



Why Do Men In Singapore Engage in Unprotected Sex with Sex Workers  
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I declare that this assignment is my original work and all information obtained from other sources has been cited accordingly.

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# Abstract

Southeast Asia is a region that experiences one of the highest levels of curable sexually transmitted diseases (STDs) in the world, and this is mainly transmitted through the patronage of sex workers by male clients. (WHO, 2007). Despite sex education being implemented by the government (MOE, 2016), the number of new HIV infections per year remains consistently high (MOH, 2015).

We seek to understand why male clients do not practice safe sex during sexual encounters with sex workers, leading to a consistently high rate of STD occurrences in Singapore. We hypothesize that this might be due to pleasure-seeking behaviour amongst clients and a lack of awareness regarding safe sex practices amongst the both clients and sex workers.

In this report, we seek to better understand client and sex worker behaviour related to safe sex practices by examining the factors that continue to obstruct the practice of safe sex amongst both clients and sex workers. This study is done with the cooperation of "Project X", a Non-Government Organisation (NGO) based in Singapore that advocates and promotes the education and welfare of sex workers in Singapore.

As this was a population that engaged in frequent sexual engagements, it was important to understand the sex practices in this demographic, especially since their frequent engagements put them at a greater risk of contracting STDs compared to the rest of the population. We also embarked on this study with the motive of identifying the sex practices of this population, so that it would better guide future advocacy and safe sex education efforts of Project X.

# 1. Introduction

Singapore has experienced an influx of migrant women from less developed countries working in entertainment establishments often associated with sex work. (WHO, 2009; Nemoto et al, 2008; Morisky, 2002; Reuben et al, 2011) These women come from nearby countries such as Thailand, the Philippines, Indonesia, Vietnam and China, many of whom are engaged by legal brothels in Singapore to sell sex (Wong et al, 2012; Wong et al, 2010; Chan and Goh, 1997; Wong et al, 2005). Given the nature of their profession, sex workers experience high exposure to the risk of contracting Sexually Transmitted Diseases (STDs). The most effective method for the prevention and reduction in the spread and transmission of STDs is through the usage of condoms safely and correctly during intercourse.

In our interview with Miss Vanessa Ho, Project Director of 'Project X', an NGO based in Singapore involved in rights advocacy and the promotion of welfare of sex workers in Singapore; we discovered that there are numerous occasions where female sex workers face resistance from clients with regards to the usage of condoms during sexual transactions.

In this report, we utilized a combination of both quantitative and qualitative research methods; online surveys for the general public and in-depth interviews with both sex workers and their male clients, to better understand and identify the key motivations of clients who refuse to use condoms when engaging in the sexual services of sex workers in Singapore.

## 2. Literature Review

According to Thomsen, Stalker and Toroitich-Ruto (2004), there are several reasons that explain why men chose to perform unprotected sex during intercourse with sex workers. The most common reason for men opting for unprotected sex was that of pleasure-seeking behaviour, since the usage of condoms would inhibit them from experiencing full pleasure during intercourse. (Thomsen, Stalker and Toroitich-Ruto (2004). This was further supported in a study conducted by Basuki and co-authors (2002), where sex workers in Indonesia indicated that the most common reason for clients initiating unprotected sex was because they claimed to be unable to enjoy intercourse, since condoms reportedly felt slippery and cold to the clients, reducing pleasure.

Moreover, other factors such as the level of education in both sex workers and clients also played a significant role in the emergence of unprotected sex in the prostitution industry. In their study, Wee and co-authors (2004) found that amongst clients of sex workers in Singapore who used condoms inconsistently; these clients tended to have poor knowledge of STDs and safe sex practices. This corresponded with less favourable social norms and perceptions towards condom usage in them. In Singapore, a study conducted by Wong and co-authors (2012) discovered that sex workers who received lower levels of education were more likely to accede client requests for unprotected sex. Additionally, pre-conceived perceptions about STDs contributed to reduced condom usage by clients during sexual intercourse. (Wong et al, 1994)

An alternative explanation was that sex workers were responsible for unsafe sex with clients, especially when engaging in sexual intercourse with regular clients. When engaging in sex with them, there was evidence of poor enforcement of condom usage by sex workers (Basuki et al, 2002; Wong et al, 1994) There was also evidence that sex workers practiced screening of their male clients in order to determine the health level of clients. However, some sex workers still chose to accede to client requests for unsafe sex for fear of losing clients to competitors. (Basuki et al, 2002)

## 3. Methods

### 3.1 Hypothesis

Our hypothesis states that men choose not to wear condoms when engaging in sexual intercourse with sex workers due to two key reasons: (i) ignorance and deficient knowledge in safe sex practices, which would account for unsafe or incorrect safe sex practices and (ii) pleasure seeking behaviour in clients.

