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The Sociodemographic Characteristics of Concurrent Sexual Partnerships and their Risky Sexual Behaviors: Results of a Nationally Representative Sample of South Korean Adults

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Abstract This study assessed the risky sexual behavior of a group of adult men and women with sexual experience within the past 1 year who, while in a relationship with a stable partner, reported having sex with another person. The data were collected in 2003 using a nationally representative, multi-stage stratified probability sample ($n = 1,271$) of women and men in South Korea. Via hierarchical regression models, we assessed the gendered effects of socioeconomic characteristics, health behavior, sex behavior, and safe sex attitude factors. According to the results, for groups with concurrent sexual partnership experience, if the subject was a single person with smoking and drinking who had engaged in sex resulting in unwanted pregnancy, and anal sex initiated before the age of 17, the likelihood of engaging in concurrent sexual partnerships was statistically significant. Furthermore, our gender-elaborated analysis demonstrated that the majority of sexual risk was borne by women. When the partners of concurrent sexual partnerships are categorized by type, the key characteristic of a casual relationship or relationship with female sex workers is one-night-stand sex, accompanied by drinking. This study found that, for groups with concurrent sexual partnerships experience, there is a statistical association between health risky variables and risky sexual behavior. We should attempt to intervene in these concurrent sexual partnerships groups for the effective management of sexually transmitted infections.

Keywords Concurrent sexual partners · Sexual risk · STI/HIV · Sex characteristics · South Korea

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Introduction

The Centers for Disease Control (CDC)'s "Behavioral Risk Factor Surveillance System" recommends that every country establish a system of surveillance of risky sexual behavior [1]. On the basis of this recommendation, in countries with low HIV prevalence, a clear need exists to target the high-risk population and to learn about the specific sexual behaviors exhibited by them. The groups with high risk of HIV exposure were as follows: drug injectors, young university students, military personnel, deviant teenagers, Men who have Sex with Men (MSM), Female Sex Workers (FSWs), and their customers. The diverse sexual relations in which people engage have finally turned sexual risk into a worldwide problem [2].

Sexology—the study of sexual interests, behavior, and functions—encompasses not only the sexual behavior between partners but also the following: first sexual experience, sexual methods, the number of sex partners, masturbation, and other sexual abuse [3]. Particularly in regard to sexually transmitted infections (STIs), this becomes a health science issue because, along with its high prevalence, discovery, and treatment are both difficult [4, 5]. Currently, STIs are underreported, and thus their prevalence is estimated to actually be significantly higher. It has been estimated that, annually, there are 3.33 million new positive cases of STIs worldwide, and this poses a serious threat to global population [6]. However, what's interesting here is that the STI groups evidence specific health behaviors and socioeconomic characteristics. In general, one type of risky behavior for exposure to STIs is concurrent sexual partnerships (CSP) [7]. This term indicates the concurrent engagement in sexual relations with someone other than the stable partner, regardless of marital status (that is, a single person having sex with someone other than a steady boyfriend or girlfriend).

Studies on CSP in the context of STIs are being continuously conducted in places like Africa [8]. However, virtually no research has been conducted to assess the mechanism that activates CSP, nor on groups with high prevalence of CSPs. MSM may be closely associated with CSP [9], but the characteristics of CSP cannot be explained simply by analyzing this single group. This is because several other risky populations exist, most notably FSWs [10]. Hence, analyses using national data must be conducted regarding the sexual behavior and dyadic relations of the population with STIs [11].

When sexual behavior results in CSP, the inevitable consequence is a social system in which STIs occur with greater prevalence. According to the results of the NHSLS (National Health and Social Life Survey) investigation, STIs constitute over 80% of the ten main types of legally designated infectious diseases in the US [12]. Thus, some sexual behaviors, such as CSP, must be assessed in a specific social surveillance system, in order to increase the proportion of the population that remains healthy.

This study, which used Korean national data, assessed the risky sexual behavior of a group of adult men and women reporting sexual experience within the past 1 year who, while in a relationship with a stable partner, engaged in sex with another person. With this analysis, the study aimed to specify the characteristics of CSP and to utilize the findings for future prevention of STIs.

