gave it all to me and I appreciate it***." M/FG

Men were more likely to use strong female-negative language during focus groups than IDIs, and in comparison so women. This language included terms such as "pussy" to describe a female's vagina, or calling women "pigs" for having too many children, especially when prompted by fellow participants. During IDIs, men's vocabulary was more politically correct. There were no reports of female sexual violence against men.

*Reduced sexual & emotional pleasure due to physical properties of currently available condoms*
Another reason for condom nonuse was the reduction in sexual pleasure or diminishment in emotional satisfaction experienced by participants due to the physical properties of currently available condoms. Men were adamant that condoms do indeed decrease sexual pleasure, claiming that condoms were too tight, uncomfortable or had a distasteful smell, as aforementioned.

Women, for the most part, claimed to not notice a difference during sex when using a condom, unless peers told them otherwise. If women had complaints, it was that condoms' lubrication was not adequate and condoms seem to psychologically decrease pleasure for participants. For example, one participant, who had never used a condom, insisted that condoms decrease sexual pleasure and an emotional connection. According to participants, the emotional connection is lost during condom use due to a loss in intimacy; however, most participants were more focused on the loss of pleasure due mainly to the physical properties of condoms.

All participants shared similar concerns with the current condom selection, and offered several potential solutions to the current condom selection.

- That condoms must be fitted, *"I don't wear a big shoe on my foot. When I'm in a shop, if I wear shoes and it fits me, I don't want to take it off and I go buy that and I'm wearing it. I'm going out with it because it fits me. If it doesn't, I leave it… So its, a condom must be like that."* M/FG
- That condom, as a whole, including wrappers, must be presentable, "*The men mostly they get the paper. They don't look at what's inside... Yeah the wrapper and everything. The smell and the texture and all of it. That's why it's more concerning."* M/FG

- That condoms must have a nice smell, before and after sex, *"And then also the smell is also playing a huge part in terms of the Choice Condom. And then they also need to put fruit something that will also smell good after you have sex."* M/FG
- That Choice condoms must be replaced with a different condom altogether and continue to be rebranded, *"Get rid of Choice. Stigma- get rid of it. Tell people and change every time. Change every year the packaging, or change every two years. Make it interesting. Change it! Don't keep the bloody same thing. Use zebra condoms: Condomize with a zebra on it. You know, make sure to put a lion on."* F/IDI

<u>*Suggestions to increase condom use in South Africa*</u>

*Change condoms*

Participants suggested that the condoms be less "*boring*," implying that eroticizing condoms would increase their use. Several participants stated that condoms needed to be more "fun" by diversifying the current availability of condom physical properties. Physical properties that needed expansion include color, scent, flavor, fit, texture, packaging appearance and packaging shape. Through diversifying the availability of varying physical properties, condoms may also be eroticized and seen to be "*sexy you see- like when a woman wears tights*," according to one male participant. Participants recommended that condoms also be eroticized by making them more centered around Xhosa culture.

*Change Education*

Participants proposed a wide variety of educational programs from a micro to a macro level. Micro level proposals involved using community health workers, students and trained youth to go from door to door or host camps to engage in interpersonal communication to teach community members about the importance of sexual health, including condom use. In macro level proposals, participants expressed the importance of engaging role models such as celebrities and using entertainment education as tactics to promote the importance of condom use. Other communication strategies included the use of mass media through television, radio, social media and printed materials. Participants also noted the importance of parental engagement and advocated for the importance of communication between children and significant adults such as a parent, or trained peers. Participants stressed the importance of targeting specific demographics: homeless individuals, rural communities, youth, and sex workers.

*Change Society*

Participants also advocated for a general societal change that would overall increase the expectations of youth so individuals may feel more empowered to have larger ambitions and "*dream higher*," transform black men's viewpoint of condoms as a "*white thing*," and overcome the gender inequality by empowering and educating females, and by educating males about acquiring respect for women. In addition, participants advocated for promoting a culture of corporate social responsibility within breweries and alcohol-serving vendors such as shops and bar/taverns. For example, participants wanted to see more condoms available at alcohol vendors and venues, with one condom being distributed for each unit of alcohol sold. In addition, participants wanted the government to increase legislation and law enforcement surrounding alcohol-based establishments. In addition, some male participants wanted to see the abolishment of the Children's Grant. Furthermore, other participants wanted to increase in the health literacy

of the entire health system from the person to the policy level. One participant suggested that the condom roll-out and promotion during the FIFA World cup in 2010 was also extremely successful in allowing for more proactivenesss against HIV/AIDS- a model which may be mirrored to increase condom use.

**Discussion**

HIV/AIDS in South Africa is estimated to infect 12.2% of the population, with approximately 6.4 million people infected (O Shisana et al., 2014). This is an increase of 1.2 million infections from 2008, when the HIV/AIDS prevalence was 10.6% of the national population. The *South African National HIV Prevalence/Incidence and Behaviour Survey, 2012, Launch Ed.* found that, compared to previous surveys, there were several rising risky behaviors rising such as: an increase in sexual debut before the age of 15, a high proportion (one-third) of female youth aged 15-19 years having sexual partners five years and older, an increase in multiple sexual partners in males and a decrease in condom use. Focusing on condom use, the national survey found that condom use significantly decreased from 45.1% to 36.2% in South Africa during 2008 to 2012. The Western Cape had the second lowest condom use at last sex, compared to other provinces, with 34.8% of respondents reporting condom use at last sex in 2008, and a decrease of 10.5 percentage points to 24.3% in 2012. In 2012, respondents in the Western Cape reported the lowest rates of condom use at last sex compared to other provinces.

This study seeks to understand and further contextualize the increase in HIV/AIDS rate, with a specific focus on exploring barriers and facilitators to condom use in Cape Town, South Africa. Themes that were further explored surrounded alcohol use, the technology of condoms, a lack of conversation surrounding condoms and sexual violence. Of these themes, several have implications for further research and target areas that evidence-based public health programs may address in order to increase condom use in South Africa.

Study participants suggested several solutions to address the decrease in condom use from 2008 to 2012 that involves changing condom physical properties, increasing education surrounding, and redefining societal norms. The findings indicate that alcohol, condom technology and sexual violence may be appropriately addressed to offer a larger variety of free condoms including colored, flavored and fitted condoms; enhance the topics and reach of sexual health education to the general population with a focus on students; to decrease the stigma surrounding sex and sexual health and facilitate positive sexual health communications within families and nationwide; and to decrease gender disparities and sexual violence within South Africa. Although recommendations are for further research surrounding these topics, in some instances, programs have already been implemented to address these critical issues. In these cases, programs must be scaled-up to reach a larger target population.

*Limitations*

This study's results must be interpreted with limitations in mind. The current study is cross-sectional and may not accurately represent reasons for the changing condom use dynamic that this study attempts to capture. There is also the possibility that instead of any large-scale behavioral or attitudinal changes regarding condoms, a change in mindset may have allowed men and women to speak more openly about these issues. Second, all information was gathered through self-reported data, which may have resulted in some levels of social desirability bias during interviews and focus groups. However, we attempted to decrease bias in surveys by self-administering the surveys. During focus group discussions, groupthink and bandwagoning may have occurred, especially when constructing the fitted condom-sizing chart; however, the consistent results throughout all focus groups and levels of disagreement within focus groups suggest otherwise. Third, all study protocols were conducted in English, which was a second language to over 90% of the participants. Another limitation lies in sample's characteristics, as

they are individuals who are proactive about their sexual health, having been recruited from the waiting rooms of health clinics. The majority of participants recruited from a youth clinic and a men's clinic that tailored to youth and their sexual partners. However, we believe that this may have enhanced the study design by recognizing the needs of these populations to ensure that sexual health interventions are catered to the population who seek health. Another limitation is that men and women were qualitatively assessed in different environments. While men were assessed in focus groups and in-depth interviews, women were only assessed during in-depth interviews. While in-depth interviews may produce a lesser breadth of data and contextual information, focus groups are not able to match the detail and depth of data gathered during in-depth interviews (Stokes & Bergin, 2006).

