



**Laos (2006): HIV/AIDS TRaC Study
among Transgenders in Luang Prabang,
Vientiane, and Savannakhet**

Second Round

The P S I D a s h b o a r d

**Vientiane, Lao PDR
June 2006**

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Summary

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Background & Research Objectives In comparison with its neighbors, Laos is a low HIV prevalence country. Prevalence currently stands at less than 0.1% for the general population aged 15 to 49. Recently, the Lao government has included men who have sex with men (MSM) in the National Strategic and Action Plan on HIV/AIDS/STI 2006-2010. Because of the sensitive nature of this issue, there are no official data on the MSM community in Laos. PSI began conducting interpersonal communications activities in a limited number of locations frequented by a sub-group of MSM (locally called "katoey") in late 2002. Katoey are biological males who self-identify as female, but may dress as either males or females. In addition to its communication strategy, PSI/Laos launched a product intended to appeal to katoey and their partners, *Number One Deluxe Plus*, which contains two *Number One* condoms packaged with a sachet of water-based lubricant. A tracking survey was conducted in 2004 that revealed three determinants of condom use with casual partners and provided baseline indicators for program monitoring and evaluation. This report contains results from the second round of the tracking study. The objectives of the follow-up study were to: 1) Obtain data to inform PSI's interventions with katoey and their partners; 2) Segment katoey according to condom use at last sex with phoubao (casual partners)¹ and identify key determinants (OAM – Opportunity, Ability and Motivation) associated with behavior; 3) Monitor changes in key indicators over time; and 4) Evaluate the

¹ Phoubao are defined as biological males, including foreigners who do not hold Lao citizenship, with whom the respondent is not in a relationship, or someone that the respondent might have had sex with only once or a few times.

impact of PSI's katoey-specific interventions on behavior change as well as katoey's opportunity, ability, and motivation (OAM) to adopt condom use.

Methodology Time-location sampling was used to collect data from katoey (n=415) and convenience sampling was used to sample their male partners (n=229). All respondents were aged 15 to 35 and from three urban centers in Laos: Vientiane, Luang Prabang, and Savannakhet. For inclusion in the study, respondents must have had oral or anal sex with a man in the past 6 months. The questionnaire covered demographic information, sexual behavior, condom and lubricant use, OAM determinants, and exposure to interventions. Multivariate analyses were performed to identify significant determinants of condom use among katoey. UNIANOVA tests were used on katoey data to compare baseline and follow-up figures and complete the monitoring table. UNIANOVA tests were also used to evaluate the impact of PSI's katoey interventions on items that demonstrated significant changes across the baseline and follow-up studies. Simple frequencies were conducted on partner data. The focus of the body of this report is behavior and OAM among katoey. Descriptive data for katoey and for partners are presented in the appendices.

Main Findings There were significant increases between 2004 and 2006 for the following behavioral indicators: condom use at last anal sex with phoubao ($p < .001$), condom use at last sex with fan² ($p < .001$), condom use during any sex in the past week ($p < .001$), and water-based lubricant use during anal sex ($p < .001$). There were also significant increases in perceived availability of Number One Deluxe Plus (NODP) condoms in places where katoey meet sex partners ($p < .001$) and spend time during the day ($p < .001$). More katoey in 2006 also reported that condoms are available in locations where they spend time during the day ($p < .001$). The majority of respondents (91.4%) said that NODP was easily accessible when needed and there was an increase in the proportion who reported that NODP outlets could be conveniently accessed ($p < .05$). More than half of respondents could name at least two places to obtain or buy NODP. Knowledge about the role of consistent and correct condom use with regular partners in preventing STIs improved over time ($p < .001$). Unfortunately, there were significant declines in three knowledge items: the role of oil-based lubricants in promoting condom breakage ($p < .001$), the increased risk of contracting HIV when infected with STIs ($p < .001$), and the idea that a healthy-looking person can be infected with HIV ($p < .001$). The attitude "it is very important to use condoms with regular partners to prevent HIV" improved over time ($p < .001$), however, the intention to use condoms with casual partners if water-based lubricant is available declined significantly ($p < .001$).

² Fan are defined as biological males, including foreigners who do not hold Lao citizenship, with whom the respondent has sex on a regular basis or with whom the respondent is in a relationship.

Segmentation analysis revealed that katoey who used condoms with phoubao at last anal sex are characterized by beliefs about the need to use water-based lubricant and condoms together, having discussed HIV/AIDS with someone (s)he knows, concern about getting HIV/AIDS, hearing of NODP, and insisting on condom use every time with phoubao in the past 6 months.³

Evaluation analysis showed that high exposure to katoey-specific interventions had a significant positive impact on condom use at last anal sex with phoubao ($p < .05$). In two cases, exposure appears to have had an effect on behavior, but it is unclear whether high or low exposure is necessary, “condom use for any sex in last week” ($p < .001$) and “ever use of water-based lube during anal sex” ($p < .01$). While increases in perceived NODP availability and knowledge about consistent and correct condom use may be related to exposure, they are not associated with exposure to katoey-specific interventions: they may be attributed to exposure to mass media, another organization’s interventions, or seeing products available in outlets. There was no indication that PSI’s katoey interventions had a positive effect on condom use with fan partners. Likewise, it appears that environmental or effects unrelated to the exposure measures evaluated in this study improved the perception that condoms are available in places where katoey spend time during the day and the attitude that it is important to use condoms with regular partners. Of greatest concern are the three knowledge factors and the one intention item that were better at baseline than for any exposure group in 2006: oil-based lubricant can promote condom breakage; having STIs can increase the likelihood of contracting HIV; healthy-looking people can be HIV-positive, and the intention to use condoms when water-based lube is available.

Programmatic Recommendations 1) Build and improve upon existing peer education and outreach programs. Strengthen complementary activities and information provision at PSI’s Peaun Mai drop-in centers; 2) Improve messages related to consistent condom use during anal sex with all types of partners; 3) Improve knowledge and correct misconceptions about HIV/AIDS, STIs, condom use, and lubricant use among katoey and their partners; 4) Promote the benefits of water-based lubricant use, including its role in preventing HIV/AIDS when used in conjunction with condoms; 5) Improve NODP availability to katoey and their partners through social marketing; 6) Continue and improve upon current PSI katoey activities; 7) Promote STI treatment kits; 8) Improve the next tracking study round to include better measures of exposure so PSI’s impact on katoey’s behavior and OAM can be assessed, particularly the added benefit of high exposure.

³ Segmentation analysis focused specifically on phoubao since there were insufficient sample sizes of katoey with fan partners to conduct statistically meaningful analyses.

Monitoring Table:

Trends in behavior, OAM determinants, and exposure among katoey in Luang Prabang, Vientiane, and Savannakhet, Laos (November 2004 and June 2006)

Risk: Katoey⁺ aged 15-35

Behavior: Condom use and water-based lubricant use

INDICATORS	November 2004 N=288	June 2006 N=324	Sig.
BEHAVIOR/USE	%	%	
❖ Used condom with phoubao at last anal sex ⁴	57.5	75.5	***
❖ Used condom with fan at last anal sex ⁵	23.5	76.7	***
❖ Used a condom during any of the times s(he) had sex in the last week	23.8	39.2	***
❖ Number One Deluxe Plus was the first condom ever used	32.2	35.2	n.s.
- Ever used water-based lubricant for anal sex	54.6	81.1	***

OPPORTUNITY			
<i>Availability</i>	%	%	
❖ Number One Deluxe Plus is available in any of the places where meet sex partners ⁶	5.8	26.5	***
❖ Number One Deluxe Plus is available in any of the places where spend time during the day ⁷	8.3	22.3	***
❖ Convenient access to Number One Deluxe Plus outlets ⁸	5.9	11.6	*
❖ Number One Deluxe Plus is easily accessible when needed ⁹	n/a	91.4	
❖ Knows at least two places to obtain/buy Number One Deluxe Plus ¹⁰	n/a	54.0	
❖ Aware of mobile STI treatment services	n/a	n/a	
❖ Perceive new STI kit to be a high-quality and effective product	n/a	n/a	
❖ Seek STI treatment with STI kit	n/a	n/a	
- Condoms available any of the places where spend time during the day ¹¹	55.0	84.6	***

Control variables for each item included in the table are as follows: province where the interview was conducted, the age of respondents, the highest level of education completed, occupation, average monthly income in kip and current living arrangements.

⁴ Among respondents who had ever used a condom and had phoubao (n=612). In round 1, condom use at last sex with phoubao was defined as katoey who had used a condom the last time they had anal sex with phoubao partners. However, in round 2, condom use at last sex with phoubao had a more stringent definition and was defined as katoey who responded that they had used a condom the last time they had anal sex from the moment of penetration to the end of intercourse with phoubao partners.

⁵ Among respondents who had ever used a condom and had fan (n=455).

⁶ This item includes respondents who answered "all or some places" to the following question, "Would you say NODP is available in or near the places where you meet your sex partners?"

⁷ This item includes respondents who answered "all or some places" to the following question, "Would you say NODP is available in or near the places where you spend time during the day?"