Methods

Research Question

This study uses the sexuality variable of the NHSLS S4 and S6, but does not treat it as an independent variable as in existing studies, and rather handles it as a dependent variable. In

this case, the 0 value indicates a subject with a stable partner, whereas the 1 value denotes a subject with a stable partner but who is having sex with another person. To use the terminologies of the NHSLS, it is a group that engaged in "extramarital sex" and "extracohabitational sex" within the past 1 year. This group can be distinguished from the serial sexual partnership group in that the former has multiple sexual relationships while with a stable partner, whereas the latter has multiple sexual partners, but not concurrently. If STIs are present, the former group evidences a high risk for diffusion and is vulnerable to exposure [7, 12]. In other words, sexual risky behavior is associated closely with multiple sexual partnerships [7]. The risk factors and their partner's features among the characteristics of CSP group are significantly higher than those of the individuals having only stable partners at a point of STI prevalence [13].

The study assumption is that the CSP group has unique characteristics which differentiate it from the stable partner-only group. Such a tendency is particularly pronounced for women, due to socio-cultural factors. In addition, as sexual relations are dyadic, it is expected that differences will be observed according to partner type. Institutional research guidelines were followed.

Data and Measures

The data utilized in this study came from the "National Research of Sexual Behavior and Their Attitude Toward AIDS, 2003" managed by the Korean Federation for HIV/AIDS Prevention. From a total sample pool of 1,893 South Korean adults, 1,597 with sexual experience were initially selected, and from this group, a second sampling of 1,271 with a stable partner were filtered further and utilized for analysis. The CSP group, by gender, was comprised of 331 men (44.2% of the total males) and 141 women (21.6% of the total females), and by marital status, 159 single (55.8% of the total single) and 285 married people (26.6% of total married people). Accordingly, the male CSP rate was more than twice that of females, and the CSP rate for singles was almost twice as high as that of married people.

Concurrent sexual partnerships questions used as the dependent variable were predicated on items number 39 and below in the NHSLS, S4, "Have you ever engaged in sexual intercourse with someone other than your stable partner, regardless of marital status? (that is, a single person having sex with someone other than a steady boyfriend or girlfriend)", and were designed to distinguish the CSP subjects and the stable partner group. However, although this part was used in face-to-face interviews in the case of NHSLS, this study applied Self-Administered Questionnaires (SAQs) to all questionnaires. Questions for CSP subjects were also added to this. These were classified as the following: acquaintances from former times, casual relationships being initiated via internet chatting or at nightclubs, and FSWs—including "merry-making establishment employees". According to the results of this study, such criteria constituted a category that mutually excluded secondary sex partners. The sexual behavior measurements were based on Behavioral Surveillance Surveys (BSS) as international validated scales [14].

Analysis

Whether or not a subject engaged in sex with a person other than the primary partner within the past 1 year—that is, whether the subject engaged in CSP, was established as the dependent variable, and binary logistic regression was conducted. A nested model based on the order of factor input was constructed, and this was further elaborated by gender. With

regard to modeling for analysis, gender, age, and marital status were selected as socio-economic factor inputs in model 1, and smoking and suicide ideation were selected as health behavior factor inputs in model 2. The condom use belief variable discussed in model 4 is the sum derived from the standardized grade applied to the BSS scale, and when this value is high, it indicates a greater degree of self-control over belief.

Binary logistic regression was conducted with the dependent variable as CSP measured by the question of NHSLS, S4. This regression was a nested model consisting of the factors put into order, then elaborated by sex. The relevant socioeconomic factors were as follows: gender (reference group: woman), age, marital status (reference: single), monthly income (4 ordered group; from under 1,000,000 won to over 3,000,000 won), and education level (reference: university graduate). The health behavior factors were as follows: smoking (reference: present smoker), drinking (reference: drinking under two time per a week), and suicide attempt (reference: never). The risky sexual behavioral factors were as follows: engaging in sex under the age of 17 (reference: never), unwanted pregnancy (reference: never), STIs (reference: never), and anal sex (reference: never). The safe sex factors were as follows: condom use belief and self-efficacy. These scales generated by BSS constitute the total amount of standardized grades. If these grades are high, subjective belief and self-control ability are considered to be strong. In each analysis, multicollinearity was not found at a standard error level of 2.0.