## Chapter 4: Conclusions and Public Health Recommendations

HIV/AIDS in South Africa is estimated to infect 12.2% of the population, with approximately 6.4 million people infected (O Shisana et al., 2014). This is an increase of 1.2 million infections from 2008, when the HIV/AIDS prevalence was 10.6% of the national population. The *South African National HIV Prevalence/Incidence and Behaviour Survey, 2012, Launch Ed.* found that, compared to previous surveys, there were several rising risky behaviors rising such as: an increase in sexual debut before the age of 15, a high proportion (one-third) of female youth aged 15-19 years having sexual partners five years and older, an increase in multiple sexual partners in males and a decrease in condom use. Focusing on condom use, the national survey found that condom use significantly decreased from 45.1% to 36.2% in South Africa during 2008 to 2012. The Western Cape had the second lowest condom use at last sex, compared to other provinces, with 34.8% of respondents reporting condom use at last sex in 2008, and a decrease of 10.5 percentage points to 24.3% in 2012. In 2012, respondents in the Western Cape reported the lowest rates of condom use at last sex compared to other provinces.

This study seeks to understand and further contextualize the increase in HIV/AIDS rate, with a specific focus on exploring barriers and facilitators to condom use in Cape Town, South Africa. Themes that were further explored surrounded alcohol use, the technology of condoms, a lack of conversation surrounding condoms and sexual violence. Of these themes, several have implications for further research and target areas that evidence-based public health programs may address in order to increase condom use, and decrease HIV/AIDS transmission, in South Africa.

***Alcohol***

The devastating effects of overconsumption of alcohol impacts South Africa broadly and negatively. The World Health Organization (WHO) found that South Africa has the 5th highest worldwide ratio of alcohol consumption per adult over the age of 15 years, with approximately 35 liters of alcohol consumed per person annually (ARA, 2011; World Health Organization, 2014). Taking into consideration that 73% of South Africans abstain from alcohol consumption- the amount that drinkers drink is "exorbitantly" high (ARA, 2011). Total household consumption expenditure experienced an average annual increase of 42% from 2003/2004 and 2011/2012 (with a lag in 2008 due to the economic recession), suggesting that alcohol consumption is significantly increasing within South Africa (ARA, 2011; World Health Organization & South Africa Country Office, 2014). There was also a reported increase from 2005 to 2008 in current, binge, hazardous or harmful drinking (Peltzer, Davids, & Njuho, 2011). Ample evidence has shown that people who drink alcohol are more likely to be HIV-positive (Harrison, Newell, Imrie, & Hoddinott, 2010; Kiene et al., 2006; Kiene et al., 2008; Peltzer et al., 2011; SANAC, 2011)

In 2009, the combined tangible and intangible costs to the economy as a result of alcohol harm was estimated at 10-12% of the 2009 gross domestic product: the tangible cost was 37.9 billion ZAR (approximately 3.1 billion USD as of Mar 2015) (Peltzer et al., 2011). The WHO also found that despite an increase in market prices, alcohol has become increasingly more affordable and South Africa has the cheapest alcohol products in the lower and middle-income world (2014). Although data surrounding drinking patterns for 2012 have been collected in the *South African National HIV Prevalence/Incidence and Behaviour Survey, 2012, Launch Ed.*, they have yet to be published. The WHO estimated that in non-fatal crashes, alcohol played a role in 31%

of these- making alcohol use and its abuse a dire health threat (World Health Organization, 2007).

There is evidence showing that alcohol use has increased during 2008 to 2012 in youth. A study by the University of South Africa has shown that two-thirds of secondary school learners believed that youth alcohol consumption is becoming more socially acceptable and tolerated and approximately 80% of secondary school students consume alcohol (UNISA: Bureau of Market Research, 2012). The legal drinking age in South Africa is 18 years, allowing secondary school pupils access to alcohol through bars/taverns, shebeens, and liquor shops. This allows an earlier exposure to alcohol and an earlier exposure to HIV/AIDS through sexual relationships developed at alcohol-serving vendors. The percentage of youth that have ever consumed alcohol in South Africa decreased during 2002 to 2008 from 52.9% to 45.1% in men and from 39.6% to 28.4% in women, then increased by 6.7 percentage points to 51.8% in men and 3.0 percentage points to 31.4% in women, respectively (Burnhams, 2013). This type of decrease then increase in ever-use of alcohol mimics the trend of condom use in South Africa, which also decreased from 2002 to 2008 then increased in 2012. These data should be interpreted with great caution, however, as this is a purely ecological relationship. It is also interesting to note the high rate of abstinence from alcohol in elder populations in comparison to the higher rates seen in youth: this pattern of alcohol consumption in youth may be a phenomenon that future research may address.

A study found that over half of sampled residents in Cape Town townships aged 18 – 25 considered themselves alcohol dependent and approximately one-fifths of the same population self-reported engaging in harmful drinking (Adams, Savahl, Isaacs, & Carels, 2013). Alcohol use, as participants correctly perceived, has been found to increase sexual risk behavior such as

engaging in condomless sex (Kalichman, Simbayi, Kaufman, Cain, & Jooste, 2007; Kaufman et al., 2014; Simbayi et al., 2004). Thus, alcohol as leverage during transactional sex places women at risk as its overconsumption is significantly associated with frequency of condomless sex (Nkosi et al., 2014).

In addition to an overall belief that women exchanged sex for alcohol from men, men also believed that women were engaging in condomless sex to obtain pregnancy to receive a monthly governmental grant of approximately 30 USD per child. With this money, men insisted that women were buying alcohol for personal consumption. However, when women in IDIs were asked if the Children's Grant was enough to support a child, they vehemently insisted that it was not enough money and that it would be not worth having and raising a child for the grant, especially due to the societal lack of a paternal role. Nevertheless, some men alleged that women were using the money received from the Children's Grant for alcohol and other goods unrelated to the child's needs. Men's beliefs were not supported by a study which found that caregivers, overall, do indeed spend the cash grant in improving the well-being of beneficiary children (Coetzee, 2013). Several gendered perceptions remain to be addressed throughout South African society, especially in regards to alcohol consumption.

Despite the concomitant HIV and alcohol burdens, a few national HIV policies address the harm of HIV acquisition due to its complex interplay with alcohol. As lower HIV rates are seen in countries with lower alcohol use, South Africa has begun to address the increasing consumption of alcohol (Schneider, Chersich, Neuman, & Parry, 2012). In 2010, South Africa established an Inter-Ministerial Committee (IMC) that aims to reduce alcohol-related harm by engaging the 13 ministers within South Africa, such as the Department of Transport and the Ministry of Trade

and Industry, under the leadership of the Chairmanship of the Minister of Social Development (World Health Organization, 2014). The committee takes a public health approach, with some levels of an individual responsibility in reducing alcohol-related harm. Since the IMC's establishment, the South African Police Service has increased their agenda to shut down unlicensed outlets, prominent in the formal and informal settlements. The IMC has also introduced a zero limit on drinking and driving (Ministry of Transport) and suggested increasing the legal drinking age to 21 years (Ministry of Trade and Industry) (World Health Organization, 2014). Furthermore, the IMC Committee in collaboration with the Minister of Health, decided to ban all alcohol advertising, sponsorship and marketing. By implementing a collaborative strategy and recognizing that there is no "silver bullet" in tackling alcohol-related harm, the IMC is beginning to have an impact in combating alcohol-related harm (World Health Organization, 2014). However, tangible benefits of these alcohol-harm risk reduction strategies have yet to emerge.

Future studies in South Africa must focus on evaluating interventions to prevent binge, harmful and hazardous alcohol consumption, assessing the impact of alcohol consumption on risky decision-making, identifying the biological interplay of HIV/AIDS transmission during coitus and alcohol use, and reducing alcohol in exchange for sexual transactions. Another point of investigation would be to identify if alcohol-serving venues act as a meeting place for future sexual partners to meet and engage in a single event of vaginal or anal sex which leads to a once-off exposure to HIV/AIDS, or for future sexual partners to meet and enter a relationship, allowing for several opportunities of HIV/AIDS transmission. With this research, future HIV prevention programs may benefit from the development of evidence-based interventions that target alcohol use and risky behaviors while using alcohol.