### 3.2 Variables

<b><u>Independent Variables</u></b>	<b><u>Dependent Variables</u></b>
<b>1. <u>Demographic</u></b> <ul style="list-style-type: none"><li>a. Age</li><li>b. Income</li><li>c. Race</li><li>d. Religion</li><li>e. Relationship Status</li></ul> <b>2. <u>Sex Education Knowledge</u></b> <ul style="list-style-type: none"><li>a. Knowledge of safe sex practices</li><li>b. Perceived likelihood of contracting STDs through sexual intercourse with sex workers</li></ul>	<b>4. <u>Frequency of Condom usage</u></b> <ul style="list-style-type: none"><li>a. Oral</li><li>b. Vaginal</li></ul> <b>5. <u>Usage of Condoms in last Sexual Encounter</u></b> <ul style="list-style-type: none"><li>a. Oral</li><li>b. Vaginal</li></ul>

Figure 1: Independent and Dependent Variables for Quantitative Analysis

### 3.2.1 Data Collection

#### 3.2.1.1 Operationalization of Variables

In order to test why Singaporean male clients, engage in unprotected sex during sexual intercourse with sex workers, our dependent variable was the frequency in the usage of condoms by the clients when they engaged in different methods of sex; vaginal and oral. We distinguished different forms of sexual intercourse, 'Vaginal Sex' and 'Oral Sex' when engaging in intercourse with sex workers. In both our quantitative and qualitative data collection methods, we included questions such as;

*“How often did you use condoms when visiting sex workers?”*,

*“Do you use condoms during your most recent vaginal sex encounter with sex workers?”* and

*“Do you use condoms during your most recent oral sex encounter with sex workers?”*

Interviewee responses in our quantitative and qualitative interviews serve as an indicator of the level of sex education and knowledge about safe sex practices in both male clients and sex workers, providing us a medium to better determine the level of sex education in Singapore.

### 3.3 Research Methodology

Our study was cross sectional and involved random sampling. We utilized two methods of collecting data; (i) qualitative, which involved an open-ended survey method conducted through face-to-face interviews; and (ii) quantitative, which involved both an anonymous online survey and distribution of surveys in person at different locations. In both methods, informed consent was obtained and anonymity of respondents was guaranteed before interviews or surveys with respondents commenced.

Our quantitative surveys involved clients of sex workers, this was to determine their views on condom usage and sexual practices when engaging in sexual intercourse with sex workers. Due to the sensitive and taboo nature of the topic of sex in Singapore, we chose to conduct quantitative anonymous surveys online to improve our yield of responses. Our

survey was designed and created in consultation with Associate Professor Nicholas Harrigan of SMU and we utilized the Qualtrics platform. The final survey consisted of 20 questions, which can be found in the appendices.

Given the hidden nature of our target audience (clients), we chose to engage in snowball sampling, initially distributing our surveys online to online forums such as 'Laksaboy' and 'Sammyboy'. Our survey was also distributed amongst our contacts, who then passed it on to other clients. Due to the low response rates in our online survey, we decided to substantiate and improve response yields by distributing surveys in person at various 'red-light' districts in Singapore, namely; Geylang, Desker Road and Orchard Towers. We received a total of 65 responses from clients who engaged in sexual services of sex workers. This low response rate would hamper the reliability of the data; it would not be representative of the actual population of clients in Singapore.

Our qualitative surveys involved conducting interviews with both clients and sex workers. Our interviews were conducted in-person via face-to-face interviews and we were assisted by staff from Project X, who facilitated interviews with sex workers. Their expertise was invaluable in allowing us access to sex workers. We obtained a total of 28 responses, of which 13 were sex workers. The other 15 were a mixture of 6 clients that engaged the services of sex workers and 9 members of the public that did not engage the services of sex workers. However, their views are still important to the data collected as they would provide a basis for comparison between the clients and other members of society.

### 3.4 Reliability & Ethical Concerns

In our study, we also considered additional ethical aspects such as the safety and privacy of clients who had engaged in sex, both with legal and illegal sex workers. The safety and privacy of sex workers who solicited for sex illegally was also ensured. Informed consent was obtained before surveys commenced and participants were given the choice to leave the interview or survey at any point in time. Additionally, no personal identifiers were recorded, and respondents who engaged in selling sex illegally were not reported to the authorities. We maintained the privacy and confidentiality of all information obtained.



## 4. Quantitative Data

### Age group

Age (years old)	18-24	25-34	35-44	45
Number of respondents(%)	23%	37%	30%	10%
Total Number of respondents				65

### Gender

Gender	Male	Female
	100%	0%
Total Number of respondents		65

### Religion

Religion	Christian	Buddhist	Muslim	Hindu	Others
	17%	37%	21%	10%	15%
Total Number of respondents					65

### Race

Race	Chinese	Malay	Indian	European	Others
	60%	23%	10%	0%	7%
Total Number of respondents					65

### Monthly income

Monthly Income	<\$1199	\$1200 - \$3499	\$3500- \$6999	>\$7000
	17%	51%	32%	0%
Total Number of respondents				65

### Marital status

Marital Status	Single	Married	Others
	61%	28%	11%
Total Number of respondents			65

### Paying for sexual services

Our survey was conducted in red light districts in Singapore, and circulated online on forums where sex was discussed such as 'Sammyboy' and 'Laksaboy'. In our responses, 65 out of 72 (90.28%) of respondents had paid for sex.