⁸ Convenient access to NODP outlets is measured through a combination of two items: (1) NODP available most places where meet sex partners and (2) NODP available most places where spend time during the day

⁹ This item was measured only in 2006 (n=163).

¹⁰ This item was measured only in 2006 (n=163).

¹¹ This item includes respondents who answered "all places, most places, or some places" to the following question, "Are condoms available in or near the places you spend time during the day?"

Monitoring Table

Lao PDR, 2006

INDICATORS	November 2004 N=288	June 2006 N=324	Sig.
ABILITY			
<i>Knowledge</i>	%	%	
❖ Knows that oil-based lubricants increase condom breakage	33.6	9.1	***
❖ Knows that having an STI can increase the likelihood of contracting HIV	87.9	75.3	***
❖ Can identify at least two STI symptoms	63.5	60.5	n.s.
❖ Knows that a healthy-looking person can still be infected with HIV	90.4	49.5	***
❖ Knows that consistent and correct condom use with regular partner can prevent HIV ¹²	n/a	96.9	
❖ Knows that consistent and correct condom use with regular partner can prevent STI	89.3	97.3	***
❖ Knows unprotected anal sex is risky for HIV ¹³	82.2	n/a	
❖ Knows that partners they know well can be a risk for HIV/STI transmission	n/a	n/a	
❖ Can cite, unprompted, at least two of the following products/services for HIV/AIDS prevention: NOD, NODP, VCT	n/a	n/a	
❖ Knows at least 3 BCC messages	n/a	n/a	
<i>Self Efficacy</i>	%	%	
- Always able to insist on condom use with phoubao in the past 6 months	31.6	34.8	n.s.
<i>Social Support</i>	%	%	
- Has discussed HIV/AIDS with someone (s)he knows ¹⁴	n/a	24.6	

MOTIVATION			
<i>Attitudes</i>	%	%	
- Believes it is very important to use condoms with regular partners to prevent HIV	58.7	91.7	***
<i>Beliefs</i>	%	%	
- Believes that if uses lubricant, still must use a condom ¹⁵	n/a	76.6	
<i>Intention</i>	%	%	
❖ Much more likely to use condoms with casual partners if water-based lubricant available	71.3	56.1	***
<i>Threat</i>	%	%	
- Very concerned about getting HIV/AIDS	71.9	71.1	n.s.

¹² This item was measured only in 2006 (n=414).

¹³ This item was measured only in 2004 (n=288).

¹⁴ This item was measured only in 2006 (n=414).

¹⁵ This item was measured only in 2006 (n=415).

Monitoring Table

Lao PDR, 2006

INDICATORS	November 2004 N=288	June 2006 N=324	Sig.
EXPOSURE	%	%	
- Has heard of Number One Deluxe Plus	53.4	47.6	n.s.
- Has ever heard of PSI katoey activities	n/a	78.6	
- Has ever read the PSI katoey brochure	n/a	56.6	
- Has ever heard of the Pheun Mai drop in center	n/a	59.5	
- Has ever been contacted by a PSI peer educator	n/a	47.7	
- Has ever attended a PSI group discussion ¹⁶	n/a	85.9	
- Has ever attended a PSI camping/training session ¹⁷	n/a	48.0	

+Katoey are defined as biological males who self-identify as female, may dress as men or women

❖ Indicates logframe indicator

n/a Items not measured at round 1 and/or 2: they will be measured in subsequent survey rounds

* < .05 p-value; ** < .01 p-value; *** < .001 p-value

n.s.= non-significant

¹⁶ Among those who had ever been contacted by a PSI peer educator (n=198).

¹⁷ Among those who had ever been contacted by a PSI peer educator (n=198).

Monitoring Analysis:**Trends in behavior, OAM determinants, and exposure among katoey in Luang Prabang, Vientiane, and Savannakhet, Laos (November 2004 and June 2006)**

The preceding monitoring table was prepared in accordance with PSI's behavior change framework, PERForM¹⁸, and presents a comparison of baseline indicators to second round study data. The monitoring table displays trends in behavior, katoey's OAM to adopt safer sexual practices, and their exposure to PSI interventions. Some items presented in the table were only measured during one survey round. In some cases, items that were included in the 2004 survey were eliminated because they were no longer needed, they were improved with new questions, or because respondents scored so positively on baseline indicators that they were no longer programmatic priorities (this was the case for some knowledge items). Sociodemographic characteristics were used as controls when testing whether there was a significant change over time for each behavior and OAM variable.¹⁹ Indicators that were new in 2006 will be tracked in subsequent survey rounds and monitored for significant changes.

Several behavior and product use items were found to be significant during monitoring analysis. Around three quarters of katoey reported condom use at last anal sex with phoubao and fan (75.5% and 76.7%, respectively), which was a significant increase from the first survey ($p < 0.001$). Additionally, significantly more katoey reported using condoms during sex in the past week (23.8% vs. 39.2%, $p < .001$). The proportion of respondents who reported using water-based lubricant for anal sex increased significantly from 56.6% in 2004 to 81.1% in 2006 ($p < .001$). There was no difference in the proportion of respondents who reported that NODP was the first condom ever used.

Under the opportunity category, four items showed significant improvement over time. There was a significant increase in the proportion of katoey who reported that condoms are available in locations where they spend time during the day (55.0% vs. 84.6%, $p < .001$). There were significant increases in perceived availability of Number One Deluxe Plus (NODP) condoms in places where katoey meet sex partners (5.8% vs. 26.5%, $p < .001$) and spend time during the day (8.3% vs. 22.3%, $p < .001$); however levels of perceived NODP availability continued to remain

¹⁸ See Annex 14 for diagrammatic presentation of PSI's behavior change framework.

¹⁹ Sociodemographic characteristics included as controls included province where the interview was conducted, the age of respondents, the highest level of education completed, occupation, average monthly income in kip and current living arrangements. Because these variables were included as controls, it was not necessary to check for significant differences in sociodemographic variables between data sets.

low in 2006. On the other hand, the majority of respondents said that NODP was easily accessible when needed (91.4%) and NODP outlets could be conveniently accessed (94.3%). More than half of respondents could name at least two places to obtain or buy NODP (54.0%). The other access item, “convenient access to NODP outlets,” was measured by combining two items, “NODP available in most places where katoey meet sex partners” and “NODP available where katoey spend time during the day.” Based on this definition, a significant increase was detected in the number of katoey reporting convenient access to NODP outlets (5.9% vs. 11.6%, $p < 0.05$).

In terms of ability, one knowledge item showed a significant improvement over time. More katoey in 2006 could identify the role of consistent and correct condom use with regular partners in preventing STIs than could do so in 2004 (89.3% vs. 97.3%, $p < .001$). 96.9% of katoey knew that consistent and correct condom use with a regular partner can also prevent HIV. Unfortunately, there were significant declines in some knowledge items over time, notably that the role of oil-based lubricants in promoting condom breakage (33.6% vs. 9.1%, $p < .001$); the increased risk of contracting HIV when infected with STIs (87.9% vs. 75.3%, $p < .001$); and the idea that a healthy-looking person can still be infected with HIV (90.4% vs. 49.5%, $p < .001$). (These negative trends are explained more fully in the Evaluation Analysis section of the report.)

Also under ability is social support, which is identified as a significant item in the segmentation table for the second round of data collection (presented later in this report). In 2006, 24.6% of katoey respondents had discussed HIV/AIDS with someone they knew. This item was not measured in 2004. One self efficacy item that was also significant on the segmentation table was measured. There was no significant difference in the proportion of katoey who said that they could always insist on condom use with phoubao partners in the last six months.

For motivation, several items were included on the monitoring table. One attitudinal item showed significant improvement in 2006, “it is very important to use condoms with regular partners to prevent HIV (58.7% vs. 91.7%, $p < .001$). The belief “if lubricant is used, then a condom should also be used” was only measured during the second survey round: 76.6% of katoey agreed with this statement. The intention “much more likely to use condoms with casual partners if water-based lubricant is available” demonstrated a significant decline across study rounds (71.3% vs. 56.1%, $p < .001$). For the last item under motivation, threat, no significant difference was found

between study rounds in the proportion of katoey who reported that they are very concerned about getting HIV/AIDS.

In terms of exposure, there was no difference significant difference between katoey in 2004 and katoey in 2006 who reported having heard of NODP. Approximately half of respondents in each study round had heard of the product.