***"No Choice Condom"***

Another prominent theme throughout the data was a frustration with the current condom selection available for free at adult health clinics. This theme is recognized throughout South Africa by public health professionals, such a health officer of ANOVA Health, who calls Choice condoms the "No Choice condom." Participants were mostly dissatisfied with the physical properties of condoms such as the lack of colors available, disagreeable odors and unpleasant fit. Participants referred to the Health4Men large black condoms as the gold standard of condoms.

Participants also voiced a concern with the performance properties of currently available condoms. There was an alarming mistrust towards Choice condoms, with men noting the frequent breakage and lack of or excess oily lubrication on Choice condoms, which led men to develop a fatalistic attitude towards condom use. The breakage that men were complaining about may be due to an incorrect use or an incorrect condom fit (Crosby, Yarber, Graham, & Sanders, 2010; Duerr et al., 2011). However, with three recalls of Choice condoms in the past seven years, participants' claims that condoms are bursting may not be entirely user-error driven (Medley, 2012). For example, in 2007, there was a recall for 20 million Choice brand condoms produced by the company Zalatex, which allegedly bribed a South African Bureau of Standards official to certify four million defective condoms (BBC, 2007). The official was later charged with fraud and corruption (IRIN, 2008). More recently, in 2012, the ruling party, the African National Congress recalled 1.35 million condoms given out at its 100$^{th}$ anniversary celebrations (Kanani, 2012). Not all recalled condoms were retrieved, and there is no certainty that all faulty condoms that have been released were subject to a recall.

The responses of men and women regarding reasons not to use the free standard Choice condoms

differed. Men primarily expressed dissatisfaction with the decrease in pleasure with condom use and held a belief of condoms as a "white man's thing." Furthermore, men projected their own views of condoms onto women, claiming that women held an elitist attitude towards freely available condoms. Women, on the other hand, held preconceived notions of men's attitudes towards condoms and allowed these notions to persuade their condom use with men. Women were aware that men did not like to use condoms and, for the most part, did not use condoms if their partner voiced dissatisfaction with condoms. Knowing that men were not faithful to them, women still continued to disregard condom use to symbolize their trust in and love for their male partners. However, this was not true for all women: some women were extremely successful in negotiating condom use. With 13 women in sub-Saharan Africa being infected for every ten men and sub-Saharan Africa as home to 75% of all HIV-positive women globally, an intervention to address the increased susceptibility of women to HIV in comparison to men, is necessary (UNAIDS, 2010).

Ample literature suggests that the Choice condoms are not satisfying the needs of South Africans. Thus, future attempts to increase condom use would be to satisfy South Africans' expectations of free condoms available in public venues. A concurrent study, in agreement with this study, identified several novel physical properties of condoms that men had an interest in, such as colors, flavors, scents, lubrication, a rebranding of Choice condoms, or a combination of the aforementioned properties (Peters, 2015). Some innovations would be simple, such as adding dye to create colored condoms while other innovations, such as the rebranding of Choice condoms, may be more complex.

***Condom Fatigue***

Men suggested that one of the reasons why condom use is lower in South Africa, compared to previous years, is because South Africans are tired of using free standard condoms. The Health Minister labeled this effect "condom fatigue" and implemented an intervention to roll out colored and scented Choice condoms to university students (BBC, 2014; Child, 2015). Several youth clinics in South Africa also began to provide colored and scented CONDOMIZE condoms and offered strawberry-scented lubrication to increase the condom use of health clinic attendees (Condomize, 2014). While condom fatigue may appropriately describe a shifting paradigm in the nation, the increasing condom dissatisfaction, as more condom property options become available on the market for men to make comparisons to, may serve as a more appropriate explanation.

Currently, free purple grape-scented/flavored Choice condoms are being offered for free at several universities. The South African Department of Health hopes to measure the uptake of these purple grape Choice condoms before distributing more colors and scents; however, our survey has demonstrated that the most popular condom colors were reported as red, pink and black and the most popular condom scent/flavor was overwhelmingly reported as strawberry then mint closely followed by banana. Qualitative participants did not mention purples as being a warranted color (thus it was not surveyed) and grape was the seventh most popular flavor and eighth most popular scent.

A joint program by the United Nations Population Fund and The Condom Project, partnered with the interagency task team, CONDOMIZE!, offers strawberry scented condoms at youth health clinics around Cape Town (Condomize, 2014). These condoms have been extremely popular in

uptake with the youth, which may explain why the Department of Health decided to utilize a different size and scent/flavor of condoms. Perhaps by providing condoms that men and women want, as shown in our survey, the government may be able to address the dissatisfaction with condoms' physical properties. Another approach is to offer lubrications with different scents/flavors at health clinics.

In 2004, the Department of Health successfully rebranded the Choice condom from a no-name brand by repackaging the condom in an attractive blue and yellow package and promoting condom use in the national Khomanani mass media campaign (Johnson S et al., 2010). Another rebranding could successfully increase condom use throughout the nation. However, rebranding the Choice condom under a specific market strategy has proven to be more difficult than anticipated and is currently a part of the South African government's condom marketing plan (Pallin, D. Meekers, et al., 2013). Other possible approaches to increase condom use would be to discontinue the Choice condom and begin to offer another condom brand, such as Condomize or LoversPlus, for free at health clinics. If innovations to condom's physical properties prove to be unsuccessful, research must focus on alternative HIV prevention strategies such as addressing intervention fatigue and promoting safe sex behaviors. Other areas of research may include successful HIV/AIDS prevention strategies such as the use of the female (inner) condom, Tenofivir gel, or pre-exposure prophylaxis (PrEP), (M. Beksinska, Rees, McIntyre, & Wilkinson, 2001; Denton et al., 2008). However, introducing condoms with more physical properties may be the most feasible option as previous studies of pre-exposure prophylaxis have shown that women in South Africa do not respond well or use PrEP as prescribed (Van Damme et al., 2012).

***Condom Conversation***

In South Africa, 39% of youth aged 15-19 have been pregnant at least once, and 49% of adolescent mothers are pregnant again in the next 24 months after birth (SANAC, 2011). One out of five adolescents are HIV-positive (SANAC, 2011). A comprehensive reproductive health education, including a conversation surrounding condoms is absolutely necessary in this nation. Participants report a distinct lack in conversation surrounding condom use across several types of relationships. According to participants, the most notable relationship in which there is a deficit of conversation surrounding sexual health is between parents and children. Adolescents who consistently communicate with a significant adult, such as a parent, about condom use are more likely to consistently use condoms (Namisi et al., 2013). Participants are aware of the importance of this type of relationship and voiced concerns if they could not satisfy it. Participants who did not have a significant adult were also more likely to engage in risky behavior. In lieu of a significant adult, participants suggested that conversations surrounding sexual health were instead negatively influenced by ill-informed peers. Two out of twenty IDI participants claimed they had contracted STIs from condom nonuse with their partners because they turned to their friends for advice surrounding sexual health instead of a significant adult.

Another conversation surrounding condom use which has been reported to occur during relationships is one centered on condom discontinuation. Participants reported that their partners wanted to discontinue condom use during their relationship as a symbol of trust or love or to achieve pregnancy. Most of the participants were able to negotiate condom use continuation, citing higher education and a “better future” as reasons to postpone condom discontinuation. However, some participants, such as one new mother, chose to discontinue condom use in a nonchalant fashion, disregarding future implications such as HIV/AIDS transmission and

pregnancy. Poor condom negotiation skills may result from low relationship control, forced sex and HIV infection, which is associated with inconsistent condom use (A. E. Pettifor, Measham, Rees, & Padian, 2004). Successful condom use is observed in individuals with a high level of self-worth and individuals who utilize ready-made condom negotiation scripts (Siegler et al., 2014). Thus, further research must focus on creating culturally-appropriate HIV prevention strategies with a specific focus on teaching condom negotiation skills. The National Strategic Plan on HIV/AIDS, STIs and TB: 2012-2016 specifically addresses the need for a comprehensive reproductive health education in school curriculum and activities that will," to build skills, increase knowledge and shift attitudes, change harmful social norms and risky behaviour, and promote human rights values" (SANAC, 2011). However, condom promotion in schools is not current Department of Basic Education policy. Attempts are currently being made to incorporate conversations surrounding condoms by the Human Sciences Research Council as the South African government scales up school programs addressing the sexual and reproductive health of students (Sean Jooste, personal communication, July 20, 2014).