## Condoms during vaginal sex

Condoms Usage During Vaginal Sex	Always	Mostly	Sometimes	Rarely	Never
	55%	40%	5%	0%	0%
Total Number of respondents					65

## Condoms during oral sex

Condoms Usage During Oral Sex	Always	Mostly	Sometimes	Rarely	Never
	35%	12%	20%	25%	8%
Total Number of respondents					65

## Most recent encounter

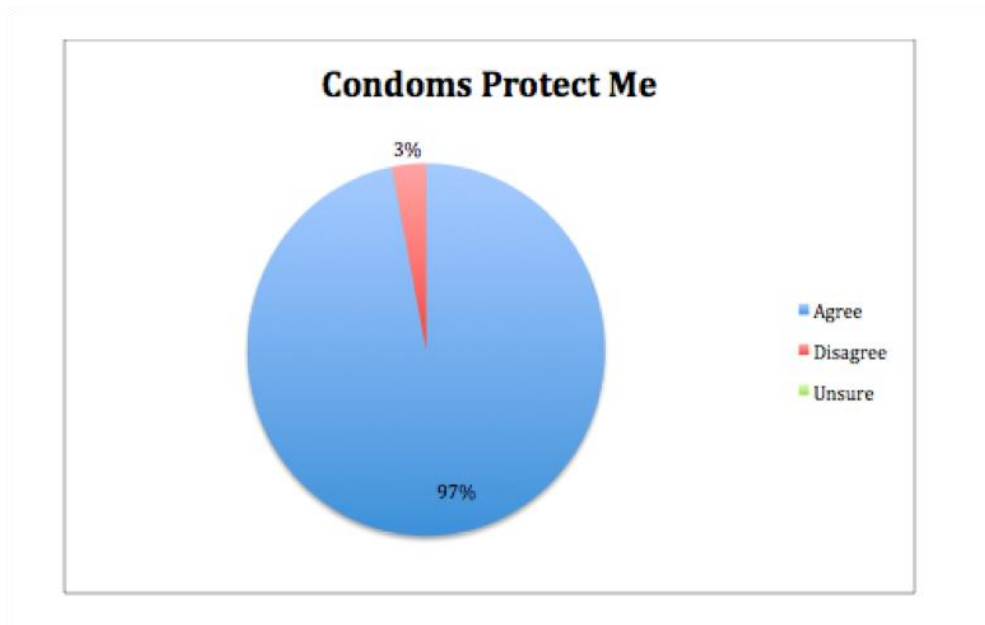
Condoms Usage During Recent Vaginal Sex	Yes	No
	97%	3%
Total Number of respondents		65

Condoms Usage During Recent Oral Sex	Yes	No
	72%	28%
Total Number of respondents		65

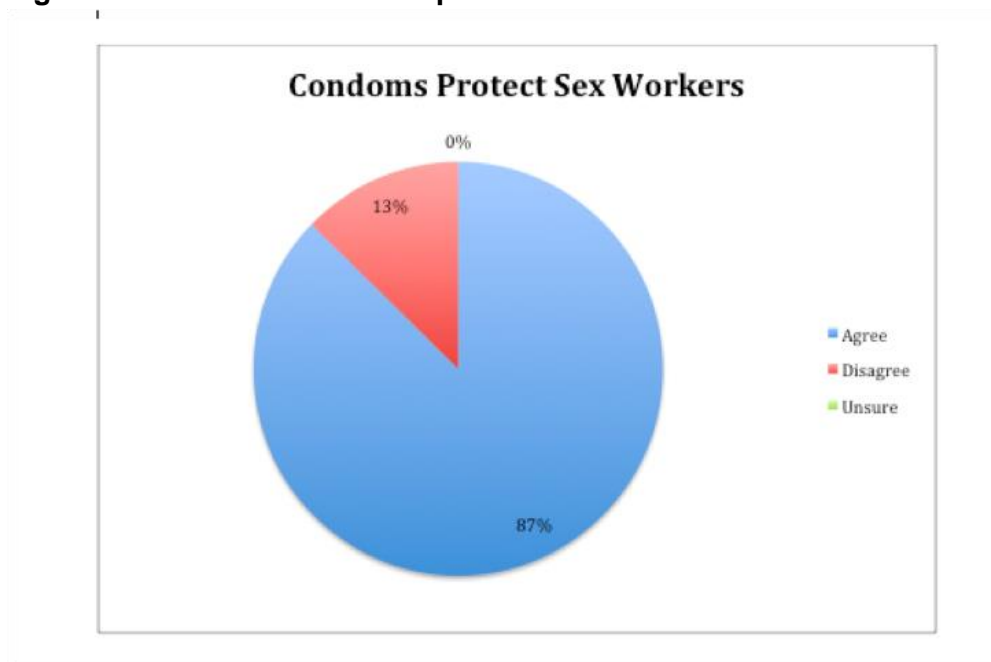
## Condom enforcement

In terms of condom enforcement, we found that almost all men (92%) agree or find a compromise when condoms are stated to be a requirement before sexual intercourse commence. However, 8% of respondent would force their way through despite this requirement. Through out qualitative interviews, we also discovered that some male clients covertly remove condoms when sexual activities commenced.

## Understanding of condoms



**Figure 1: Belief that condoms protect the user from STDs**



**Figure 2: Belief that condoms protect the sex workers from STDs**

The discrepancy in responses between Figure 1 and 2 show that there is a dearth in knowledge regarding safe sex.