Results

Descriptive Findings

The characteristics of the sample by gender demonstrate that 57.1% of males and 60.4% of females were aged between 20 and 30, and 38.0% of males and 28.1% of females were currently married, 39.3% of males and 33.9% of females fell into the largest group, earning a monthly income between 1 and 2 million won, 51.8% of males and 59.7% of females had a high school education or less, 49.9% of males and 7.0% of females were smokers, 46.4% of males and 16.4% of females reported being drunk three times per week, 29.2% of males and 28.1% of females have attempted suicide at some point, 9.4% of males and 5.0% of females reported having sexual experiences before the age of 17, 31.3% of males and 37.5% of females report an unwanted pregnancy experience, 3.6% of males and 0.8% of females have been infected with STIs, and 5.9% of males and 4.1% of females have engaged in anal sex (Table 1). Finally, a self-efficacy index was derived, and showed an average of 6.60 and 3.36 for males and 6.84 (SD = 2.605) and 3.08 (SD = 1.516) for females.

The Risky Behavior Model—Concurrent Sexual Partnerships or Not?

The results were as follows (Table 2). First of all, in model 1 which used only socio-economic factors as input, if the subject was a male [Exp(B) = 2.313] with high income [Exp(B) = 1.189], the likelihood of engaging in CSP was statistically significantly high. That is, the likelihood of males engaging in CSP was 131.3% higher than for females, and subjects with higher income levels evidenced a CSP probability higher than 18.9%. However, when the subject was married [Exp(B) = 0.266] with a higher education level [Exp(B) = 0.680], the likelihood of engaging in CSP was statistically significantly low.

Table 1 General characteristics of data ($N = 1,271$)

Variables	Categories	Male		Female	
		Freq.	Percent	Freq.	Percent
Age	20 ~ 29	296	31.9	291	30.4
	30 ~ 39	234	25.2	287	30.0
	40 ~ 49	258	27.8	258	27.0
	Above 50	141	15.2	121	12.6
Marital status	Married	337	38.0	258	28.1
	Single[a]	551	62.0	661	71.9
Monthly income (Korean Won)	Under 1,000,000	228	25.6	271	32.5
	1,000,001 ~ 2,000,000	350	39.3	283	33.9
	2,000,001 ~ 3,000,000	205	23.0	153	18.3
	Over 3,000,000	107	12.0	127	15.2
Education level	Under high school	468	51.8	552	59.7
	Over college	436	48.2	373	40.3
Smoking	Yes	464	49.9	67	7.0
	No	465	50.1	890	93.0
Drinking	Yes	431	46.4	157	16.4
	No	498	53.6	800	83.6
Suicide attempts	Ever	271	29.2	269	28.1
	Never	658	70.8	688	71.9
Sex initiation	Before 17	71	9.4	36	5.0
	After 18	687	90.6	688	95.0
Unwanted pregnancy	Ever	246	31.3	282	37.5
	Never	539	68.7	471	62.5
STIs	Yes	33	3.6	8	0.8
	No	896	96.4	949	99.2
Anal sex	Yes	55	5.9	39	4.1
	No	874	94.1	918	95.9
Belief of condom use[b]		6.60	3.099	6.84	2.605
Self efficacy[b]		3.36	1.847	3.08	1.516

[a] Divorced, separated, and widowed are included

[b] Mean and SD

Next, with the socioeconomic factors controlled, smoking, drinking, and suicide attempts were added as predictors of the health behavior of individuals. In model 2, which added health behavior factors as input, if the subject smoked [Exp(B) = 1.788], drank [Exp(B) = 2.323], or had attempted suicide [Exp(B) = 1.355], the likelihood of engaging in CSP was statistically significantly high. That is, the likelihood of smokers engaging in CSP was 78.8% higher than for non-smokers, and subjects reporting suicide attempts had a CSP probability 132.3% higher than the others. The change in the odds ratio of the model resulting from the added independent variables was negligible, but the gender difference, that is, the probability of engaging in CSP for males as compared to females, dropped significantly with the addition of the smoking, drinking, and suicide variables [Exp(B) = 1.379].