### *Sexual Violence*

Sexual violence by men against women is an epidemic: one study found that 27.5 – 31.8% of men reported enacting violence towards partners (Dunkle et al., 2006). Another study found that 27.6% of men have raped a woman (R. Jewkes, Sikweyiya, Morrell, & Dunkle, 2011). Of men who had raped a women, 19.6% of them were HIV-positive- maintaining that rape and sexual violence propagates the spread of HIV/AIDS in South Africa (R. Jewkes, Sikweyiya, Morrell, & Dunkle, 2009). This gender inequality and violence transcends to condom nonuse. Men reported physically abusing women who did not want to use condoms, emotionally manipulating women to engage in condomless sex and not using condoms upon negotiating with women that a

condom would be used. Women reported rape and receiving this type of sexual violence, seemingly accepting it as a part of society. Women who have controlling or violent partners are at an increased risk of HIV transmission, possibly because men who engage in intimate partner violence are more likely to be HIV-positive and enforce risky sexual behavior on their female partners (Dunkle et al., 2004).

According to the majority of IDI and FGDs participants' suggestions, men put the condom on during sexual activity. Because women may not be able to ascertain correct condom placement, future research may benefit from investigating women's self-efficacy of condom use and the use of female condoms instead of male condoms during sexual activity. Research on training women to put the male condom on or ascertaining condom placement may also benefit women.

Sexual and gender based violence may be prevented through a focus on mental health post-violence- an area of health that South Africa lacks (Gevers & Dartnall, 2014). Further research to identify associations between social constructs of masculinity and condom use are still needed. Previously successful interventions to address this gendered power dynamic is to teach men new skills to enact masculinities within the household and intimate relationships while leveraging alcohol and sexual relationship skills to prevent future violence (Hatcher et al., 2014). By scaling up this evidence-based intervention, South Africa may begin a social change to progressively facilitate a cultural climate of gender equality.

**References**


Adam, B. D., Husbands, W., Murray, J., & Maxwell, J. (2005). AIDS optimism, condom fatigue, or self‐esteem? Explaining unsafe sex among gay and bisexual men. *Journal of Sex Research, 42*(3), 238-248.

Adams, S., Savahl, S., Isaacs, S., & Carels, C. Z. (2013). Alcohol consumption amongst young adults living in a low socioeconomic status community in Cape Town. *Social Behavior and Personality: an international journal, 41*(6), 971-979. doi: 10.2224/sbp.2013.41.6.971

ARA. (2011). Alcohol demand/consumption patterns in South Africa (pp. 23-36): World Health Organization.

BBC. (2007, Aug 28, 2007). S Africa recalls faulty condoms. *BBC*. Retrieved from http://news.bbc.co.uk/2/hi/africa/6966658.stm

BBC. (2014, April 2). South Africa to use flavoured condoms to tackle HIV. *BBC*. Retrieved from http://www.bbc.com/news/world-africa-26853788

Beksinska, M., Rees, V. H., McIntyre, J. A., & Wilkinson, D. (2001). Acceptability of the female condom in different groups of women in South Africa--a multicentred study to inform the national female condom introductory strategy. *South African medical journal= Suid-Afrikaanse tydskrif vir geneeskunde, 91*(8), 672-678.

Beksinska, M. E., Smit, J. A., & Mantell, J. E. (2012). Progress and challenges to male and female condom use in South Africa. *Sex Health, 9*(1), 51-58. doi: 10.1071/SH11011

Brown, J. L., Sales, J., Swartzendruber, A., Eriksen, M., Rose, E. S., & DiClemente, R. J. (2014). *Higher Depressive Symptoms Are Associated with Decreased Condom Use over 36 Months Among African American Female Adolescents*. Paper presented at the STD Prevention Conference, Atlanta, GA. https://cdc.confex.com/cdc/std2014/webprogram/Paper34573.html

Burnhams, N. H. (2013). An Overview of findings- South African Youth Risk Behaviour Survey 2011, Report ny the Health Promotions Unit- MRC. Reddy et al., 2013, Eastern Cape data: Implications for practice: South African Medical Research Council.

Child, K. (2015, Mar 12, 2015). Grab a bunch of condoms. *Times Live*. Retrieved from http://www.timeslive.co.za/thetimes/2015/03/13/grab-a-bunch-of-condoms

Chimbindi, N. Z., McGrath, N., Herbst, K., San Tint, K., & Newell, M.-L. (2010). Socio-demographic determinants of condom use among sexually active young adults in rural KwaZulu-Natal, South Africa. *The open AIDS journal, 4*, 88.

City Press. (2014). Colourful and flavoured condoms for students 'welcomed'. Retrieved 11/17, 2014, from http://www.citypress.co.za/lifestyle/colourful-flavoured-condoms-students-welcomed/

Coetzee, M. (2013). Finding the benefits: Estimating the impact of the South African child support grant. *South African Journal of Economics, 81*(3), 427-450.

Condomize. (2014). About Us! Retrieved Mar 15, 2015, from http://www.thecondomizecampaign.org/Default.aspx

Crosby, R. A., Yarber, W. L., Graham, C. A., & Sanders, S. A. (2010). Does it fit okay? Problems with condom use as a function of self-reported poor fit. *Sex Transm Infect, 86*(1), 36-38. doi: 10.1136/sti.2009.036665

Delva, W., Meng, F., Beauclair, R., Deprez, N., Temmerman, M., Welte, A., & Hens, N. (2013). Coital frequency and condom use in monogamous and concurrent sexual relationships in Cape Town, South Africa. *J Int AIDS Soc, 16*, 18034. doi: 10.7448/IAS.16.1.18034

Denton, P. W., Estes, J. D., Sun, Z., Othieno, F. A., Wei, B. L., Wege, A. K., . . . Garcia, J. V. (2008). Antiretroviral pre-exposure prophylaxis prevents vaginal transmission of HIV-1 in humanized BLT mice. *PLoS Med, 5*(1), e16.

Department of Health. (2001). *National Contraception: Policy Guidelines*. Pretoria.

Duerr, A., Gallo, M. F., Warner, L., Jamieson, D. J., Kulczycki, A., & Macaluso, M. (2011). Assessing male condom failure and incorrect use. *Sex Transm Dis, 38*(7), 580-586. doi: 10.1097/OLQ.0b013e3182096b62

Dunkle, K. L., Jewkes, R. K., Brown, H. C., Gray, G. E., McIntryre, J. A., & Harlow, S. D. (2004). Gender-based violence, relationship power, and risk of HIV infection in women attending antenatal clinics in South Africa. *The Lancet, 363*(9419), 1415-1421.

Dunkle, K. L., Jewkes, R. K., Nduna, M., Levin, J., Jama, N., Khuzwayo, N., . . . Duvvury, N. (2006). Perpetration of partner violence and HIV risk behaviour among young men in the rural Eastern Cape, South Africa. *Aids, 20*(16), 2107-2114.

Fortenberry, J. D., Tu, W., Harezlak, J., Katz, B. P., & Orr, D. P. (2002). Condom use as a function of time in new and established adolescent sexual relationships. *American Journal of Public Health, 92*(2), 211-213.

Gevers, A., & Dartnall, E. (2014). The role of mental health in primary prevention of sexual and gender-based violence. *Glob Health Action, 7*, 24741. doi: 10.3402/gha.v7.24741

Ghys, P. D., Diallo, M. O., Ettiègne-Traoré, V., Kalé, K., Tawil, O., Caraël, M., . . . Wiktor, S. Z. (2002). Increase in condom use and decline in HIV and sexually transmitted diseases among female sex workers in Abidjan, Cote d'Ivoire, 1991–1998. *Aids, 16*(2), 251-258.