### **Contracting HIV/STD**

We found that participants' perceived likelihood of contracting HIV/STDs, when engaging in sexual intercourse with sex workers, was 57.74%

### **Safe-sex**

In our open-ended questions regarding what constitutes safe sex, the word web shows 'Condoms' being the most prominent word. Additionally, in a scenario where participants were provided with the knowledge that a sex worker was infected with HIV/STDs, words like 'Run' and 'Cease' became prominent.

## **4.1 Coding**

We used a simple regression to uncover correlations between our dependent and independent variables, testing individual independent variables against the dependent variables. We found the independent variables listed below to be the most salient in explaining a correlation between them and the dependent variables as they were statistically significant. We also decided to include certain subjects of interests (that had  $\alpha$  close to 0.05) to uncover hidden relationships between variables that we might otherwise be unaware of.

Dependent Variable	Independent Variable	$\beta$	p-value
Frequency of condom usage during vaginal sex	Religion (Other)	0.500	0.0698
	<u>Marital Status (Married)</u>	-0.412	0.0117
	Marital Status (Divorced)	-0.4257	0.0568
	<u>Belief that condoms do not protect sex workers</u>	-0.7176	0.00103
	Race (Other)	0.47368	0.089
Frequency of condom usage during oral sex	<u>Income \$(1200-3499)</u>	1.2917	0.0157
	<u>Income \$(3500-6999)</u>	1.1964	0.0328
	Race (Other)	1.292	0.0535
	<u>Belief that condoms do not protect sex workers</u>	-1.0273	0.0499
Usage of condom during vaginal sex in last sexual encounter	<u>Race (Other)</u>	-0.17436	0.0353
	<u>Uncertainty as to whether condoms protect sex workers</u>	-0.4818	0.373
Usage of condom during oral sex in last sexual encounter	<u>Income \$(3500-6999)</u>	0.4524	0.01153
	<u>Perceived likelihood of contracting HIV</u>	0.0006497	0.0289

Figure V: Statistically significant Independent Variables when tested in Simple Regression

In order to test our hypotheses and uncover the underlying variables that influenced men's usage of condoms in Singapore, we constructed 4 regression equations. The dependent variables are the frequency of use of condoms for both vaginal and oral sex, and the usage of condom during their last sexual encounter with sex workers for both types of sex. Due to the large number of variables, we employed stepwise regression to filter statistically insignificant variables out of the regression equation. We decided to include several subjects of interest in the various regression models to see if there were any correlations or causality that we might be otherwise unaware of.

Variable	$\beta$	SE	p
Race (Other)	0.05726	0.3929	0.8847
<u>Belief that condoms do not protect sex workers</u>	-0.571	0.216	<u>0.0109</u>
Marital Status (Married)	-0.286	0.164	0.0872
Marital Status (Divorced)	-0.328	0.2357	0.1690
Religion (Other)	0.482	0.3727	0.1863
Constant	4.51646	0.20757	<0.001
R <sup>2</sup>	0.1845		

Figure W: Regression model of frequency of usage of condoms during vaginal sex

Figure W suggests that the incorrect belief that condoms do not protect sex workers (and by extension, knowledge of safe sex practices), are significant variables in explaining the frequency of condom usage by male clients when they engage sex workers in vaginal sex.

Variable	$\beta$	SE	p
Race (other)	0.98148	0.619	0.1187
<u>Belief that condoms do not protect sex workers</u>	-1.03584	0.51089	<u>0.0476</u>

<u>Income (\$1200-3499)</u>	1.17642	0.51184	<u>0.0254</u>
Income (\$3500-6999)	1.04699	0.55652	0.0653
Constant	2.49387	0.46584	<0.001
R <sup>2</sup>	0.1202		

Figure X: Regression model for frequency of usage of condoms during oral sex

The results from the equation shown in Figure X suggest that the belief that condoms do not protect sex workers from STDs, and income levels ranging from \$1200 to \$3499 are significant variables in explaining the frequency of condom usage by male clients when they engage sex workers in oral sex.

Variable	$\beta$	SE	p
<u>Race (other)</u>	-0.7357	0.9593	0.0065
<u>Uncertainty regarding whether condoms protect sex workers</u>	-1.839	0.3969	<0.001
Constant	1	0.33644	<0.001
R <sup>2</sup>	N.A		

Figure Y: Usage of condom during previous sexual encounter with prostitute when engaging in vaginal sex

Figure Y suggests that being a member of a Race that does not fall under the classification of 'Chinese, Indian, Malay and European' and the belief that condoms do not protect sex workers against STDs to be significant variables in explaining the likelihood of condom usage by clients during vaginal sex with sex workers.

Variable	$\beta$	SE	p
<u>Income - \$(3500-6999)</u>	0.3614	0.1788	0.0479
Perceived likelihood of contracting HIV	0.005604	0.002990	0.0660

Constant	0.232397	0.204013	0.2594
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Figure Z: Usage of condom during previous sexual encounter with prostitute when engaging in oral sex.

Figure Z suggests that the income level ranging from \$3500 to \$6999 is the significant variable in explaining the likelihood of condom usage by clients during oral sex with sex workers during their last sexual encounter.

When analysing the data, we also found that whoever had the final say about the usage of condoms correlated with increased frequency of condoms used during oral and vaginal intercourse. We did not include this inside our other models as this was not part of our hypothesis.