Segmentation Table:

Determinants of condom use at last anal sex with phoubao among katoey in Luang Prabang, Vientiane, and Savannakhet, June 2006

Risk: Katoey⁺ aged 15-35

Behavior: Condom use at last anal sex with phoubao (casual partners)[#]

INDICATORS	Condom use at last sex with phoubao (n=324)		Sig.
	Yes (n=244) 75.3%	No (n=80) 24.7%	
ABILITY			
<i>Social Support</i>	%	%	
- Has discussed HIV/AIDS with someone (s)he knows	28.1	14.4	*
<i>Knowledge</i>			
- Knows that having an STI increases the likelihood of contracting HIV	77.9	65.0	n.s.
<i>Self efficacy</i>			
- Always able to insist on condom use with phoubao in the past 6 months	41.7	15.4	*
MOTIVATION			
<i>Beliefs</i>	Mean	Mean	
- Believes that if uses lubricant, still must use a condom	4.45	4.05	*
<i>Locus of Control</i>	Mean	Mean	
- Fate does not determine whether s(he) gets HIV	4.24	3.92	n.s.
<i>Threat</i>	%	%	
- Very concerned about getting HIV/AIDS	51.8	35.9	*
POPULATION CHARACTERISTICS			
	%	%	
- Age: 21-35 years old (vs. 15-20 years old)	52.9	56.3	n.s.
- Resides in Vientiane Capital (vs. Luang Prabang or Savannakhet)	75.0	76.3	n.s.
- Has traveled abroad in the last 3 months	37.7	25.3	n.s.
- Has ever used Number One Deluxe Plus for anal sex with phoubao	54.9	38.8	n.s.
- Used oil-based lubricant every time with condom during anal sex	43.2	31.3	n.s.
<i>Exposure</i>	%	%	
- Has heard of Number One Deluxe Plus	67.6	82.5	*

+Katoey are defined as biological males who self-identify as female and may dress as men or women

* < .05 p-value; ** < .01 p-value; *** < .001 p-value

n.s.= non-significant

[#] Condom use at last sex with phoubao partners is defined as using a condom during the last episode of anal sex from the moment of penetration to the end of intercourse

Hosmer-Lemeshow goodness-of-fit: χ^2 (df=7) =12.065, p<0.098

Omnibus goodness-of-fit: χ^2 (df=5) =50.376, p<0.001

Segmentation Analysis:**Determinants of condom use at last anal sex among katoey in Luang Prabang, Vientiane, and Savannakhet, June 2006**

Logistic regression analysis revealed five significant predictors of condom use at last anal sex with phoubao. All significant variables from the first round of data collection were included in the analysis for the second round. Results for each significant variable are reported in the preceding segmentation table, which shows all variables included in the development of the model, presented by condom use at last sex with phoubao. Proportions for each significant predictor are presented and adjusted for the effects of other significant factors in the model. Unadjusted proportions are presented for items not significant at the multivariate level. Two control variables were used during analysis, age and residence. Multi-collinearity was an issue with the other socio-demographic items measured, so they were excluded from the model.

For ability, the **social support** item, “has discussed HIV/AIDS with someone (s)he knows,” was a significant factor in the model. Condom users at last anal sex were more likely to have discussed HIV/AIDS with someone they knew than katoey who did not use condoms with phoubao at last anal sex (28.1% vs. 14.4%, $p < 0.05$). Condom users were also more likely than non-users to express **self efficacy** for condom negotiation. A higher proportion of condom users than non-users said that they were always able to insist on condom use with phoubao in the past 6 months (41.7% vs. 15.4%, $p < 0.05$).

Under motivation, two items were significant. The **belief** item was measured on a six-point Likert scale, with choices ranging from strongly agree to strongly disagree. Condom users had a higher mean score than non-users on the item “if lubricant is used, you must still use a condom” ($\bar{x} = 4.45$ vs. $\bar{x} = 4.05$, $p < 0.05$). One **threat** item was a significant determinant of condom use at last anal sex with phoubao. Condom users at last anal sex with phoubao were more likely to report being “very concerned about getting HIV/AIDS” than non-users (51.8% vs. 35.9%, $p < 0.05$).

Finally, one determinant was identified under population characteristics. In terms of **exposure**, condom users were less likely to have heard of Number One Deluxe Plus than were non-users (67.6% vs. 82.5%, $p < 0.05$). The reason for this finding is unclear, although it may be related to the use of condoms and lubricants separately: non-users may purchase Number One Deluxe Plus only for the lubricant and discard the condoms.

Evaluation Table:
Impact of PSI's katoey interventions on behavior and OAM, Luang Prabang, Vientiane, and Savannakhet, 2006
Risk: Katoey⁺ aged 15-35

INDICATORS	Exposure to PSI's Katoey Interventions ²⁰				
	Ref. (n=288) 41.0%	None (n=58) 8.3%	Low (n=159) 22.6%	High (n=198) 28.2%	Sig ²¹
BEHAVIOR/USE²²	%	%	%	%	
- Used condom with phoubao at last anal sex	57.5 ^a	77.9 ^b	68.0 ^b	80.3 ^c	***
- Used condom with fan at last anal sex	23.5 ^a	83.7 ^b	70.2 ^b	79.8 ^b	***
- Used a condom for any sex in the last week	23.8 ^a	33.7 ^{a,b}	39.2 ^b	40.7 ^b	**
- Ever used water-based lubricant for anal sex	54.6 ^a	64.6 ^{a,b}	76.0 ^b	86.4 ^b	***
OPPORTUNITY					
<i>Availability</i>	%	%	%	%	
- Number One Deluxe Plus is available in any of the places where meet sex partners	5.7 ^a	55.4 ^b	23.6 ^c	25.4 ^c	***
- Number One Deluxe Plus is available in any of the places where spend time during the day	8.3 ^a	44.4 ^b	17.5 ^{a,b}	22.9 ^b	**
- Convenient access to Number One Deluxe Plus outlets	5.9 ^a	9.2 ^{a,b}	10.2 ^{a,b}	13.3 ^b	n.s.
- Condoms available any of the places where spend time during the day	55.0 ^a	83.2 ^b	81.2 ^b	87.5 ^b	***
ABILITY					
<i>Attitudes</i>		%	%	%	
- Believes it is very important to use condom with regular partners to prevent HIV	58.8 ^a	94.7 ^b	87.9 ^b	93.9 ^b	***
<i>Knowledge</i>					
- Knows that oil-based lubricants increase condom breakage	33.6 ^a	1.6 ^b	9.3 ^b	11.0 ^b	***
- Knows that having an STI can increase the likelihood of contracting HIV	87.9 ^a	66.9 ^b	75.0 ^b	77.8 ^b	***
- Knows that a healthy-looking person can still be infected with HIV	90.5 ^a	43.5 ^b	46.3 ^b	53.8 ^b	***
- Knows that consistent and correct condom use with regular partner can prevent STI	89.3 ^a	96.2 ^{a,b}	97.6 ^b	97.4 ^b	**

²⁰ The "baseline" category contains respondents who were surveyed 2004. The "none" exposure category contains respondents who had never heard of PSI's katoey activities but may have participated in activities for men-who-have-sex-with-men, including katoey, sponsored by other organizations, including LYAP or the Burnet Institute. The "low" exposure category contains respondents who had ever heard of PSI katoey activities, read the PSI katoey brochure, or heard of the Pheun Mai katoey drop-in center. "High" exposure contains respondents who had ever been contacted by a PSI katoey peer educator, attended a PSI group discussion, or attended a PSI camping/training session.

²¹ Proportions with the same letter in their superscripts do not differ significantly from one another according to the least significance difference (LSD) test. The stars in the last column represent the overall effect of exposure on the measured item.

²² Percentages or means are adjusted for demographic characteristics (i.e., province, age, education, occupation, average monthly income, and living situation).

INDICATORS	Exposure to PSI's Katoey Interventions ²³				
	Ref. (n=288) 41.0%	None (n=58) 8.3%	Low (n=159) 22.6%	High (n=198) 28.2%	Sig ²⁴
MOTIVATION					
<i>Intention</i>	%	%	%	%	
- Much more likely to use condoms with casual partners if lubricant available	71.4 ^a	46.5 ^b	56.3 ^b	58.3 ^b	**

+Katoey are defined as biological males who self-identify as female and may dress as men or women
 * < .05 p-value, ** < .01 p-value, *** < .001 p-value
 n.s.= non-significant

²³ The “baseline” category contains respondents who were surveyed 2004. The “none” exposure category contains respondents who had never heard of PSI’s katoey activities but may have participated in activities for men-who-have-sex-with-men, including katoey, sponsored by other organizations, including LYAP or the Burnet Institute. The “low” exposure category contains respondents who had ever heard of PSI katoey activities, read the PSI katoey brochure, or heard of the Pheun Mai katoey drop-in center. “High” exposure contains respondents who had ever been contacted by a PSI katoey peer educator, attended a PSI group discussion, or attended a PSI camping/training session.

²⁴ Proportions with the same letter in their superscripts do not differ significantly from one another according to the least significance difference (LSD) test. The stars in the last column represent the overall effect of exposure on the measured item.

Evaluation Analysis:**Impact of PSI's katoey interventions on behavior and OAM, Luang Prabang, Vientiane, and Savannakhet, 2006**

The preceding evaluation table presents a comparison of exposure to PSI's katoey interventions to significant items found in the monitoring table. The evaluation table is designed to demonstrate the effect of exposure to PSI activities on behavior and OAM. This analysis uses UNIANOVA to compare whether there is a significant difference in key indicators between respondents interviewed for the baseline survey, and those interviewed for the follow-up survey who reported no exposure, low exposure, or high exposure to PSI campaigns, while controlling for socio-demographic characteristics.