Table 2 The risk model of concurrent sex partnerships (nested model)

Variables		Model 1 Exp(B)	Model 2 Exp(B)	Model 3 Exp(B)	Model 4 Exp(B)
Socioeconomic factor	(Constant)	0.783	0.350	0.155	0.222
	Gender	2.313***	1.379*	1.339	1.311
	Age	1.006	1.013	1.018*	1.017
	Marital status	0.266***	0.278***	0.241***	0.248***
	Monthly income	1.189*	1.179*	1.189*	1.167
	Education level	0.680**	0.733*	0.756	0.757
Health behavior factor	Smoking		1.788***	1.801***	1.818***
	Drinking		2.323***	2.179***	2.140***
	Suicide attempt		1.355*	0.993	0.981
Sex behavior factor	Sex initiation			3.454***	3.740***
	Unwanted pregnancy			1.561**	1.550**
	STIs			1.592	1.502
	Anal Sex			1.994*	2.059**
Safe sex factor	Belief condom use				0.938**
	Self efficacy				1.047
df		5	8	12	14
−2 Log Likelihood		1480.111	1399.540	1244.543	1236.118
Nagelkerke R^2		0.138	0.215	0.255	0.263

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

A person who both drinks and smokes regularly was found to have a high probability of CSP risk, whereas a person with a stable partner had a very low CSP probability. This reflects a tendency of CSP to occur impulsively when in an inebriated state, usually as the consequence of drinking and smoking. In model 2, the explanatory power increased to 0.215. The most pronounced difference detected was for smoking, and according to our gender-based analysis, in the final model previously noted, the smoking impact was in fact found to fall principally on females. That is, the probability that a female smoker having two or more sex partners increased to 569.7% (Table 3). It appears that there is a need to explain theoretically why these females engaged in CSP to a greater degree. It is believed that females, when exposed to risky activities such as smoking, become further removed from their gender group than is the case with males, and thus become more vulnerable to CSP.

The third model involved sexual behavior factors, including early sex initiation, unwanted pregnancy, previous sexually-transmitted infections, and anal sex experience—socioeconomic and health behavior factors were controlled in this model. In model 3, if the subject reported early initiation of sex before the age of 17 [Exp(B) = 3.454], unwanted pregnancy experiences [Exp(B) = 1.561], and engaging in anal sex [Exp(B) = 1.994], the likelihood of engaging in CSP was statistically significantly high. However, the factor of previous STI infection cannot be a predictor of CSP. Despite the addition of explanatory variables, only marital status, monthly income, smoking, and drinking maintained their statistical significance. Namely, subjects that reported being smokers and drinkers frequently harbor higher CSP risk than the other married individuals in the study.

The last model involved safe sex factors, including belief in condom use and self-efficacy—in this model, the other factors were controlled. In model 4, if the subject has a

strong belief in condom use [Exp(B) = 0.938], the likelihood of engaging in CSP was statistically significantly low. That is, subjects with strong belief in condom use evidenced a CSP probability 6.2% lower than the others. These results demonstrate that CSP may have occurred impulsively in individuals who smoked and drank.

The Risky Behavior Model in CSPs by Sex

Sexual behaviors and their risky behaviors might be separated by sex. Thus, we elaborated the above model, Model 4 (Table 3). In this model, although the level of statistical significance level was similar to that in the existing analysis, the degree of coefficient size changed significantly. The sharpest difference was seen in the smoking variable. According to the elaborated model, the effect of smoking is actually a women's effect in the final model [Exp(B) = 6.697]. That is, the likelihood of women smokers engaging in CSP was 569.7% higher. In this study, 56.7% of males and 8.6% of females were smokers, but the vast majority of female smokers were younger women. Another coefficient difference was the early sex initiation variable, separated by males [Exp(B) = 3.168] and females [Exp(B) = 4.342]. In this study, 9.4% of males and 5.0% of females fell under this. Therefore, women in Korean society, if they are exposed to certain situations, including smoking or early sexual experiences in adolescence, might be considered a more vulnerable group than the group of males with the same experiences.