## 5. Analysis of Open-ended questions in Quantitative Survey

We included open-ended question in our quantitative surveys. These included questions such as:

1. Q15 – If condoms must be used when engaging sex workers, I:
  - a. Option 3 – Find a compromise (Free text allowed)
2. Q19 – In your opinion, what do you think constitutes safe sex?
3. Q20 – If I am aware that the sex worker is infected with HIV/STD, what would I do?

### Q15 analysis

Generally, clients cooperated and used condoms when requested. The majority of respondents reported that they would accede to a sex worker's requests and agree to use condoms. However, we also obtained responses that indicated unwillingness to use condoms. This included responses such as 'no choice'.

### Q19 analysis

The majority of respondents were aware that using condoms was a method of practicing safe sex. However, we found that there was a large pool of clients who claimed that doubling up, that is, using two condoms at once, was a safe sex practice that protected them against HIV/STDs. There was also a belief that anal sex was a form of safe sex to prevent against the transmission and spread of HIV/STDs. This indicated to us that client knowledge of safe sex practices was perhaps inconsistent and deficient.



### **Q20 analysis**

All respondents refused to have any sexual relations if they were aware that a sex worker had HIV or other STDs. However, at least one respondent did not believe that it was possible for sex workers to have HIV/STDs as they considered sex workers “legal” and safe as they believed they went for regular check-ups”.

## **5.1 Qualitative Analysis of Clients**

In the course of our project, we interviewed men along prominent red-light districts in Singapore such as Orchard Towers, Desker Road and Geylang to identify potential clients of sex workers. When clients were identified, we would then query them about their sexual encounters with sex workers to determine if they had used condoms during intercourse with a sex worker.

During our interviews, we found that male clients who engage in paid sex services practiced safe sex through using condoms when engaging in vaginal sex. The majority of respondents cited the prevention of HIV as their main motivation for using condoms. There was only one respondent who reported using a condom occasionally due to the pleasure he felt during intercourse without using a condom. We found that condom usage is consistently high when it comes to vaginal sex, with almost all respondents reporting that they would always use a condom when engaging in vaginal sex with a sex worker. Condom usage was also high when asked if they would use a condom when engaging in oral sex. There was one respondent who said that he would request for an alternative method of intercourse if condoms were insistent on being used during oral sex. Some respondents that participated in our qualitative interviews explained that they had no intention of using condoms during intercourse with sex workers as they perceived that the probability of contracting STDs was predestined.

## **5.2 Qualitative analysis of Sex Workers**

All respondents that we interviewed reported that they enforced the usage of condoms when engaging in sex with clients. This was consistent across our interviewees who were legal and illegal sex workers as well as workers in massage parlours that provided additional sexual services.

In almost all cases, if clients refused to use condoms, sex workers would attempt to persuade clients by asking nicely or joking. Respondents reported using various

methods to try and persuade clients to use condoms if they refused initially. This included flirting with the client and joking. If clients continued refusing to use condoms, the sex worker would then decline the clients.

**“If clients don’t want to use then they will ask nicely and joke. If they still insist then the transaction is cancelled and they are asked to leave and if they get violent or rough their boss is called to settle.” - Participant Sex Worker, 20 Years Old, Indian**

**“It is quite easy to convince clients to use condoms by asking nicely and joking with them. Joking about issues such as STDs and pregnancy. “If you don’t use then I get pregnant how?” - Participant Sex Worker, 40 Years Old, Indian**

Additionally, sex workers were all aware of the protection from HIV/STDs that condoms provided. We observed varying levels of understanding in our respondents when it came to knowledge about HIV/STD prevention and condom usage. Most respondents made their clients put on a new condom if the first one broke. One respondent stated that after engaging in oral sex, she makes it a point to put on a new one before commencing other forms of sexual activity. She noted that some clients would “tear the condoms or take them off”. When that occurred she would stop the act and ask to put on a new condom before they continued.

There was also a difference in the treatment of sex workers in men of different ethnic groups. Most respondents stated that Bangladeshis and Indians were less responsive to using condoms, moreover, they could behave violently if they were unhappy. Five out of the thirteen sex workers we interview claimed that this was an issue.

**Those that refuse to use condoms are usually Bangladeshis and Indian Singaporeans. - Participant Sex Worker, 30 Years Old**

Lastly, an interesting expression that surfaced was that of ‘doubling up’ the usage of condoms during intercourse. At least one respondent expressed that ‘doubling up condoms [was] safer’ on a regular basis than using just a single one. There was also the matter of the condoms they used being too small for some clients. One respondent said that when her clients are too well-endowed, she “[has] to use double”. Whilst the usage of two condoms at the same time was not a common feature reported in sex workers, our findings in our quantitative surveys with clients demonstrate that this is an area of interest.

## 6. Findings and Discussion

Our study revealed findings that were unexpected and ran contrary to the literature that we consulted in some areas. Contrary to our initial hypotheses, we found that most men in Singapore do use condoms, and that those who do not are a minority.. For instance, we found that most male clients in Singapore reported using condoms during sexual intercourse with sex workers. Those who did not were a minority. Therefore, our initial hypothesis was proven to be inaccurate. However, we discovered that this inconsistency between our findings and the hypothesis only occurred when we asked about vaginal sex. When sex was distinguished into its different methods such as vaginal and oral, our findings correspond with the hypothesis differently.