Gremy, I., & Beltzer, N. (2004). HIV risk and condom use in the adult heterosexual population in France between 1992 and 2001: return to the starting point? *Aids*. doi: 10.1097/01.aids.0000111390.02002.f4

Harrison, A., Newell, M. L., Imrie, J., & Hoddinott, G. (2010). HIV prevention for South African youth: which interventions work? A systematic review of current evidence. *BMC public health, 10*, 102. doi: 10.1186/1471-2458-10-102

Hatcher, A. M., Colvin, C. J., Ndlovu, N., & Dworkin, S. L. (2014). Intimate partner violence among rural South African men: alcohol use, sexual decision-making, and partner communication. *Cult Health Sex, 16*(9), 1023-1039. doi: 10.1080/13691058.2014.924558

Health Systems Trust. (2011). Male Condom Distribution Rate (pp. 67-71).

Heavner, K. K., Shaw, B., Battles, H., McClamroch, K., Tesoriero, J., & Birkhead, G. S. (2007). *HIV prevention fatigue: Men who have sex with men (MSM) are tuning out HIV prevention messages.* Paper presented at the Annual Meeting of the American Public Health Association. Washington, DC: November.

Hennessy, M., Romer, D., Valois, R. F., Vanable, P., Carey, M. P., Stanton, B., . . . Salazar, L. F. (2013). Safer sex media messages and adolescent sexual behavior: 3-year follow-up results from project iMPPACS. *Am J Public Health, 103*(1), 134-140. doi: 10.2105/AJPH.2012.300856

Hennink, M., Hutter, I., & Bailey, A. (2010). *Qualitative research methods.* : Sage.

IRIN. (2008, Mar 6, 2008). SOUTH AFRICA: A day in the life of a condom tester. *IRIN*. Retrieved from http://www.irinnews.org/report/77158/south-africa-a-day-in-the-life-of-a-condom-tester

Jewkes, R., Sikweyiya, Y., Morrell, R., & Dunkle, K. (2009). Understanding men's health and use of violence: interface of rape and HIV in South Africa. *Cell, 82*(442), 3655.

Jewkes, R., Sikweyiya, Y., Morrell, R., & Dunkle, K. (2011). Gender inequitable masculinity and sexual entitlement in rape perpetration South Africa: findings of a cross-sectional study. *PloS one, 6*(12), e29590.

Jewkes, R. K., Dunkle, K., Nduna, M., & Shai, N. (2010). Intimate partner violence, relationship power inequity, and incidence of HIV infection in young women in South Africa: a cohort study. *The Lancet, 376*(9734), 41-48.

Johnson S, Kincaid L, Laurence S, Chikwava F, Delate R, & L., M. (2010). Second National HIV Communication Survey 2009. Pretoria.

Kalichman, S. C., Simbayi, L. C., Kaufman, M., Cain, D., & Jooste, S. (2007). Alcohol use and sexual risks for HIV/AIDS in sub-Saharan Africa: systematic review of empirical findings. *Prevention Science, 8*(2), 141-151.

Kanani, B. (2012, Jan 31, 2012). Condom Recall in South Africa Concerns AIDS Activists. *ABC News*. Retrieved from http://abcnews.go.com/blogs/headlines/2012/01/condom-recall-in-south-africa-concerns-aids-activists/

Kaufman, Z. A., Braunschweig, E. N., Feeney, J., Dringus, S., Weiss, H., Delany-Moretlwe, S., & Ross, D. A. (2014). Sexual Risk Behavior, Alcohol Use, and Social Media Use Among Secondary School Students in Informal Settlements in Cape Town and Port Elizabeth, South Africa. *AIDS and Behavior, 18*(9), 1661-1674.

Kiene, S. M., Christie, S., Cornman, D. H., Fisher, W. A., Shuper, P. A., Pillay, S., . . . Fisher, J. D. (2006). Sexual risk behaviour among HIV-positive individuals in clinical care in urban KwaZulu-Natal, South Africa. *Aids, 20*(13), 1781-1784.

Kiene, S. M., Simbayi, L. C., Abrams, A., Cloete, A., Tennen, H., & Fisher, J. D. (2008). High rates of unprotected sex occurring among HIV-positive individuals in a daily diary study in South Africa: the role of alcohol use. *Journal of acquired immune deficiency syndromes (1999), 49*(2), 219.

Lam, C. B., & Lefkowitz, E. S. (2013). Risky sexual behaviors in emerging adults: longitudinal changes and within-person variations. *Arch Sex Behav, 42*(4), 523-532. doi: 10.1007/s10508-012-9959-x

MacPhail, C., & Campbell, C. (2001). 'I think condoms are good but, aai, I hate those things':: condom use among adolescents and young people in a Southern African township. *Social science & medicine, 52*(11), 1613-1627.

Medley, L. (2012, Oct 29, 2012). Free condoms not the youth's Choice. *IOL News*. Retrieved from http://www.iol.co.za/news/south-africa/kwazulu-natal/free-condoms-not-the-youth-s-choice-1.1413195 - .VP9d2IHF-Dg

Namisi, F. S., Aaro, L. E., Kaaya, S., Onya, H. E., Wubs, A., & Mathews, C. (2013). Condom use and sexuality communication with adults: a study among high school students in South Africa and Tanzania. *BMC public health, 13*, 874. doi: 10.1186/1471-2458-13-874

Nkosi, S., Rich, E. P., & Morojele, N. K. (2014). Alcohol Use, Sexual Relationship Power, and Unprotected Sex Among Patrons in Bars and Taverns in Rural Areas of North West Province, South Africa. *AIDS and Behavior*, 1-10.

Pallin, S. C., D. Meekers, O. Lupu, & Longfield, K. (2013). South Africa: A Total Market Approach. PSI/UNFPA Joint Studies on the Total Market for Male Condoms in Six African Countries.

Pallin, S. C., Meekers, D., Lupu, O., & Longfield, K. (2013). South Africa: A total market approach. PSI/UNFPA Joint Studies on the Total Market for Male Condoms in Six African Countries.

Peltzer, K., Davids, A., & Njuho, P. (2011). Alcohol use and problem drinking in South Africa: findings from a national population-based survey. *African Journal of Psychiatry, 14*(1).

Peters, K. (2015). *Exploring Men's Condom Experiences, Preferences, and Desires in Cape Town, South Africa: Are New Condoms Needed?* (Master of Public Health, ), Emory University,.

Pettifor, A., O'Brien, K., MacPhail, C., Miller, W., & Rees, H. (2009). Early coital debut and associated HIV risk factors among young women and men in South Africa. *International Perspectives on Sexual and Reproductive Health*, 82-90.

Pettifor, A. E., Measham, D. M., Rees, H. V., & Padian, N. S. (2004). Sexual power and HIV risk, South Africa. *Emerging infectious diseases, 10*(11), 1996-2004.

Prevention, C. f. D. C. (2012). *Trends in HIV-related risk behaviors among high school students--United States, 1991-2011*. (1545-861X).

Reddy, P., Meyer-Weitz, A., Van Den Borne, B., & Kok, G. (2000). Determinants of condom-use behaviour among STD clinic attenders in South Africa. *International journal of STD & AIDS, 11*(8), 521-530.

SANAC. (2011). National Strategic Plan on HIV, STIs and TB.

Schneider, M., Chersich, M., Neuman, M., & Parry, C. (2012). Alcohol consumption and HIV/AIDS: the neglected interface. *Addiction, 107*(8), 1369-1371. doi: 10.1111/j.1360-0443.2012.03824.x

Scott-Sheldon, L. A., Carey, M. P., Carey, K. B., Cain, D., Harel, O., Mehlomakulu, V., . . . Kalichman, S. C. (2012). Patterns of alcohol use and sexual behaviors among current drinkers in Cape Town, South Africa. *Addict Behav, 37*(4), 492-497. doi: 10.1016/j.addbeh.2012.01.002

Shisana, O. (2005). *South African national HIV prevalence, HIV incidence, behaviour and communication survey, 2005*: HSRC Press.

Shisana, O., Rehle, T., Simbayi, L., Zuma, K., Jooste, S., Zungu, N., . . . Onoya, D. (2014). *South African National HIV Prevalence, Incidence and Behaviour Survey, 2012* (Launch Ed ed.). Cape Town: HSRC Press.