Table 3 The Risk Model of Concurrent Sex Partnerships by Gender

Variables		Male Exp(B)	Female Exp(B)
Socioeconomic factor	(Constant)	1.670	0.775
	Age	1.220	1.116
	Marital status	0.209***	0.379*
	Monthly income	1.281*	1.104
	Education level	0.856	0.663
Health behavior factor	Smoking	1.334	6.697***
	Drinking	2.023***	2.012*
	Suicide attempts	0.901	1.045
Sex behavior factor	Sex initiation	3.168***	4.342**
	Unwanted pregnancy	1.505*	1.590
	STIs	1.982	0.229
	Anal sex	2.021*	2.311**
Safe sex factor	Belief of condom use	0.947*	0.918*
	Self Efficacy	1.029	1.047
N		640	536
(Concurrent sex)		$(Y = 269/N = 371)$	$(Y = 112/N = 424)$
df		13	13
-2 Log likelihood		763.725	447.613
Nagelkerke R^2		0.207	0.270

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

The Risky Behavior Model in CSPs by Partner's Type

The CSP relational risk according to the CSP partner type (acquaintances, casual person, or FSWs) was then analyzed. The sex ratios in each case were 271 of total acquaintances (72.1%), 113 of total casual persons (38%), and 142 of total FSWs (45.5%).

The CSP risk according to CSP partner type was then analyzed (Table 4). For cases in which the CSP partners were acquaintances, no significant predictor was detected when the risky sexual factors were examined between the group having sexual relations and the group that did not engage in sexual relations. With regard to age, it appeared reasonable that the "one night stand" culture based on internet chatting or hooking up at clubs was prevalent mostly in young people in their twenties and thirties. With regard to drinking, we found it highly convincing that it frequently accompanied one-night-stand sex between casual partners. This result was deemed reasonable, as the process of engaging in sexual relations with FSWs generally involves drinking together at entertainment spots that cater to men, then going on to "second rounds" (having sex) or drinking first and then seeking out FSWs. The finding that higher income resulted in greater CSP with FSWs showed that CSP probability is greater in the middle or higher social classes.

Discussion

CSP is defined as engaging in sexual relations with someone other than the stable partner, regardless of marital status. Although CSP is less continuous than stable-partner relationships, engaging in sex with a multitude of partners over a short time period makes one not only vulnerable to venereal diseases but also significantly more exposed to risky sexual behavior [7, 12]. In the existing sexology studies, the x variable was a key variable in determining the likelihood of STIs and the adolescent sexual behavior today also evidences such a tendency [3]. However, this variable is largely utilized as an independent variable and is not considered to be a dependent variable. The reason for this is that it is assumed to have a special distribution [7]. However, the recent network approach to sexuality has

Table 4 The risk model of concurrent sex by partner type

Variables	Acquaintances ($n = 271$) Exp(B), 95% CI	Casual partners ($n = 113$) Exp(B), 95% CI	Sex workers ($n = 142$) Exp(B), 95% CI
(Constant)	1.179	3.575	0.129
Gender	0.999 (0.550–1.814)	1.116 (0.590–2.112)	3.873 (1.927–7.783)***
Marriage	1.296 (0.657–2.555)	1.227 (0.584–2.577)	1.230 (0.621–2.438)
Age	0.989 (0.958–1.022)	0.942 (0.906–0.980)**	0.972 (0.939–1.006)
Income	0.894 (0.673–1.187)	0.940 (0.686–1.289)	1.407 (1.039–1.906)*
Education	1.670 (0.973–2.868)	0.654 (0.370–1.157)	0.917 (0.526–1.599)
Smoking	1.482 (0.834–2.635)	0.812 (0.434–1.520)	1.793 (0.998–3.222)*
Drinking	1.071 (0.620–1.851)	2.907 (1.536–5.502)***	1.805 (1.013–3.218)*
Suicide	1.249 (0.754–2.070)	1.167 (0.681–2.000)	1.384 (0.817–2.345)
df	8	8	8
−2 Log likelihood	381.633	324.978	341.663
Nagelkerke R^2	0.038	0.135	0.210

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

begun to uncover specific sexually risky populations [15], and has also shown that sexual behavior issues are binary or multiple problems [12, 16]. Thus, it is necessary to grasp how and to what degree the specific sexual behavior of CSP subjects are related with general sexual risk behavior variables and sexual partner types. This must involve the understanding that the structure of sexual relationships today has changed, and that there are gender differences in this regard [17], and it is particularly salient that women tend to derive greater sexual satisfaction from a stable relationship, such as marriage [18].