As seen from our quantitative data analysis, we also found that knowledge of safe sex practices was a recurring reason that influenced the usage of condoms. 95 percent of clients indicated the need to wear condoms when performing vaginal sexual intercourse with sex workers. However, when performing oral sexual intercourse, clients who indicated the need to wear condoms when engaging in intercourse with sex workers, dropped to 47 percent.

The added dimension of considering oral sex and distinguishing it from vaginal sex result in findings that are consistent with the hypothesis. This serves as an indicator of the level of sex education and knowledge. Within clients, there exists inconsistencies within their understanding of sexual transmission of HIV/STDs, as well as in their knowledge of correct safe sex practice. From our findings, it was clear that clients perceived the risk of contracting HIV/STDs from oral sex to be starkly different from that of vaginal sexual intercourse and that it put them at less risk.

Furthermore, this discovery was further substantiated when we tested for actual condom use. We found that 97 percent of clients indicated that they used condoms for their most recent vaginal sex encounter with sex workers, compared to only 72 percent of clients who indicated that they used condoms for their most recent oral sex encounter with a sex worker. In this respect, it indicates clearly the inconsistencies in safe sex practices and in knowledge of safe sex practices. There is therefore, distinct signs of ignorance in this population and a lack of accurate sex education and knowledge, which is consistent with our hypothesis.

In terms of condom usage, our group noted the belief in incorrect safe sex methods notably, that doubling up condoms led to safer sex, was prominent. We found that this was prevalent in both clients and sex workers, especially amongst male clients. 20 percent of the 65 clients we interviewed indicated that doubling up condoms provided greater protection from contracting STDs. 7 percent indicated that anal sexual intercourse was a safer option than vaginal sex.

From our findings, we discovered that there were misconceptions in terms of what people perceived safe sex to be. There was a surprising number of respondents who had incorrect interpretations of safe sex, such as the belief that anal sex was an option for having safe sex. Additionally, there were also poor knowledge in safe sex practices which was evident in the distinctions between different methods of sex. Respondents attached different perceptions of risk to different methods of sexual intercourse, with some methods such as anal and oral sex putting them at less risk of contracting HIV/STDs than vaginal sex. Furthermore, the prominence in the belief that doubling up condoms provided a safer option for sex in both clients and sex workers, indicated the lack of knowledge in proper and accurate sexual health practices.

We also discovered that whoever had the final say over the usage of condoms was a significant factor in the frequency of condom usage. The power dynamics between clients and sex workers with regards to the use of condoms when engaging in sexual intercourse, and its relation to safe sex practices is an area of interest that should be explored in future research.

## 7. Limitations

The limitations of our study should be acknowledged.

Our study was cross sectional and involved random sampling. We utilized two methods of collecting data, an open survey method which involved face-to-face interviews, and an online survey. In both methods, informed consent was obtained and anonymity of respondents was guaranteed before interviews or surveys with respondents commenced. However, this study had some limitations.

### 7.1 Reporting Bias

Given the sensitivity of the topic and the negative associations attached to engaging in the services of sex workers, this could have contributed to reporting bias in clients such as underreporting and dishonesty in their responses. Survey respondents might have given 'politically correct' responses during interviews or in survey responses, which might have led to anomalous trends that did not corroborate with our qualitative findings. One example was when our quantitative data suggested a trend that married people were less likely to use condoms as compared to those who were single.

Even during face-to-face interviews with clients who were willing to participate, the responses we collected might not have been entirely truthful or reflective of their actual sexual practices and condom usage when engaging in intercourse with sex workers. During the course of the interview, respondents might have felt uncomfortable and given responses that might not accurately reflect their practices. This would have compromised the validity of the data collected. Whether they were indeed truthful in their responses was something that could not be tested or validated as this would have entailed using methods that might have been perceived as covert, deceptive and inconsistent with ethics guidelines on informed consent, autonomy and beneficence in research.

It should be noted that our study did not in any aspect, utilize unethical methods such as deception. However, it is plausible that utilizing methods that engage in some degree of deception such as the mystery client approach, as utilized by Wong and co-authors in their study (Wong, et al, 2012), would have allowed us to increase access to both clients and sex workers. Nevertheless, such methods should adhere to principles of autonomy, beneficence, non-maleficence and justice.

## 7.2 Limited Sample Size

This was a hidden population that made it difficult to secure interviews with. Whilst interviewing, respondents, especially clients, raised concerns regarding their anonymity despite reassurances that we would preserve and protect their identities by not recording personal identifiers. As a result, this resulted in a small sample size, with a limited the number of responses that we were able to obtain.

The limited time frame and sensitive nature of the topic also made it difficult to obtain enough data from respondents to formulate conclusions that would be more reflective of the sex practices and condom usage of clients who engage in sex with sex workers. We also faced limited access to unlicensed brothels. Given the illegal nature of these brothels, it diminished our access to male clients and sex workers. Fears for the safety and privacy of sex workers who solicited illegally also deterred many potential participants of our study. This also contributed to a limited sample population. More respondents from both legal and illegal brothels as well as their clients would have likely contributed to conclusions that were more reflective of the patterns of condom use in male clients.