Siegler, A. J., de Voux, A., Phaswana-Mafuya, N., Bekker, L.-G., Sullivan, P. S., Baral, S. D., . . . Stephenson, R. (2014). Elements of Condom-Use Decision Making among South African Men Who Have Sex with Men. *Journal of the International Association of Providers of AIDS Care (JIAPAC)*, 2325957414535979.

Simbayi, L. C., Kalichman, S. C., Jooste, S., Mathiti, V., Cain, D., & Cherry, C. (2004). Alcohol use and sexual risks for HIV infection among men and women receiving sexually transmitted infection clinic services in Cape Town, South Africa. *Journal of Studies on Alcohol and Drugs, 65*(4), 434.

Stokes, D., & Bergin, R. (2006). Methodology or "methodolatry"? An evaluation of focus groups and depth interviews. *Qualitative market research: An international Journal, 9*(1), 26-37.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care, 19*(6), 349-357.

UNAIDS. (2010). Global Report: UNAIDS Report on the Global AIDS Epidemic 2010.

UNAIDS. (2013). HIV and AIDS estimates (2013). from http://www.unaids.org/en/regionscountries/countries/southafrica/

UNISA: Bureau of Market Research. (2012). Drug use and alcohol consumption among secondary school learners in Gauteng: UNISA.

Van Damme, L., Corneli, A., Ahmed, K., Agot, K., Lombaard, J., Kapiga, S., . . . Group, F. E.-P. S. (2012). Preexposure prophylaxis for HIV infection among African women. *N Engl J Med, 367*(5), 411-422. doi: 10.1056/NEJMoa1202614

Van Loggerenberg, F., Dieter, A. A., Sobieszczyk, M. E., Werner, L., Grobler, A., Mlisana, K., & Team, C. A. I. S. (2012). HIV prevention in high-risk women in South Africa: condom use and the need for change. *PloS one, 7*(2), e30669.

Woolf-King, S. E., & Maisto, S. A. (2014). The Effects of Alcohol, Relationship Power, and Partner Type on Perceived Difficulty Implementing Condom Use Among African American Adults: An Experimental Study. *Archives of sexual behavior*, 1-11.

World Health Organization. (2004). *National AIDS programmes: A guide to indicators for monitoring and evaluating national HIV/AIDS prevention programmes for young people*. (9241592575). World Health Organization.

World Health Organization. (2007). *Drinking and driving: a road safety manual for decision-makers and practitioners*: Global Road Safety Partnership c/o International Federation of Red Cross and Red Crescent Societies.

World Health Organization. (2014). Global status report on alcohol and health, 2014. Luxembourg: World Health Organizaion.

World Health Organization, & South Africa Country Office. (2014). Alcohol Affordability and Impact of Excise Taxes in South Africa [Press release]. Retrieved from http://www.afro.who.int/en/south-africa/press-materials/item/6393-alcohol-affordability-and-impact-of-excise-taxes-in-south-africa.html

Zembe, Y. Z., Townsend, L., Thorson, A., & Ekström, A. M. (2012). Predictors of inconsistent condom use among a hard to reach population of young women with multiple sexual partners in peri-urban South Africa. *PloS one, 7*(12), e51998.

# Appendices

## *Appendix A: Focus Group Guide*

### Focus Group Guide

**<MODERATOR 1>**
Hello everybody! How are you?
Thank you for coming today. We are students at Emory University in the United States, working with the Human Sciences Research Council of South Africa on a research project. We found a condom company that has condoms in 95 sizes, so that all men can wear a condom that is shaped for them.

We need your help creating a tool for men to easily pick their condom size, from the number of different condom sizes available. We will not be asking you to talk about your penis size, **at all.** Ok, pretend that you are shopping around for shoes. You would ask a shop worker to measure your foot, and they would tell you your shoe size. Now, we cannot just ask someone to measure you to buy a condom that is your size! So, we would like to create a chart, with your help, that men can look at, and be able to pick their condom size.

Before we start, we want talk about some rules and things to keep in mind:

1. **WE WANT YOU TO DO THE TALKING**. We would like everyone to participate, but only one person at a time.

2. **THERE ARE NO RIGHT OR WRONG ANSWERS**. You are the expert of your experiences and we would like to learn from you. We will respect your opinions and we ask that you respect each others.

3. **WHAT WE SAY IN THIS ROOM, STAYS IN THIS ROOM**. This is a safe space. All of your opinions will be kept confidential on our part. We ask that you do not tell anybody else about what we talk about today.
4. **WE WILL BE RECORDING AND TAKING NOTES** because we want to capture everything you say. Your real name will never be in our report.

5. ***IF YOU DO NOT UNDERSTAND SOMETHING, PLEASE TELL US***. We know that you would like to be respectful; however, we ask that you tell us when you do not understand something we say, or someone else says.

How do you guys feel about our rules? Do you want to add any other rules or change the ones we have now?

Do I have your permission to record? **<Wait for response and begin recording>** Your participation is voluntary and you have the right to leave at any time. If you agree, please say your number and say, "I, participant number 0 agree to participate in this focus group."

<***If all participants agree, proceed. If not, escort participants who refuse and continue discussion with remaining participants***.>

**Condom Innovation**

<**Moderator, please say**: To get started, we would like to do an activity with you. In front of you are 11 cards with new condom designs. I will explain each of these condoms to you, and what makes them different. Please put the condom in one of two folders on your table. The folder with the green smiley face means that you would be interested in using this condom design and the folder with the red frowning face means that you are not interested in using this condom. There is also a piece of paper with a description of each condom to help you. Afterwards, let's discuss each of the new condom designs and talk about what aspect of them that you like.

**<Moderator goes through all 11 designs and probe with the following questions>**.

- Which condom would you most likely use?
- How do you feel about these condoms compared to a Choice condom?
- Could you talk about the top five condoms and why you like each of them?

<**Moderator, please say**: Now I would like to talk you about What do you like about these condoms? >

- What do you like about these condoms?
- What don't you like about these condoms?
- Can you describe how this condom would feel?

**<Moderator, please say:** Now I would like to talk about what makes the perfect condom. Can you describe the perfect condom?>

- What would it look like?
- How do you think this condom would feel?
- Can you tell me where you would be able to get it?
- How much would it cost?
- Do you think giving them out for free will make people think they are worst quality?

Is there anything else you would like to share in regards to your idea of the perfect condom?

**Condom Nonuse**

So, as you may know, condoms are currently the only thing that prevent HIV and other sexually transmitted infections, as well as pregnancies. They cost little to make, are freely available to South Africans, and they are easy to use. Correct and consistent use of condoms are currently the best way to reduce HIV/AIDS and sexually transmitted infections.

In 2008 and 2012, the HSRC did a survey about condom use in South Africa. Do you think that in both years, the percentage of people who used a condom stayed the same? Let's talk about this."

***<Let men respond.>***

"Actually, The use of condoms has decreased from 2008 in the Western Cape. So research has shown that condom use is declining.">

- Does this surprise you?
- What do you think may be going on here?

**Developing the guide**

<**Moderator, please say**: Now let's work on that condom size chart we were talking about earlier. The size of a condom is determined by its dimensions, which is the length, the length from the base of the penis to the tip of the penis head **<draw on pad three lines of different sizes>**, and the girth, which is the thickness, of a man's penis **<draw on pad four circles of different sizes>. <Show definition of length and girth already written out.>**

We can create nine sizes with three lengths and three girths <**draw on chart**>.

Let's look at each of the designs and talk about them. I will read the instructions out-loud but please follow along.

Design one: Step one, pick your length. Step two, pick your width. Step three, pick your size. What are your thoughts on this design?

***<Let men respond.>***

Design two: Step one, pick your length. Step two, pick your width. Step three, pick your size. What are your thoughts on this design?

***<Let men respond.>***

Design three: Step one, pick your length. Step two, pick your width. Step three, pick your size. What are your thoughts on this design?

***<Let men respond.>***

- So which of these designs is your favourite?
- Why?
- What do you like about these designs?

<***Allow men to come to a consensus on the naming system.***>

- What about the title of the condom size chart?

- Do you think that these sizes will be understood by everyone in Cape Town?
- How do you feel letting other people see your size, with this naming system?
- What about the colours? Patterns?
- What about privacy when picking a size?
- What about the size of the poster and the layout?