The evaluation table uses data from both survey rounds. Under the "baseline" column, indicator levels are taken from the November 2004 survey round and are equivalent to the levels presented in the monitoring table presented earlier in this report. The remaining three columns are taken from the June 2006 survey round and divided according to respondents' intensity of exposure. Katoey who had never heard of PSI katoey interventions were considered not exposed ("none"). Those who had heard of PSI's katoey activities, ever read PSI's katoey-specific brochure, or heard of PSI's drop-in center were classified as having "low" exposure. Katoey who had ever been contacted by a peer educator, attended a PSI discussion group, or gone on a camping/training trip were categorized as having "high" exposure.²⁵ Proportions in the evaluation table that differ significantly are marked with superscript. Those with the same superscript letter do not differ significantly from each other; those with different superscript letters differ significantly from one another.

In the first section of the evaluation table, the relationship between exposure and behavior is examined as well as the relationship between exposure and product use. For behavior, the impact of PSI's katoey activities is evaluated for its effect on condom use. The evaluation table shows a significant effect of exposure on condom use at last sex with phoubao ($p < .001$). The reference group reported lower levels of condom use than all three exposure groups from 2006 (57.5% vs. 77.9%, $p < .05$; 57.5% vs. 68.0%, $p < .05$; and 57.5% vs. 80.3%, $p < 0.001$). Furthermore, the no exposure, low, and high exposure groups differed significantly from each other; katoey with high

²⁵ As is clear from the evaluation table, the n of the no exposure group is 58, much lower than the n's in the other exposure categories. This may account for some of the difference in proportions compared to other levels of exposure.

exposure were more likely to use condoms than those with low exposure (80.3% vs. 68.0%, $p < .05$). This finding indicates that the proportion of those reporting condom use with phoubao at last anal sex was higher among those who had contact with a peer educator compared to those who had only heard of katoey activities or read PSI's brochure.

For the item "condom use with fan at last anal sex", the evaluation table shows a significant correlation between exposure in 2006 and behavior ($p < .001$). There was a significant increase in the proportion of katoey who used condoms with fan partners between the reference group (23.5%) and all three exposure groups from 2006 (none 83.7%; low 70.2%; and high 79.8%, $p < 0.001$ for all). However, the analysis indicates that there are no significant differences between exposure groups. This finding indicates that the increase in the proportion of condom users at last sex with fan was not a direct result of exposure to PSI's katoey interventions. The change could have been the result of social and environmental factors outside of PSI's influence or due exposure to interventions from other groups working with katoey.²⁶

A different relationship was found for katoey who used a condom for any sex in the last week. The reference group did not differ significantly from the no exposure group, but there was a significant difference between baseline levels and low and high exposure groups (23.8% vs. 39.2%, $p < 0.01$; and 23.8% vs. 40.7%, $p < .001$, respectively). There were no significant differences between exposure groups. While these findings demonstrate that exposure to PSI activities had an influence on behavior ($p < .01$), it is unclear if high exposure is required to significantly increase condom use during any type of sex in the last week. Low exposure may be sufficient to increase levels of condom use.

Exposure had a significant correlation with ever use of water-based lubricant during anal sex ($p < .001$). Respondents who received low or high exposure to PSI's katoey interventions had significantly higher levels of water-based lube use than respondents at baseline (76.0% vs. 54.6%, $p < .001$; and 86.4% vs. 54.6%, $p < .001$, respectively). However, there were no significant differences detected between low and high exposure. These findings, again, suggest that low exposure may be sufficient to change this behavior. Higher exposure to discussion groups and camping trips may not be merited.

²⁶ Given the low proportion of respondents who reported having been exposed to interventions from other organizations, this explanation does not seem as plausible as change resulting from social or environmental changes that may have occurred during the study period.

For the item “NODP is available in any of the places where katoey meet their sex partners,” baseline levels were significantly lower than any of the 2006 categories (5.7% vs. 55.4%, $p < .001$ for no exposure; 5.7% vs. 23.6%, $p < .01$ for low exposure; and 5.7% vs. 25.4%, $p < .001$ for high exposure). This significant difference between baseline and no exposure suggests an environmental effect on perceived availability unrelated to PSI’s katoey interventions. Oddly enough, the no exposure group demonstrated a significantly higher level of perceived availability than either the low (55.4% vs. 23.6%, $p < .05$) or high exposure group (55.4% vs. 25.4%, $p < .05$). These results may be due in part to the small number of respondents included in the no exposure category compared to the other levels of exposure. However, these findings may have programmatic implications, especially if it is the case that no exposure to PSI’s katoey activities produces stronger findings than low or high exposure. This may suggest that another form of exposure like mass media (not measured in this survey) or seeing the product in outlets may be sufficient for improving this indicator.

The finding for “NODP available in any of the places where katoey spend time during the day” produced similar results. Baseline levels for this availability indicator were significantly lower than those for no exposure (8.3% vs. 44.4%, $p < .01$) and high exposure (8.3% vs. 22.9%, $p < .01$). The significant difference between baseline and no exposure suggests an effect unrelated to PSI’s katoey activities. Curiously, katoey with no exposure demonstrated significantly higher perceived availability than those with low exposure (44.4% vs. 17.5%, $p < .05$), but no significant differences were detected between low and high exposure. Again, findings could be a result of the low number of respondents contained in the “no” exposure category or they may suggest that another exposure like mass media is sufficient for increasing perceived availability.

The evaluation table shows that exposure to PSI’s katoey activities had no significant effect on responses about “convenient access to NODP outlets” in 2006. The proportion of respondents who report convenient access to NODP outlets was similar across all exposure categories (5.9% at baseline; 9.2% for no exposure; 10.2% for low exposure; and 13.3% for high exposure).

For the last availability item, “condoms available any of the places where spend time during the day,” a similar proportion of katoey in 2006 felt that condoms were available in places where katoey spend time during the day regardless of their level of exposure. All three categories in 2006 differed significantly from baseline figures (83.2% vs. 55.0%, $p < .001$ for no exposure;

81.2% vs. 55.0%, $p < .001$ for low; and 87.5% vs. 55.0%, $p < 0.001$ for high). In addition, there was no difference between exposure groups. From these findings, we can conclude that improvements in the proportion of katoey reporting condom availability were not a result of PSI's katoey interventions. The significant difference between baseline and no exposure figures suggest that another type of intervention may have played a role in increasing perceived availability.

In terms of attitudes, nearly all katoey (94.7%) who had no exposure to PSI interventions believed that it is "very important to use condoms with regular partners in order to prevent HIV." The no exposure group did not differ significantly from either the low exposure or the high exposure groups. However, all three exposure groups differed significantly from baseline (94.7% vs. 58.8% for none; 87.9% vs. 58.8% for low; and 93.9% vs. 58.8% for high, $p < 0.001$ for all). These findings do not provide evidence for the effectiveness of PSI's katoey interventions.

In terms of knowledge, four items were significant in the evaluation table. The first item concerned knowledge about oil-based lubricants increasing condom breakage. The trend was similar to that of the attitude item described above, where the baseline level of exposure (33.6%) differed significantly from all levels of exposure in 2006 (no, 1.6%; low, 9.3%; and high, 11.0%, $p < 0.001$ for all). Interestingly, a significantly higher proportion of katoey at baseline were aware that oil-based lubricants increase condom breakage (33.6%) than those surveyed in 2006. This drop in knowledge is of concern, particularly since PSI disseminated messages about the use of water-based lubricants. One possible explanation is that messages were unclear and that katoey may have confused the benefits of using water-based lubricants and the risks of using oil-based lubricants. The distinction between water-based and oil-based lubricant use may not have been clear in the messages provided thus far through peer educators and at the drop-in center, leading to misinformation and incorrect knowledge. Improved programming is required on this topic.

A similar trend occurred for the item "knows that having an STI can increase the likelihood of contracting HIV." The highest proportion of katoey with correct knowledge was among the group at baseline. These respondents differed significantly from those in all three exposure groups, including, the no, low, and high exposure groups (87.9% vs. 66.9%, $p < .001$; 87.9% vs. 75.0%, $p < .01$; and 87.9% vs. 77.8%, $p < .01$, respectively). This message should be included in future interventions with katoey. If messages are already being disseminated about STIs and their relationship to HIV risk, they should be improved.

The same trend was repeated with the knowledge item about healthy-looking people being infected with HIV. The vast majority of katoey at baseline (90.5%) knew that healthy-looking people can still be infected with HIV. This proportion differed significantly from all three exposure levels in 2006 (no 43.5%; low 46.3%; high 53.8%, $p < 0.001$ for all). The decrease in knowledge may have resulted from unclear messages disseminated through peer education.

The final knowledge item “knows that consistent and correct condom use with a regular partner can prevent STIs”, was significantly lower at baseline than for the low exposure group in 2006 (89.3% vs. 97.6%, $p < .01$) and high exposure group (89.3% vs. 97.4%, $p < .001$). There was no difference between katoey at baseline and the non-exposed group in 2006. There was also no difference between no exposure and low or high exposure. For all three exposure groups, over 90% of respondents were aware that consistent and correct condom use with a regular partner can prevent STIs. The conclusion from these findings is that while exposure had an influence on knowledge about correct and consistent condom use ($p < .01$), increases in knowledge cannot be contributed to the katoey-specific interventions. Changes may be due to mass media or other interventions.