For future research, a longitudinal study could contribute gathering results that are more reflective and representative of the population. Additionally, whilst it might be considered unethical, research methods such as deception when conducting interviews might yield results that more accurately reflect actual sex practices

Thus, the associations reported in our study cannot be considered causal as well since they cannot be generalized to the actual population of clients who visit sex workers, nor does it reflect the actual prevalence of clients' condom usage patterns.

## 8. Conclusion

Our study revealed the dangerous misconceptions about sex in Singapore and the deficiencies in sexual health knowledge in what we would expect to be a sexually experienced population in Singapore.

This study begun with the intent of assessing the sex practices of male clients of sex workers in Singapore and, by extension, the level of sexual health knowledge in this demographic. Our study revealed the dangerous misconceptions about sex practices by both male clients and sex workers in Singapore and the serious deficiencies in sexual health knowledge in what we would expect to be a sexually experienced population.

We discovered that, whilst basic knowledge was present in the majority of our respondents, there were inconsistencies in the level of knowledge reported and in their practices. There was misinformation about safe sex practices such as condom usage and protection; as well as widespread beliefs in contemporary myths about what constituted as safe sex. This is perhaps due to the proliferation of incorrect information amongst peers or on the internet. An important finding was that respondents' own perceptions of their knowledge did not necessarily translate or correspond to actual knowledge and it was likely that respondents' unknowingly had these misconceptions.

Our study thus revealed the dearth in sexual health knowledge present in male clients as well as in sex workers. This consequently informed us of the danger of such misconceptions as this is a population highly vulnerable to the spread of HIV/STDs, if the gaps in knowledge are not addressed in this population, this could potentially endanger them further and put them at serious risk of contracting and spreading diseases.

## 9. Recommendations

To address the misconceptions about sex and safe sex practices in Singapore, we believe that the approach should be two-pronged through the use of consistent education campaigns and through the promotion of open dialogue to promote discourse about sex in Singapore.

In educational campaigns, information should be made inclusive and target all races and nationalities since the promotion of safe sex is universal. Information shared during the educational campaigns should be made available in different languages, including foreign ones. Additionally, information transmitted to the public should be presented in a

clear, consistent and engaging manner in order to encourage the retention of information. This could perhaps take place through the use of visuals, including videos and infographics. The use of visuals would also assist in transcending language barriers.

This would come in tandem with concerted efforts to promote open dialogue and discourse surrounding sex and sexual health issues in Singapore. By providing a platform to promote the discussion about sex, not only does this facilitate communication and sharing of safe sex practices and accurate knowledge, it also helps to overcome misconceptions about sex that may have been perpetuated by peers or on the internet.

In future research, distinguishing between the different methods of sex, namely oral, anal and vaginal, will help make the data more relevant and useful as they are interpreted differently by both sex workers and clients. Data collection methods should also be more discreet due to the topic of sex. By reducing discomfort in respondents during data collection, it would contribute to results that are more representative of the population's sex practices.



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## **Appendix**

### **Consent Form:**

#### **a) Engagement of sex workers despite negative perceptions in Singapore (Clients)**

We are conducting a survey concerning your perceptions and/or experiences regarding Singaporeans engaging sex workers without condoms. This survey will take about 5 minutes. Your individual response will be kept private and confidential and nothing will be recorded that can link you with your response. Your survey will only be accessed only by a few research investigators from Singapore Management University and Project X.

Participation is voluntary. Refusal to participate will involve no penalty. You can skip any question, stop or withdraw from doing the survey at any time without any penalty.

There are no expected risks associated with this study. By answering these questions you are acknowledging that you are above the age of 18, and you are providing consent to participating in this study. By consenting to participate, this means that you have fully understood what I have described earlier on the research study and hereby give consent to both Singapore Management University and Project X to collect, use and/or process your personal data strictly for the purpose(s) described earlier.

Please be honest in your answers.

If you have any questions or concerns regarding the study, please contact:

Leonard Leong Chee Yarn at [cyleong.2015@socsc.smu.edu.sg](mailto:cyleong.2015@socsc.smu.edu.sg) or via phone at +65 85001293 or; Professor Nicholas Harrigan at [nharrigan@smu.edu.sg](mailto:nharrigan@smu.edu.sg) or via phone at 6828 0842.

#### **b) Engagement of sex workers despite negative perceptions in Singapore (Workers)**

We are conducting a survey concerning your experiences regarding Singaporeans engaging sex workers without condoms. This survey will take about 15 minutes. Your individual response will be kept private and confidential and nothing will be recorded that can link you with your response. Your survey will only be accessed only by a few research investigators from Singapore Management University and Project X.

Participation is voluntary. Refusal to participate will involve no penalty. You can skip any question, stop or withdraw from doing the survey at any time without any penalty.

There are no expected risks associated with this study. By answering these questions you are acknowledging that you are above the age of 18, and you are providing consent to participating in this study. In the unlikely event that any police investigation is required, SMU may be required to hand the research records to the police. We believe the chance of this happening is low. By consenting to participate, this means that you have fully understood what I have described earlier on the research study and hereby give consent to both Singapore Management University and Project X to collect, use and/or process your personal data strictly for the purpose(s) described earlier.

Please be honest in your answers.