<**Moderator, please say:** Thank you very much for your time and your participation. Before we end, is there anything else that you would like to add?>

***Appendix B: In-depth Interview Guide***

## In-Depth Interview Guide

*The main topics we want to explore:*

- *Attitudes towards condoms*
- *Reasons for condom use decline*
- *How participants think that condom use decline may be prevented*

**<INTERVIEWER PLEASE SAY,**

Thank you for coming today. We are students at Emory University in the United States, working with the Human Sciences Research Council of South Africa on a research project dealing with condoms.

We need your help to understand how people view condoms here in Cape Town, South Africa. You are the expert on your life and your experiences. We would like to get to know more about you and your past experiences relating to condoms. We will ask you some questions, but there are absolutely no wrong answers. We will keep all of your information confidential, as stated on the consent form that you just signed. You do not need to discuss anything that you do not feel comfortable about, so please let me know if you feel uncomfortable answering a question. Do you have any questions for me?

<**ALLOW PARTICIPANTS TO ANSWER QUESTIONS AND ANSWER ACCORDINGLY.**>

To make sure that we capture all of your answers, I would like to record this conversation. May I have your permission to record?

<**ALLOW PARTICIPANTS TO GIVE OR REFUSE CONSENT TO RECORD.**>

### CONDOM USE

**<PLEASE SAY,** "Now, I am going to ask you some questions about your **condom use**."">

- Can you tell me the steps that you take to put on a condom?
- When do you think is the right time to talk about using a condom with your partner?
- Can you tell me about the first time that you used a condom?
    - *Age at first condom*
    - *With who condom was (type of relationship)*
    - *Negotiation strategy used (to understand successful negotiation strategies)*
        - *"Who brought up using the condom"*
        - *"How did you/they bring up using a condom?*
- Can you tell me about the last time that you used a condom?
    - *With who condom was (type of relationship)*
    - *Negotiation strategy used (to understand successful negotiation strategies)*
- Can you tell me about the relationship that you have with your current partner?
    - How did you decide to start using condoms, or to not use them?

- Sometimes when having sex with the same partner over time, there is a decision to stop using condoms. Can you tell me about a time when you decided to stop using condoms?
    - *If always have used a condom, consistently, ask about reasons for strategies*
- In the past, when you did not use a condom, can you tell me why?
    - What are reasons that you choose not to use a condom?
    - **Introduce pile sorting activity**
    - So, let's start off with an activity. On these flashcards are reasons that men and women do not use condoms. Can you rank the top five reasons that you believe people do not use condoms?" After participant ranks reasons for condom nonuse, record the rankings then discuss how each of the reasons impact the user by asking this question, "How do these reasons for not using condoms impact you?">
- What do you think are reasons that other people choose not to use condoms?
    - PROBE: Can you think of any other reasons?
- Whose responsibility is it to bring up the idea of using condoms?
- In 2008, the Human Research Science Council of South Africa did a survey on thousands of South Africans to measure condom use. They did the same survey again in 2012. Do you think condom use has decreased, increased or stayed the same in 2008, compared to 2012?
    - What are reasons that you think condom use has decreased, increased or stayed the same in the past few years?

<**Please say**: Actually, The use of condoms has decreased from 2008 in the Western Cape. ">
- Let's talk about this.
- Does this surprise you?
- What do you think may be going on here?

**CONDOM PROMOTION**

<**PLEASE SAY, "**So, condoms are currently the only thing that prevent HIV and other sexually transmitted infections, as well as pregnancies. They cost little to make, are freely available to South Africans, and they are easy to use. Correct and consistent use of condoms are currently the best way to reduce HIV/AIDS and sexually transmitted infections.

Now you can see why we would want to make sure that everyone uses condoms correctly and consistently the entire time they have intercourse. Imagine that you are the Minister of Health. How would you increase condom use here in South Africa?>

<**PLEASE SAY,** "Have you heard about the new free condoms being released by the government to university students?>
    - <**IF PARTICIPANT ANSWERS YES**,> PROBE: Can you tell me what you think about the new free condoms being released by the government?
        - Are there other ways that you think we can increase condom use?
    - <**IF PARTICIPANT ANSWERS NO**, SAY, "The South African government has recently released new condoms that are coloured and flavoured, to be handed out at universities for free."> PROBE: Let's talk about other ways that we can increase condom use.
- Can you tell me what you know about condom fatigue?

    - PROBE: What do you think condom fatigue means?
    - <**IF PARTICIPANT ANSWERS "I don't know" OR IS UNSURE, PLEASE SAY,** "Condom fatigue is when people begin to ignore safe sex messages about condoms and then people start to use condoms less."
    - PROBE: Do you think condom fatigue is a good explanation for why men and women are using condoms less?
- Can you tell me how you think condom use can be increased?
- Is there anything else you would like to share that could increase condom use?

<**PLEASE SAY,** "Thank you for your time and participation. Is there anything else that you would like to share? Do you have any questions for me? Your insight has been extremely valuable and I thank you, on behalf of the HSRC and Emory University for your time.>

## *Appendix C: Focus Group Discussion Consent Form*

Study No.: IRB00066402 Emory University IRB IRB use only Document Approved On: 6/19/2014

**Consent to be a Research Subject**

**Title: Developing and Assessing a Fitted Condom Sizing System in Cape Town, South Africa**

**Principal Investigator:** Dr Aaron Siegler MHS, PhD; Department of Epidemiology, Rollins School of Public Health

**Co-investigators:** Kenisha Peters, Cho Hee Shrader, Camila Donoso, and Kate Ludorf

**Funding Source:** Emory University Global Health Institute

**Introduction**

You are being asked to be in a research study. This form is designed to tell you everything you need to think about before you decide to consent (agree) to be in the study or not to be in the study. **It is entirely your choice. If you decide to take part, you can change your mind later on and withdraw from the research study. You can skip any questions that you do not want to answer.**

Before making your decision:

- Please carefully read this form or have it read to you
- Please ask questions about anything that is not clear

You can take a copy of this consent form, to keep. Feel free to take your time thinking about whether you would like to participate. By signing this form you will not give up any legal rights.

**Study Overview**

The purpose of this study is to develop and assess a fitted condom sizing system, understand the current general condom use, identify new condom designs in which people have an interest, and gather information about condom preferences in Cape Town, South Africa.

**Procedures**

You have been selected to participate in a focus group, with up to eight men including yourself. The main purpose of this focus group is to create a fitted condom sizing system. This sizing system will allow men, like you, and your sexual partner(s) to easily select a fitted condom size based on the length and thickness of the user's penis. Furthermore, the focus groups will explore factors that are associated with men's perception of condoms, men's openness to new condom designs and the general use of condoms in Cape Town, South Africa.

The goal of the focus group depends on which group you are recruited for; if you are recruited for the first round of focus groups, you will help develop the visual element of the system and provide your thoughts on three types of condoms (flavored, colored, textured) made available by the South African government. You will also discuss non-standard condoms (TheyFit and other premium brands) in comparison to commonly available condoms. The second round of focus group discussions will help develop the word-based element of the sizing system. Finally, if you are recruited for the third round of focus group discussions, you will assess and compare the visual- and word-based sizing elements developed in the first and second focus groups. You would also talk about the appropriate number of sizes to be made available in South Africa. Each focus group discussion will take between 60 to 90 minutes of your time. Once you are finished with the focus group discussion, you will be compensated for your participation.

**Risks and Discomforts**

There are few risks associated with participating in this study. However, one risk is discomfort answering questions regarding sex and condom-use. You may also feel discomfort after sharing information that you may not have shared before, in a focus group setting.

**Benefits**
This study is designed to understand the condom preferences of men and women in South Africa. By understanding these preferences, we hope to suggest appropriate sexual health programs.

**Compensation**
You will receive 50 ZAR cash for participating in the focus group discussion.

**Confidentiality**
Certain offices and people other than the researchers, such as South African government agencies, Emory University employees and funding providers, may look at study records. The study investigators will keep any research records we create private to the extent we are required to do so by law. A study number rather than your name will be used on study records wherever possible. Your name and other facts that might identify you will not appear when we present this study or publish its results.