The last item on the evaluation table, under intention, concerned the likelihood of using condoms with casual partners if water-based lubricant is available. Evaluation analysis revealed that katoey at baseline were more likely to state this intention than katoey in 2006 regardless of exposure level (71.4% vs. 46.5% for no exposure; 71.4% vs. 56.3% for low exposure; and 71.4% vs. 58.3% for high exposure, $p < .01$ for all). The significant difference between baseline and no exposure suggests that an environmental effect or exposure to inappropriate messaging is possible. A concern exists if katoey intend to use appropriate water-based lube in the future, but without condoms. Findings do not indicate that exposure to PSI’s katoey interventions had a significant positive impact on the intention to use condoms more often when water-based lubricant is available.

Dashboard Interpretation:
Population Dashboard Table: Impact of PSI Interventions on trends in behavior, OAM determinants, and exposure among katoey in Luang Prabang, Vientiane, and Savannakhet, Laos (November 2004 and June 2006)

INDICATORS	MONITORING TABLE	EVALUATION TABLE [#]	CONCLUSION
BEHAVIOR/USE			
- Used condom with phoubao at last anal sex	+	+	+
- Used condom with fan at last anal sex	+	?	inconclusive
- Used condom for any sex in the last week	+	+	+
- Ever used water-based lubricant for anal sex	+	+	+
OPPORTUNITY			
<i>Availability</i>			
- Number One Deluxe Plus is available in any of the places where meet sex partners	+	?	inconclusive
- Number One Deluxe Plus is available in any of the places where spend time during the day	+	?	inconclusive
- Convenient access to Number One Deluxe Plus outlets	+	n.s.	No impact
- Condoms available any of the places where spend time during the day	+	?	inconclusive
ABILITY			
<i>Attitudes</i>			
- Believes it is very important to use condom with regular partners to prevent HIV	+	?	inconclusive
<i>Knowledge</i>			
- Knows that oil-based lubricants increase condom breakage	-	-	-
- Knows that having an STI can increase the likelihood of contracting HIV	-	-	-
- Knows that a healthy-looking person can still be infected with HIV	-	-	-
- Knows that consistent and correct condom use with regular partner can prevent STI	+	?	inconclusive
MOTIVATION			
<i>Intention</i>			
- Much more likely to use condoms with casual partners if lubricant available	-	-	-

[#]For the column marked "evaluation table", the overall trend was reported as either positive, negative, or no impact. This was based on comparisons of different levels of exposure to interventions (none, low, and high exposure categories) compared to the reference group.

Programmatic Recommendations

1. Build upon and improve existing **peer education** and **outreach** programs. Strengthen complementary activities and information provision at PSI's **Peuan Mai drop-in centers** in Vientiane and Savannakhet. Each of these channels can be used to deliver messages about condom use and improve rates of condom use with all partners, particularly with phoubao and fan.
 - a. Programs should teach katoey effective methods for negotiating condom use with all partners. Those who were always able to insist on condom use with phoubao had significantly higher rates of condom use than those who could not insist on condom use. This finding indicates that improved self efficacy could help katoey increase safer sexual behavior.
 - b. Promote discussion of HIV/AIDS in the drop-in centers and with peer educators. Research showed that katoey who had discussed HIV/AIDS with someone they knew were significantly more likely to use condoms than those who had never talked about HIV/AIDS.
 - c. Teach peer educators to answer HIV/AIDS and STI-related questions correctly and with confidence. Improve their message delivery and ensure that correct messages are being disseminated, particularly those that relate to oil-based lubricant use, the relationship between STIs and HIV, and the asymptomatic nature of HIV/AIDS.

2. Improve **messages** related to condom use during anal sex with all types of partners.
 - a. **Condoms should be used every time with all partners.** While three quarters of katoey reported condom use at last anal sex with phoubao and fan, only one third of respondents reported consistent condom use during anal sex. Programs should promote a consistent condom use message with katoey for all kinds of sex, especially for anal sex, which carries a higher risk than oral or vaginal sex.
 - b. **Condoms and water-based lubricants should be used together to prevent HIV/AIDS/STI.** It is important that in addition to knowing the benefits of using water-based lubricant, katoey understand that lubricant should not be used alone, but should be used in conjunction with condoms.
 - c. **Oil-based lubricants can increase condom breakage.** It is also important that katoey understand the difference between water-based and oil-based lubricants

when used with a condom. This issue is highlighted in the evaluation analysis, which found that the proportion of katoey who reported understanding that oil-based lubricants cause condom breakage actually decreased after PSI's interventions began. Improvements in messages would improve future rounds of evaluation and rates of condom use.

- d. **Unprotected anal sex with any partner presents a risk for HIV/AIDS.** Katoey must understand that unprotected anal sex with any partner, even regular partners presents a risk for HIV transmission. Likewise, accurate risk perception should be promoted among katoey. Segmentation analyses demonstrated that condom users were more likely than non-users to be very concerned about contracting HIV.

3. **Improve knowledge and correct misconceptions about HIV/AIDS/STI, condom use, and lubricant use** among katoey.

- a. Though knowledge that condom use can prevent HIV/AIDS and STIs is high, only 49.5% of respondents know that a healthy-looking person can still be infected with HIV. Delivery of this message could be improved by using peer education and outreach directly to katoey and their partners.
- b. Furthermore, programs should emphasize that oil-based lubricants can increase condom breakage, especially since only 9.1% of katoey demonstrated correct knowledge on this issue.
- c. Programmers should improve knowledge about STI symptoms in men and in women, but focus on recognizing when it is important to seek treatment and promote visits to PSI network clinics for STI treatment. Findings about STIs are presented in the appendices of this report.

4. **Promote the benefits of water-based lubricant use**, including the benefit of preventing HIV/AIDS when water-based lubricant is used along with condoms.²⁷

- a. Programmers should emphasize the need to use water-based lubricant with a condom for HIV/AIDS and STI prevention.²⁸

²⁷Over half of respondents were much more likely to use condoms with phoubao if lubricant was available (56.1%), and a majority (81.1%) had ever used water-based lubricant during anal sex.

²⁸ Among respondents, 76.6% believed they should use a lubricant with a condom.

- b. Other benefits of water-based lubricant could be promoted, including more enjoyable sex, reduction of condom breakage, and the pleasant smell of the strawberry-flavored lubricant included in NODP.
5. **Improve NODP availability** to katoey and their partners through social marketing.
- a. Promote and raise the visibility of NODP among katoey. Only 47.6% of katoey had ever heard of NODP.
 - b. Improve accessibility of NODP to katoey in nontraditional and traditional outlets. NODP is the only widely available water-based lubricant in Laos. Generally, NODP is perceived to be available by a small proportion of katoey.²⁹
 - c. Make katoey aware of outlets, both nontraditional and traditional, where NODP can be obtained or purchased through marketing, peer education, and outreach.
 - d. Ensure that NODP continues to be easily accessible when needed at outlets, and that Number One condoms are available where katoey spend time during the day.
6. **Continue and improve upon current PSI katoey activities**, including distribution of katoey brochures, group discussions, peer education and outreach, activities in the Peuan Mai drop-in center, and camping and training trips. Messages should be refined and targeted to katoey. As indicated in the evaluation table, exposure to PSI's katoey interventions, which contain targeted messages for katoey, made a significant difference for one behavior item and high exposure could be implicated in positive changes in OAM.
7. **Promote STI treatment kits** through communications and marketing. Promotion could occur through traditional marketing methods, but efforts should be tailored to target katoey specifically. One method for promotion may be through peer education and outreach and at the drop-in centers. Each of these channels could provide referrals to PSI clinics in the network to decrease rates of STI among katoey and their partners. Findings about STIs among katoey and their partners are located in the appendix of this report.
8. **Improve the next tracking study round.** Evaluating the impact of PSI's katoey-specific interventions was challenging for this study round. Improved measures of

²⁹ Only 26.5% of katoey reported NODP availability where they meet their sexual partners, and 22.3% reported NODP availability in the places where they spend time during the day.

exposure are required in order to distinguish the impact of high versus low exposure. In addition, environmental influences and exposure to non-PSI interventions should be explored in order to understand significant differences that exist between baseline and non-exposed categories in the third round.

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Population Characteristics: Katoey

	Total (n=415 unless otherwise indicated)	
	n	%
Age		
15-20 years old	193	46.5
21-25 years old	136	32.8
26-30 years old	61	14.7
31-35 years old	25	6.0
	Mean=21.8 years old	
Type of Katoey		
Katoey MM ³⁰	197	47.5
Katoey MW ³¹	218	52.5
Ethnic group		
Lao Loum	415	100.0
Lao Theung	0	0.0
Lao Soung	0	0.0
Education		
Never attended school	1	0.2
Primary school	20	4.8
Lower secondary school	133	32.0
Upper secondary school	193	46.5
Higher than secondary school	68	16.4
Living arrangements		
Married, living with spouse	2	0.5
Married, living with other sexual partner	1	0.2
Not married, living with female sexual partner	4	1.0
Not married, living with male sexual partner	6	1.4
Not married, living with family	343	82.7
Not married, living at army barracks	1	0.2
Not married, living alone	35	8.4
Not married, living in dormitory	19	4.6
Not married, living with relatives	2	0.5
Not married, living with friends	2	0.5
Average monthly income³²		
200,000 kip or less	57	13.7
200,001 kip to 600,000 kip	209	50.4
600,001 kip to 1,000,000 kip	79	19.0
1,000,001 kip to 3,000,000 kip	63	15.2
3,000,001 kip or higher	7	1.7
	Mean=812,246 kip	
What is your main source of income		
From parents/family	131	31.6
From Lao fan	1	0.2
From Lao phoubao	1	0.2
From falang partner (fan and phoubao)	4	1.0
From own business	36	8.7
Employed by others	242	58.3

³⁰ Katoey MM are defined as biological males who identify as female, but in appearance are male. Their reported partners are young men, and they have a sexual preference for men. In general, Katoey MM perform oral sex and receive anal sex.