If you have any questions or concerns regarding the study, please contact:

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## **Quantitative Research Questions**

### **Online survey questions for clients of sex workers**

1. What is your age?

a) 18 to 24

b) 25 to 34

- c) 35 to 44
- d) 45 or older

2. What is your gender?

- a) Female
- b) Male

3. Which religious group do you identify with?

- a) Christian
  - b) Buddhist
  - c) Muslim
  - d) Hindu
  - e) Others (Please specify)
- 

4. What is your race?

- a) Chinese
  - b) Malay
  - c) Indian
  - d) European
  - e) Others (Please specify)
- 

5. What is your monthly income?

- a) 1199 or lower
- b) 1200 to 3499
- c) 3500 to 6999
- d) 7000 to 9999
- e) 10000 or more

6. What is your marital status?

- a) Single
  - b) Married
  - c) Divorced
  - d) Others (Please specify)
- 

7. Have you paid for sexual services before? [SCREENING]

- a) Yes
  - b) No
  - c) Others (Please specify)
- 

8. How often do you use condoms during penetrative (vaginal) sex with sex workers?

- a) Always
- b) Mostly
- c) Sometimes
- d) Rarely
- e) Never

9. How often do you use condoms when receiving oral sex (getting a blow job) from sex workers?

- f) Always
- g) Mostly
- h) Sometimes
- i) Rarely
- j) Never

10. In your most recent sexual encounter with a sex worker did you use a condom for intercourse/sex/vaginal sex?

- a) Yes
- b) No

11. In your most recent sexual encounter with a sex worker did you use a condom for oral sex (blow job)?

- a) Yes
- b) No

12. When you have sex with a sex worker, who generally initiates the use of condoms?

- a) Me, the client
- b) The sex worker
- c) Others (Please specify)

\_\_\_\_\_

13. When you have sex with a sex worker, whom makes the final decision to use condoms or not before sex:

- a) Me.
- b) The sex worker.
- c) Both of us together.
- d) Other \_\_\_\_\_

14. [If client sometimes does not use condoms for vaginal or oral sex, then ask this question. If they always use condoms, please skip this question]

I do not use condoms because; (Select all that apply)

- a) Condoms causes discomfort
- b) Condoms reduce pleasure
- c) Condoms are useless in protecting me from STD/HIV
- d) Condoms are harmful to myself
- e) Condoms are difficult to use
- f) Condoms causes a loss of erection
- g) Condoms produce an unpleasant taste and smell



- h) Condoms show that I am promiscuous
  - i) Condoms show that I am a STD/HIV carrier
  - j) My friends do not use condoms when having sex with sex workers
  - k) Others (Please specify)
- 

15. If condoms must be used, I;

- a) Cease the transaction and leave
  - b) Force my way
  - c) Find a compromise (Please specify)
- 

16. Condoms protect me, the client, against STD/HIV.

- a) Agree
- b) Disagree
- c) Unsure

17. Condoms protect the sex worker against STD/HIV.

- a) Agree
- b) Disagree
- c) Unsure

18. On a scale of 1-5, how likely do you think you are at risk of contracting HIV while having sex with sex workers?

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19. What do you think constitutes safe sex?

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20. If I am aware that the sex worker is infected with HIV, what would I do?

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### **C) Qualitative Interview Questions (Sex Workers)**

- 1. Do you receive money for the sexual services you offer? [SCREENING]**
- 2. How often do you use condoms when having sex with clients?**
- 3. What about for giving oral sex (blow jobs)? How often do you use condoms for oral sex?**
- 4. Before having sex, who initiates the use of condom?**
- 5. Do you believe that condoms can protect you from STD/HIV?**
- 6. In your experience, how easy is it to convince clients to use condoms?**
- 7. "We heard that certain types of clients are more opposed to the usage of condoms. Is such a claim true? If so, can you tell me about what types of clients are more opposed to the usage of condoms?"**

**[Interviewer follow up questions:**

- Do they tend to be older or younger or middle aged?**
- Are they wealthier or poorer or middle class?**
- Are they from particular countries or races?**
- Anything else distinctive about clients who do or don't use condoms?]**

**8. In your experience, is it true that clients can get violent/rough when they are asked to use condoms?**

**9. If so, can you describe attributes of clients that get violent?**

**10. How do you convince clients to use condoms?**

**11. Do clients use condoms when requesting for oral sex?**

**12. Is oral sex treated differently from other forms of sexual intercourse when it comes to protection, such as using condoms?**

**13. What you do when clients refuse to use condoms? Do you cancel the session, or is there compromise?**

**d) Qualitative Interview Questions (Clients)**

1. Have you engaged Sexual services with sex workers?
2. **When you conduct sex with a legal sex worker, are there any occurrences that you do not use condoms? why?**
3. **Do you believe that using condoms during sexual intercourses will protect you from STDs?**
4. **Do you use condoms when sex worker is performing oral sex (e.g. Blowjob, Anal sex)?**
5. **In which situation will you not use condoms to have sex with the legal sex workers?**
6. **How do you convince Legal Sex Workers to not use condoms?**
7. **Have you ever engaged in non-legal sex workers? Do they enforce the usage of condoms?**
8. **Are there any specific type of sex workers that you prefer to engage in unprotected sex?**
9. **If the sex worker is unwilling to accede to your requests of not using condom, what would you do?**

**Screenshot of Research papers used**