Initial research into extramarital sex has actually been related to religious faith and has been conducted in the US, where it has been defined as follows: Extramarital sex occurs when a married person engages in sexual activity with someone other than their marriage partner. As is well-known, the first survey on extramarital sex was undertaken by Kinsey, who stipulated that 50% of the males and 26% of females in the US had engaged in extramarital sex [19, 20]. However, according to the NHSLS, such figures are clearly predicated on bias, and when the general trend is examined, in the nearer to recent cohort, according to the General Social Survey (GSS), 1991, the numbers declined and the results of the SAQ type questioning of subjects aged 18–59 showed that 21.7% of males and 13.4% of females reported having experiences with extramarital sex [7]. Furthermore, according to the NHSLS, in 1992, without marital status, 21.5% of males and 15.2% of females had the same experience among people who had stable sex partners [7].

The data for this study showed that 66.4% of the respondents had not engaged in extramarital sex, and those with 2–4 sex partners made up 19.1%, which is higher than the NHSLS data, which reported 12.8%. However, as the target subjects for the two studies are different and the timing and methodology of the research are also dissimilar, at the level of comparative study known as EMS, or extramarital sex [21], it is difficult to come to a direct conclusion. This is particularly so because of the research tendency to view extramarital sex as adultery from an ethical normative basis [22] differs from the CSP concept, which is expressly based on the number of sex partners. Despite this, there have been reports that extramarital sex is also connected to STIs [23].

Evaluations for Sexual Risk Taking Behaviors

According to the results of this study, the probability of CSP was high with drinking [Exp(B) = 2.140], smoking [Exp(B) = 1.818], unwanted pregnancy [Exp(B) = 1.550], and anal sex experience [Exp(B) = 2.059]. The key risk factor of smoking was substantially more impactful for women.

This result corresponds with the report that risky sexual behavior, such as premarital sex in 18–27-year-old singles is related to smoking [24]. Particularly in the case of premarital sex, the odds of being a "current smoker" increased by 4.6-fold [25]. Previous studies have also shown that, as compared with non-smokers, smokers had a 4.6 times higher probability of having CPS [26]. A study conducted by Takakura et al. [27] in which it was noted that more students were observed to engage in all three activities of sex, smoking, and drinking than just one or two of the three, showed that there is a connection between smoking, drinking, and sex experience. In addition, drinking was associated with risky sexual behavior in a fashion similar to smoking, and pregnancy experience was also significant [28]. For those enjoying binge drinking, the CSP probability was 4.4 times greater [29], and this also supported the results of this study.

For mental health factors such as suicide ideation, unlike what was observed in a previous study [30] which implied a connection to risky sexual behavior, we noted no such

statistical association. However, marriage is the most crucial factor in the systemic prevention of CSP, most notably adultery.

Predictors of Concurrent Sexual Partnerships

According to the results of this study, specific risky sexual behavior is a characteristic that is more pronounced in the group reporting concurrent partnerships. Moreover, due to the dyadic characteristics of sexual relations, such relationships are always connected to the risk of exposure to STIs. In other words, as the peculiarities of the group intentionally engaging in CSP become more pronounced, the internal relationships within the group actualize the occurrence of STIs. When the members of this group have sex with people by chance or with people with no stable partners, STIs readily spread.

When the differences in risky sexual factors according to CSP partner type are assessed, people who reported engaging in casual sex tend generally to be young [Exp(B) = 0.942, $P < 0.003$] and drinkers [Exp(B) = 2.907, $P < 0.001$]. However, those having sex with FSWs were generally found to be drinkers [Exp(B) = 1.805, $P < 0.045$] who were classified in the high monthly income bracket [Exp(B) = 1.407, $P < 0.027$]. These results show that CSP can be differentiated in accordance with partner type.