³¹ Katoey MW are defined as biological males who identify as female, and in appearance are female. Their reported partners are young men, and they have a sexual preference for men. In general, Katoey MM perform oral sex and receive anal sex.

³² 10,000 kip is equivalent to approximately \$1USD.

<i>What is your occupation</i>	n	%
Student	87	21.0
Government worker	9	2.2
Construction worker	27	6.5
Waiter	22	5.3
Hair dresser/beauty salon	99	23.9
Merchant/small shop owner	76	18.3
Teacher	4	1.0
Guesthouse/hotel employee	9	2.2
Other	22	5.3
Unemployed	60	14.5
<i>Countries visited in the last 3 months</i> ³³	n	%
Thailand	126	30.4
Cambodia	0	0.0
Vietnam	4	1.0
China	5	1.2
Other	7	1.7

³³ As multiple responses were allowed for this question, each of the sample sizes (n) listed here refer to the number who visited the listed country out of a total n of 415 respondents. For example, 126 out of 415 respondents visited Thailand in the last 3 months, but some of those people may also have visited the other countries listed.

Population Characteristics: Partners of Katoey

	Total (n=229 unless otherwise indicated)	
	n	%
Age		
15-20 years old	126	55.0
21-25 years old	98	42.8
26-30 years old	4	1.7
31-35 years old	1	0.4
	Mean=20.5 years old	
Ethnic group	n	%
Lao Loum	223	97.4
Lao Theung	1	0.4
Lao Soung	5	2.2
Education	n	%
Never attended school	4	1.7
Primary school	6	2.6
Lower secondary school	64	27.9
Upper secondary school	81	35.4
Higher than secondary school	74	32.3
Living arrangements	n	%
Married, living with spouse	2	0.9
Married, living with other sexual partner	1	0.4
Not married, living with female sexual partner	2	0.9
Not married, living with family	149	65.1
Not married, living at army barracks	4	1.7
Not married, living alone	15	6.6
Not married, living in dormitory	56	24.5
Average monthly income³⁴	n	%
200,000 kip or less	100	43.7
200,001 kip to 600,000 kip	82	35.8
600,001 kip to 1,000,000 kip	34	14.8
1,000,001 kip to 3,000,000 kip	12	5.2
3,000,001 kip or higher	1	0.4
	Mean=496,205 kip	
What is your main source of income	n	%
From parents/family	116	50.7
From own business	3	1.3
Employed by others	110	48.0
What is your occupation	n	%
Student	103	45.0
Army/solider	15	6.6
Government worker	3	1.3
Construction worker	40	17.5
Security guard	1	0.4
Waiter	30	13.1
Hair dresser/beauty salon	1	0.4
Merchant/small shop owner	6	2.6
Guesthouse/hotel employee	3	1.3
Other	5	2.2
Unemployed	22	9.6

³⁴ 10,000 kip is equivalent to approximately \$1USD.

<i>Countries visited in the last 3 months</i> ³⁵	n	%
Thailand	28	12.2
Cambodia	0	0.0
Vietnam	1	0.4
China	0	0.0
Other	0	0.0

³⁵ As multiple responses were allowed for this question, each of the sample sizes (n) listed here refer to the number who visited the listed country out of a total n of 229 respondents. For example, 28 out of 229 respondents visited Thailand in the last 3 months, but some of those people may also have visited the other countries listed.

Sexual Behavior Information: Katoey

	Total (n=415 unless otherwise indicated)	
	n	%
<i>Had sexual partner</i>		
Had phoubao partner in the past 6 months	367	80.4
Had fan in the past 6 months	217	52.3
Had male/katoey partner last time abroad	65	15.7
Had FSW partners in the past 6 months	4	0.9
Had female fan in the past 6 months	9	2.2
<i>Number of partners</i>		
<u>Phoubao partners in the past 6 months</u>		
None	48	11.6
1 partner	32	7.7
2-4 partners	124	32.3
5-7 partners	78	18.8
≥ 8 partners	123	29.6
	Mean=8.58 partners	
<u>Fan partners in the past 6 months</u>		
None	198	47.7
1 partner	141	34.0
2-4 partners	63	15.2
≥ 5 partners	13	3.1
	Mean=1 partner	
<u>Male/katoey foreign partners last time abroad</u>		
None	198	47.7
1 partner	141	34.0
2-4 partners	63	15.2
≥ 5 partners	13	3.1
	Mean=0 partners	
<u>FSW sexual partners in the past 6 months</u>		
None	411	99.0
≥ 1 partners	4	1.0
	Mean=0 partners	
<u>Female fan in the past 6 months</u>		
None	406	97.8
≥ 1 partners	9	2.2
	Mean=0 partners	
<i>Ever had oral sex</i>		
<u>With phoubao</u>³⁶		
Yes	333	90.7
No	34	9.3
<u>With fan</u>³⁷		
Yes	200	92.2
No	17	7.8
<i>Used condom at last oral sex</i>		
<u>With phoubao</u>³⁸		
Yes	69	82.1
No	15	17.9
<u>With fan</u>³⁹		
Yes	38	80.9
No	9	19.1

³⁶ Among respondents who had phoubao (n=367).

³⁷ Among respondents who had fan (n=217).

³⁸ Among respondents who had phoubao and had ever used a condom during oral sex with phoubao (p=84).

<i>Person who insisted on condom use at last oral sex</i>	n	%
<u>With phoubao in the past 6 months</u> ⁴⁰		
Respondent	57	13.7
Partner	7	10.1
Mutual decision	5	7.2
<u>With fan in the past 6 months</u> ⁴¹		
Respondent	30	78.9
Partner	3	7.9
Mutual decision	5	13.2
<i>Ever had anal sex</i>	n	%
<u>With phoubao</u> ³⁰		
Yes	365	99.5
No	2	0.5
<u>With fan</u> ³¹		
Yes	217	52.3
No	0	47.7
<i>Condom use at last anal sex</i>	n	%
At last anal sex with phoubao ⁴²	244	75.3
At last anal sex with fan ⁴³	128	76.6
At last anal or vaginal sex with FSW ⁴⁴	3	75.0
At last anal or vaginal sex with female fan ⁴⁵	6	66.7
At last anal sex with male/katoey partner abroad ⁴⁶	52	80.0
<i>Who insisted on condom use at last sex</i>	n	%
<u>At last anal sex with phoubao</u> ⁴⁷		
Respondent	192	73.8
Partner	54	20.8
Mutual decision	14	5.4
<u>At last anal sex with fan</u> ⁴⁸		
Respondent	92	60.2
Partner	27	20.3
Mutual decision	12	9.0
Don't know	2	1.5
<u>At last anal or vaginal sex with FSW</u> ⁴⁹		
Respondent	2	0.5
Partner	0	0.0
Mutual decision	1	0.2

³⁹ Among respondents who had fan and had ever used a condom during oral sex with fan (n=47).

⁴⁰ Among respondents who had phoubao, had ever used a condom during oral sex with phoubao, and insisted on using a condom with phoubao (n=69).

⁴¹ Among respondents who had fan, had ever used a condom during oral sex with fan, and insisted on using a condom with fan (n=38).

⁴² Among respondents who had phoubao, had ever had anal sex with phoubao, and had used a condom at last anal sex with phoubao (n=324).

⁴³ Among respondents who had fan, had ever had anal sex with fan, and had used a condom at last anal sex with fan (n=167).

⁴⁴ Among respondents who had FSW partners, had ever had anal or vaginal sex with FSW, and had used a condom at last anal or vaginal sex with FSW (n=4).

⁴⁵ Among respondents who had female fan, had ever had anal or vaginal sex with female fan, and had used a condom at last anal or vaginal sex with female fan (n=9).

⁴⁶ Among respondents who had male/katoey sexual partners while abroad in the past 3 months, had ever had anal sex with male/katoey sexual partners, and had used a condom at last anal sex with male/katoey sexual partners (n=65).

⁴⁷ Among respondents who had phoubao, had ever had anal sex with phoubao, used a condom at last anal sex with phoubao, and insisted on condom use at last anal sex with phoubao (n=260).

⁴⁸ Among respondents who had fan, had ever had anal sex with fan, used a condom at last anal sex with fan, and insisted on condom use at last anal sex with fan (n=133).

⁴⁹ Among respondents who had FSW, had ever had anal or vaginal sex with FSW, used a condom at last anal sex with FSW, and insisted on condom use at last anal or vaginal sex with FSW (n=3).