Study records can be opened by court order. They may also be produced in response to a subpoena or a request for production of documents.

We cannot assure anonymity; this means that we cannot promise that the other participants in the focus group will keep your identify a secret. We ask that you respect other participants' confidentiality and not talk about what other people in our focus group share.

**By signing below you agree to not discuss personal information given by other participants outside of this study.**

**Voluntary Participation and Withdrawal from the Study**
You have the right to leave this study at any time without penalty. You may refuse to do any procedures you do not feel comfortable with, or answer any questions that you do not wish to answer. If you choose to withdraw from the study, you may request that your research information not be used.

The researchers and the Global Health Institute also have the right to stop your participation in this study without your consent if:

- They believe it is in your best interest;
- You were to object to any future changes that may be made in the study plan;
- Or for any other reason.

**Contact Information**
Contact study co-investigators at southafrica2014@gmail.com

- if you have any questions about this study or your part in it,
- if you have questions, concerns or complaints about the research

**Consent**

Please print your name and sign below if you agree to be in this study. By signing this consent form, you will not give up any of your legal rights. We will give you a copy of the signed consent to keep.

Name of Subject

Signature of Subject Date Time

Signature of Person Conducting Informed Consent Discussion Date Time

Signature of Legally Authorized Representative Date Time

## *Appendix D: In-depth Interview Consent Form*



**Consent to be a Research Subject**

**Title: Developing and Assessing a Fitted Condom Sizing System in Cape Town, South Africa**

**Principal Investigator:** Dr Aaron Siegler MHS, PhD; Department of Epidemiology, Rollins School of Public Health

**Co-investigator:** Kenisha Peters, Cho Hee Shrader, Camila Donoso, and Kate Ludorf

**Funding Source:** Emory University Global Health Institute

**Introduction**

You are being asked to be in a research study. This form is designed to tell you everything you need to think about before you decide to consent (agree) to be in the study or not to be in the study. **It is entirely your choice. If you decide to take part, you can change your mind later on and withdraw from the research study. You can skip any questions that you do not wish to answer.**

Before making your decision:

- Please carefully read this form or have it read to you
- Please ask questions about anything that is not clear

You can take a copy of this consent form, to keep. Feel free to take your time thinking about whether you would like to participate. By signing this form you will not give up any legal rights.

**Study Overview**

The purpose of this study is to develop and assess a fitted condom sizing system, understand the current general condom use, identify new condom designs in which people have an interest, gather information about condom preferences, and provide an understanding of knowledge about abortion in Cape Town, South Africa.

**Procedures**

You have been selected to participate in an in-depth interview. The purpose of this interview is to understand men and women's attitudes and beliefs about condoms. This interview will also provide feedback about new condom designs that are funded by the Bill and Melinda Gates Foundation. Thus, we would like you to talk about your experiences using and not using condoms and discuss new male condom designs.

**Risks and Discomforts**

There are few risks associated with participating in this study. However, one risk is discomfort answering questions regarding sex and condom-use. You may also feel discomfort after sharing information that you may not have shared before.

**Benefits**

This study is designed to understand how the current general condom use and identify new condom designs in which people have an interest. With the information gathered in these in-depth interviews, we hope to develop appropriate sexual health programs.

**Compensation**

You will receive 50 ZAR cash for participating in the in-depth interview.

**Confidentiality**

Certain offices and people other than the researchers, such as South African government agencies, Emory University employees and study funding providers, may look at study records. The study investigators will keep any research records we create private to the extent we are required to do so by law. A study number rather than your name will be used on

study records wherever possible. Your name and other facts that might identify you will not appear when we present this study or publish its results.

Study records can be opened by court order. They may also be produced in response to a subpoena or a request for production of documents.

**Voluntary Participation and Withdrawal from the Study**

You have the right to leave this study at any time without penalty. You may refuse to do any procedures you do not feel comfortable with, or answer any questions that you do not wish to answer. If you choose to withdraw from the study, you may request that your research information not be used.

The researchers and the Global Health Institute also have the right to stop your participation in this study without your consent if:

- They believe it is in your best interest;
- You were to object to any future changes that may be made in the study plan;
- Or for any other reason.

**Contact Information**

Contact study co-investigators at southafrica2014@gmail.com

- if you have any questions about this study or your part in it,
- if you have questions, concerns or complaints about the research

Consent

Please print your name and sign below if you agree to be in this study. By signing this consent form, you will not give up any of your legal rights. We will give you a copy of the signed consent to keep.

Name of Subject

Signature of Subject Date Time

Signature of Person Conducting Informed Consent Discussion Date Time

Signature of Legally Authorized Representative Date Time

## *Appendix E: Survey Consent Forms*

Study No.: IRB00068402 Emory University IRB IRB use only Document Approved On: 6/19/2014

**Consent to be a Research Subject**

**Title: Developing and Assessing a Fitted Condom Sizing System in Cape Town, South Africa**

**Principal Investigator:** Dr Aaron Siegler MHS, PhD; Department of Epidemiology, Rollins School of Public Health

**Co-investigator:** Kenisha Peters, Cho Hee Shrader, Camila Donoso, and Kate Ludorf

**Funding Source:** Emory University Global Health Institute

**Introduction**

You are being asked to be in a research study. This form is designed to tell you everything you need to think about before you decide to consent (agree) to be in the study or not to be in the study. **It is entirely your choice. If you decide to take part, you can change your mind later on and withdraw from the research study. You can skip any questions that you do not wish to answer.**

Before making your decision:

- Please carefully read this form or have it read to you
- Please ask questions about anything that is not clear

You can take a copy of this consent form, to keep. Feel free to take your time thinking about whether you would like to participate. By signing this form you will not give up any legal rights.

**Study Overview**

The purpose of this study is to develop and assess a fitted condom sizing system, understand the current general condom use, identify new condom designs in which people have an interest, gather information about condom preferences, and provide an understanding of knowledge about abortion in Cape Town, South Africa.

**Procedures**

You have been selected to participate in a survey questionnaire. In this survey, you will measure the layout and user-friendliness of the visual and anchor based fitted condom sizing system. You will also be asked questions about condom preferences, condom use, condom negotiation strategies, sexual practices, and attitudes towards abortion in the survey. All survey questions will be answered on a tablet computer, and will take approximately 20 minutes of your time. Following your completion of questions, you will submit your results, which are secure, anonymous, and stored through the SurveyGizmo system. Once you return the tablet computer to the survey administrators, you will receive compensation for participation.

**Risks and Discomforts**

There are very little risks associated with participating in this study.

**Benefits**

This study is designed to understand the condom preferences of men and women in South Africa. This study will also understand the interrelatedness of condom use and knowledge, attitudes and practices surrounding abortion.

**Compensation**

You will receive 20 ZAR cash or gift card for completing the questionnaire.

**Confidentiality**

Certain offices and people other than the researchers, such as South African government agencies, Emory University employees and funding providers, may look at study records. The study investigators will keep any research records we create private to the extent we are required to do so by law. A study number rather than your name will be used on study

records wherever possible. Your name and other facts that might identify you will not appear when we present this study or publish its results.

Study records can be opened by court order. They may also be produced in response to a subpoena or a request for production of documents.

**Voluntary Participation and Withdrawal from the Study**

You have the right to leave a study at any time without penalty. You may refuse to do any procedures you do not feel comfortable with, or answer any questions that you do not wish to answer. If you choose to withdraw from the study, you may request that your research information not be used.

The researchers and the Global Health Institute also have the right to stop your participation in this study without your consent if:

- They believe it is in your best interest;
- You were to object to any future changes that may be made in the study plan;
- or for any other reason.

**Contact Information**

Contact the study co-investigators at southafrica2014@gmail.com,

- if you have any questions about this study or your part in it,
- if you have questions, concerns or complaints about the research.

**Consent**

Please print your name and sign below if you agree to be in this study. By signing this consent form, you will not give up any of your legal rights. We will give you a copy of the signed consent to keep.

Name of Subject

Signature of Subject Date Time

Signature of Person Conducting Informed Consent Discussion Date Time

Signature of Legally Authorized Representative Date Time