Based on the results thus far, the following conclusions can be reached. First, for groups with CSP experience, there is a statistical association between health risky variables (smoking, drinking) and risky sexual behavior (early sex initiator, unwanted pregnancy). Second, the non-CSP group has a strong belief in condom use as compared with the CSP group, and particularly when the stable partner relationship is systemized through marriage, the probability of sex outside the primary relationship is reduced substantially. Third, smoking has greater explanatory power for women than men, while the preventive effects of marriage were shown to be greater in men. Fourth, when the partners of CSP are categorized by type, the key characteristic of casual relationship or relationship with FSWs is one-night-stand sex accompanied by drinking. By way of contrast, with regard to relationships with acquaintances, nothing can be explained by the existing variables. It can thus be conjectured that individual's sexual behavior will differ depending on the period of CSP maintenance.

CSP's Sexual Risk Taking Model and its Implications for STIs Prevention

Sex script theory is a theory which attempts to explain cases in which one engages in concurrent sexual relations with multiple partners while maintaining a stable partner relation [31]. This theory views the sexual urge not merely in biological terms, but as originating from the cultural pattern of sexual behavior to which a person has adapted over a lifetime. Of course the behavior of an individual does not completely follow a given culture, but this theory stipulates that there is a specific master status inherent amidst the sexual behavior that repeats in a regular form. The fact that CSP has no social legitimacy and runs counter to the norm, and that when such relations occur the participants display specific characteristics, serves as evidence that supports the sex script theory.

The fact that, despite the fact that Korean society generally views CSP as undesirable, the fact that such a phenomenon is showing up in a variety of forms can be explained by the script theory. The script revealed in this study is a cultural script that states that when CSP occurs for a short period and by chance, it involves post-drinking "booking" or searching for FSWs. The script theory, however, is weak with regard to explaining the subjects engaging in CSP or the phenomenon of entering into such relations. This cultural

script only explains the case for men, and fails to explain the phenomenon in the case of women, where the "smoking and early sex experience" group engages in CSP.

On the other hand, social network theory on sexual relations does not reduce such phenomenon to a master status, and rather explains it in terms of the relationship between the actor and the event [16]. When a generalized event, namely "one-night-stand sex" occurs, the actor who has repeatedly participated in such an event has a low susceptibility to sexual deviation, and has a high probability of having a social network that structuralizes the reproduction of such behavior. However, script theory cannot explain the gender differentiation that arises here. In a society in which CSP is normatively considered to be sexually deviant, and if it is assumed that the restraints on women are stricter, male participation in CSP will be large but weak in intensity, whereas female participation will be small, but stronger in intensity.

However, if this is a reproducible structure, the differences in male and female behavior in dyadic sexual relations cannot be explained simply by the culture of master status. In the case of casual encounter, which has a common sex behavior variable, although the interpersonal script that emphasizes specific situations more than a cultural script may prove more useful, the long-term relationship between acquaintances that cannot be explained by existing variables must, in the end, be explained by understanding the peripheral network that supports the CSP risks of males and females. This is generally referred to as the "homophily effect" [7]. Domestically, studies concerning sexual relations and STIs have been generally limited to MSM and HIV [32]. However, if public health interventions are made, based on sociological context and using network analysis, it will prove possible to establish more effective policies by understanding the diffusion pattern of STIs [7].

Limitations

This study has uncovered and explained the characteristics of individuals who maintain sex partners in addition to their stable partners, and determined their sexual risk factors, using the data from the Korean National Sexual Behavior and their Attitude toward HIV/AIDS study of 2003. However, owing to limitations in the types of available data, this study was unable, in defining CSP, to separately analyze the characteristics of married and single subjects. In particular, a group such as the MSM, without a stable partner and quite active in CSP, could not be separated. This should be studied further in the process of elaborating the existing extramarital concept. However, the significance of this study is in modeling the core information for STI prevention, most notably the number of sex partners, via the concept of CSP as the dependent variable of risky sexual behavior and by applying social network theory to people who are susceptible to STIs. The public health work required in the future will involve the implementation of interviews to further specify the socioeconomic characteristics of these groups.

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