<u>At last anal or vaginal sex with female fan</u> ⁵⁰		
Respondent	6	100.0
Partner	0	0.0
Mutual decision	0	0.0
<i>Consistency of condom use</i>	n	%
<u>With phoubao in the past 6 months</u> ³⁶		
Every time	97	30.0
Most times	85	26.2
Sometimes	142	43.8
<u>With fan in the past 6 months</u> ³⁷		
Every time	59	35.3
Most times	47	28.2
Sometimes	61	36.5
<u>With FSW in the past 6 months</u> ³⁸		
Every time	2	66.7
Most times	1	33.3
<u>With female fan in the past 6 months</u> ³⁹		
Every time	3	33.4
Most times	3	33.3
Sometimes	3	33.3
<u>With male/katoey partners during last trip abroad</u> ⁵¹		
Every time	33	63.5
Most times	7	13.4
Sometimes	12	23.1
<i>How often insisted on consistent condom use</i>	n	%
<u>With phoubao in the past 6 months</u> ³⁶		
Every time	114	35.2
Most times	63	19.4
Sometimes	136	42.0
Never	11	3.4
<u>With fan in the past 6 months</u> ³⁷		
Every time	68	41.3
Most times	37	22.2
Sometimes	55	32.9
Never	6	3.6
<i>More likely to insist on condom use if water-based lubricant available</i>	n	%
<u>With phoubao in the past 6 months</u> ³⁰		
Yes, much more likely	209	56.9
Yes, a little more likely	121	33.0
Not more likely/no difference	37	10.1
<u>With fan in the past 6 months</u> ³¹		
Yes, much more likely	116	53.5
Yes, a little more likely	71	32.7
Not more likely/no difference	30	13.8
<i>Ever used NODP for anal sex</i>	n	%
<u>With phoubao in the past 6 months</u> ³⁰		
Yes	169	46.0
No	198	54.0
<u>With fan in the past 6 months</u> ³¹		
Yes	96	44.2
No	121	55.8

⁵⁰ Among respondents who had female fan, had ever had anal or vaginal sex with female fan, used a condom at last anal sex with female fan, and insisted on condom use at last anal or vaginal sex with female fan (n=6).

⁵¹ Among respondents who had a male/katoey partner while abroad and used a condom during anal sex (n=52).

<i>Location of last sex act</i>	n	%
<u>With phoubao</u> ³⁰		
Guesthouse	175	47.7
Hotel	16	4.4
Own house	59	16.1
Partner's house	43	11.7
Friend's house	23	6.3
Dormitory	8	2.2
Beauty parlor	2	0.5
Restaurant	3	0.8
Beer shop	1	0.3
Dark road	29	7.9
Army barrack	7	1.9
Other	1	0.3
<u>With fan</u> ³¹		
Guesthouse	70	32.3
Hotel	11	5.1
Own house	75	34.6
Partner's house	45	20.7
Friend's house	6	2.8
Dormitory	8	3.7
Dark road	2	0.9
<u>With FSW</u> ³²		
Guesthouse	3	100.0
<u>With female fan</u> ⁵³		
Guesthouse	3	50.0
Own house	2	33.3
Partner's house	1	16.7
<i>Alcohol use before sex</i>	n	%
<u>With phoubao in the past 6 months</u> ³⁰		
Every time	85	23.2
Most times	45	12.3
Sometimes	177	48.2
Never	60	16.3
<u>With fan in the past 6 months</u> ³¹		
Every time	33	15.2
Most times	28	12.9
Sometimes	111	51.2
Never	45	20.7
<u>With FSW in the past 6 months</u> ³²		
Every time	1	33.3
Most times	0	0.0
Sometimes	2	66.7
Never	0	0.0
<u>With female fan in the past 6 months</u> ³³		
Every time	4	66.7
Most times	0	0.0
Sometimes	1	16.7
Never	1	16.7
<i>Ever forced to have sex</i>	n	%
<u>With phoubao in the past 6 months</u> ³⁰		
Forced oral sex	50	13.6
Forced anal sex	40	10.9
Forced oral and anal sex	26	7.1
Never forced to have sex	251	68.4

³² Among respondents who had FSW partners, and who used a condom (n=3).

⁵³ Among respondents who had FSW partners, and who used a condom (n=6).

<u>With fan in the past 6 months</u> ³¹		
Forced oral sex	12	5.5
Forced anal sex	19	8.8
Forced oral and anal sex	11	5.1
Never forced to have sex	175	80.6

Sexual Behavior Information: Partners of Katoey

	Total (n=229 unless otherwise indicated)	
	n	%
<i>Had sexual partner</i>		
Had kunon suaokao in the past 6 months	200	87.3
Had katoey fan in the past 6 months	56	24.5
Had male/katoey last time abroad	2	0.9
Had FSW in the past 6 months	99	43.2
Had female fan in the past 6 months	124	54.1
<i>Number of partners</i>	n	%
<u>Kunon suaokao in the past 6 months</u>		
None	29	12.7
1 partner	64	27.9
2 partners	60	26.2
3 partners	30	13.1
≥ 4 partners	46	20.1
	Mean=2.62 partners	
<u>Katoey fan in the past 6 months</u>		
None	173	75.5
1 partner	40	17.5
≥ 2 partners	16	7.0
	Mean=0 partners	
<u>Male/katoey foreign partners in the past month</u>		
None	227	99.1
≥ 1 partners	2	0.9
	Mean= 0 partners	
<u>FSW in the past 6 months</u>		
None	130	56.8
1-2 partners	50	21.8
3-4 partners	26	11.4
≥ 5 partners	23	10.0
	Mean= 1.66 partners	
<u>Female fan in the past 6 months</u>		
None	105	45.9
1 partner	80	34.9
2 partners	25	10.9
≥ 3 partners	19	8.3
	Mean= 1 partner	
<i>Ever had oral sex</i>	n	%
<u>With kunon suaokao</u> ⁵⁴		
Yes	157	78.5
No	43	21.5
<u>With katoey fan</u> ⁵⁵		
Yes	44	78.6
No	12	21.4
<i>Used condom at last oral sex</i>	n	%
<u>With kunon suaokao</u> ⁵⁶		
Yes	26	86.7
No	4	13.3

⁵⁴ Among respondents who had kunon suaokao (n=200).

⁵⁵ Among respondents who had katoey fan (n=56).

⁵⁶ Among respondents who had kunon suaokao and ever had oral sex (n=30).

<u>With katoey fan</u> ⁵⁷		
Yes	12	92.3
No	1	7.7
<i>Person who insisted on condom use at last oral sex</i>	n	%
<u>With kunon suaokao in the past 6 months</u> ⁵⁸		
Respondent	19	73.1
Partner	3	11.5
Mutual decision	4	15.4
<u>With katoey fan in the past 6 months</u> ⁵⁹		
Respondent	9	75.0
Partner	2	16.7
Mutual decision	1	8.3
<i>Ever had anal sex</i>	n	%
<u>With kunon suaokao</u> ⁶⁰		
Yes	195	97.5
No	5	2.5
<u>With katoey fan</u> ⁶¹		
Yes	54	96.4
No	2	3.6
<i>Condom use at last sex</i>	n	%
At last anal sex with kunon suaokao ⁶²	132	78.1
At last anal sex with katoey fan ⁶³	36	76.6
At last anal or vaginal sex with FSW ⁶⁴	76	89.4
At last anal or vaginal sex with female fan ⁶⁵	40	58.8
At last anal sex with male/katoey partner abroad ⁶⁶	1	50.0
<i>Who insisted on condom use at last sex</i>	n	%
<u>At last anal sex with kunon suaokao</u> ⁶⁷		
Respondent	124	87.9
Partner	9	6.4
Mutual decision	8	5.7
<u>At last anal sex with katoey fan</u> ⁶⁸		
Respondent	31	79.5
Partner	6	15.4
Mutual decision	2	5.1
<u>At last anal or vaginal sex with FSW</u> ⁶⁹		
Respondent	57	75.0
Partner	13	17.1
Mutual decision	6	7.9

⁵⁷ Among respondents who had katoey fan and ever had oral sex (n=13).

⁵⁸ Among respondents who had kunon suaokao, had ever used a condom, and ever had oral sex (n=26).

⁵⁹ Among respondents who had katoey fan, had ever used a condom, and ever had oral sex (n=12).

⁶⁰ Among respondents who had kunon suaokao (n=200).

⁶¹ Among respondents who had katoey fan (n=56).

⁶² Among respondents who had kunon suaokao, had ever used a condom, and ever had anal sex (n=169).

⁶³ Among respondents who had katoey fan, had ever used a condom, and ever had anal sex (n=47).

⁶⁴ Among respondents who had FSW, had ever used a condom, and ever had anal or vaginal sex (n=85).

⁶⁵ Among respondents who had female fan, had ever used a condom, and ever had anal or vaginal sex (n=68).

⁶⁶ Among respondents who had male/foreign partners abroad, had ever used a condom, and ever had anal sex (n=2).

⁶⁷ Among respondents who had kunon suaokao, had ever used a condom, had ever had anal sex, and had used a condom at last sex (n=141).

⁶⁸ Among respondents who had katoey fan, had ever used a condom, had ever had anal sex, and had used a condom at last sex (n=39).

⁶⁹ Among respondents who had FSW, had ever used a condom, had ever had anal or vaginal sex, and had used a condom at last sex (n=76).

<u>At last anal or vaginal sex with female fan</u> ⁷⁰		
Respondent	29	72.5
Partner	7	17.5
Mutual decision	4	10.0
<i>Consistency of condom use</i>	n	%
<u>With kunon suaokao in the past 6 months</u> ⁷¹		
Always	57	33.7
Often	47	27.8
Sometimes	65	38.5
<u>With katoey fan in the past 6 months</u> ⁷²		
Always	21	44.7
Often	16	34.0
Sometimes	10	21.3
<u>With FSW in the past 6 months</u> ⁷³		
Always	47	47.5
Often	22	22.2
Sometimes	16	16.2
Never	14	14.1
<u>With female fan in the past 6 months</u> ⁷⁴		
Always	16	12.9
Often	17	13.7
Sometimes	35	28.2
Never	55	44.4
Don't know	1	0.8
<u>With male/katoey foreign partners during last trip abroad</u> ⁷⁵		
Always	1	100.0
<i>How often insisted on consistent condom use</i>	n	%
<u>With kunon suaokao in the past 6 months</u> ⁵⁶		
Every time	63	37.3
Most times	43	25.4
Sometimes	59	34.9
Never	3	1.8
Don't know	1	0.6
<u>With katoey fan in the past 6 months</u> ⁵⁷		
Every time	24	51.1
Most times	11	23.4
Sometimes	12	25.5
<i>More likely to insist on condom use if water-based lubricant available</i>	n	%
<u>With kunon suaokao in the past 6 months</u> ⁵⁴		
Yes, much more likely	79	34.5
Yes, a little more likely	77	33.6
Not more likely/no difference	44	19.2
<u>With katoey fan in the past 6 months</u> ⁵⁵		
Yes, much more likely	18	32.1
Yes, a little more likely	25	44.6
Not more likely/no difference	13	23.2

⁷⁰ Among respondents who had female fan, had ever used a condom, had ever had anal sex, and had used a condom at last sex (n=40).

⁷¹ Among those with kunon suaokao, had ever used condoms, and have had anal sex in the past 6 months (n=169).

⁷² Among those with katoey fan, had ever used condoms, and have had anal sex in the past 6 months (n=47).

⁷³ Among those with FSW, had ever used condoms, and have had anal or vaginal sex in the past 6 months (n=99).

⁷⁴ Among those with female fan, had ever used condoms, and have had anal or vaginal sex in the past 6 months (n=124).

⁷⁵ Among those with male/katoey foreign partners, had ever used condoms, and have had anal sex in the last trip abroad (n=1).

<i>Ever used NODP for anal sex</i>	n	%
<u>With kunon suaokao in the past 6 months</u> ⁷⁶		
Yes	62	31.0
No	138	69.0
<u>With katoey fan in the past 6 months</u> ⁷⁷		
Yes	18	32.1
No	38	67.9
<i>Location of last sex act</i>	n	%
<u>With kunon suaokao</u> ⁶⁴		
Guesthouse	126	63.0
Hotel	2	1.0
Own house	12	6.0
Partner's house	40	20.0
Friend's house	3	1.5
Dormitory	5	2.5
Restaurant	1	0.5
Dark road	10	5.0
Don't remember	1	0.5
<u>With katoey fan</u> ⁶⁵		
Guesthouse	36	64.3
Hotel	2	2.6
Own house	7	12.5
Partner's house	9	16.1
Dormitory	2	3.6
<u>With FSW</u> ⁷⁸		
Guesthouse	69	81.2
Own house	3	3.5
Partner's house	6	7.1
Friend's house	2	2.4
Dormitory	1	1.2
Beer shop	2	2.4
Dark road	2	2.4
<u>With female fan</u> ⁷⁹		
Guesthouse	40	58.8
Hotel	1	1.5
Own house	17	25.0
Partner's house	7	10.3
Dormitory	3	4.4
<i>Alcohol use before sex</i>	n	%
<u>With kunon suaokao in the past 6 months</u> ⁵⁴		
Every time	52	26.0
Most times	30	15.0
Sometimes	92	46.0
Never	26	13.0
<u>With katoey fan in the past 6 months</u> ⁵⁵		
Every time	19	33.9
Most times	12	21.4
Sometimes	17	30.4
Never	8	14.3

⁷⁶ Among those with kunon suaokao, had ever used condoms, have had anal sex in the past 6 months (n=200).

⁷⁷ Among those with katoey fan, had ever used condoms, and have had anal sex in the past 6 months (n=56).

⁷⁸ Among those with FSW, had ever used condoms, and have had anal or vaginal sex in the past 6 months (n=85).

⁷⁹ Among those with female fan, had ever used condoms, and have had anal or vaginal sex in the past 6 months (n=68).

<u>With FSW in the past 6 months</u> ⁵⁸		
Every time	22	25.9
Most times	15	17.6
Sometimes	41	48.2
Never	7	8.2
<u>With female fan in the past 6 months</u> ⁵⁹		
Every time	13	19.1
Most times	8	11.8
Sometimes	35	51.5
Never	12	17.6
<i>Ever forced to have sex</i>	n	%
<u>With kunon suaokao in the past 6 months</u> ⁴⁸		
Forced oral sex	20	10.0
Forced anal sex	7	3.5
Forced oral and anal sex	4	2.0
Never forced to have sex	169	84.5
<u>With katoey fan in the past 6 months</u> ⁴⁹		
Forced oral sex	10	17.9
Forced anal sex	3	5.4
Forced oral and anal sex	3	5.4
Never forced to have sex	40	71.4

Product-Related Information: Katoey

	Total (n=415 unless otherwise indicated)	
	n	%
<i>Ever heard of condoms</i>		
Yes	413	99.5
No	2	0.5
<i>Ever used Number One Condoms</i>		
Yes	372	90.7
No	38	9.3
<i>Places where Number One Condoms can be purchased or obtained within a 10-minute motorbike ride of where meets sexual partners⁸⁰</i>		
Hospital	81	24.0
Pharmacy	327	96.7
Health care center	6	1.8
Private clinic	21	6.2
Guesthouse/hotel	145	42.9
Restaurant	10	3.0
Beer shop/bar	22	6.5
Beauty salon	5	1.5
Friends	26	6.3
Volunteers	2	0.6
<i>How often uses lubricants during anal sex</i>		
Every time	62	15.8
Most times	61	15.6
Sometimes	137	34.9
Never	131	33.4
Don't know	1	0.3
<i>How often uses lubricants with a condom during anal sex</i>		
Every time	54	20.8
Most times	49	18.8
Sometimes	137	52.7
Never	20	7.7
<i>Knows that Number One Deluxe and Number One Deluxe are different products</i>		
Yes	175	88.8
No	22	11.2
<i>Has used Number One Deluxe Plus</i>		
Yes	163	82.7
No	34	17.3
<i>Number One Deluxe Plus easily accessible when needed</i>		
Yes	149	91.4
No	14	8.6

⁸⁰ Among those who reported being able to “name 2 places to get a Number One condom within a 10 minute motorbike ride from the place where meets sexual partners” (n=338). More than one response was possible for this question about places where condoms can be obtained.

<i>Places where Number One Deluxe Plus can be obtained/bought⁸¹</i>	n	%
Hospital	34	20.9
Pharmacy	153	93.9
Health care center	2	1.2
Private clinic	10	6.1
Guesthouse/hotel	43	26.4
Restaurant	1	0.6
Beer shop/bar	4	2.5
Beauty salon	1	0.6
Friends	10	6.1
Volunteers	1	0.6
Other ⁸²	7	42.9
<i>Number One Deluxe Plus first condom ever used</i>	n	%
Yes	56	34.4
No	107	65.6
<i>Number One Deluxe Plus available where spend time at night</i>	n	%
All places	6	3.7
Most places	29	17.8
Some places	112	68.7
No places	15	9.2
Don't know	1	0.6

⁸¹ Among those who had heard of Number One Deluxe Plus, heard of lubricants, and reported being able to name “any places where you can obtain/buy Number One Deluxe Plus” (n=163). More than one response was possible for this question about places where condoms can be obtained.

⁸² Other locations named by respondents where Number One Deluxe Plus can be purchased were kiosk, market, and mini mart.

Product-Related Information: Partners of Katoye

	Total (n=229 unless otherwise indicated)	
	n	%
<i>Ever heard of condoms</i>		
Yes	226	98.7
No	3	1.3
<i>Ever heard of Number One Condoms</i>		
Yes	225	99.6
No	1	0.4
<i>Ever used Number One Condoms</i>		
Yes	208	92.4
No	17	7.6
<i>Places where Number One Condoms can be purchased or obtained within a 10-minute motorbike ride of where meets sexual partners⁸³</i>		
Hospital	47	24.4
Pharmacy	185	95.9
Health care center	1	0.5
Private clinic	9	4.7
Guesthouse/hotel	97	50.3
Restaurant	0	0.0
Beer shop/bar	11	5.7
Beauty salon	0	0.0
Friends	21	10.9
Volunteers	3	1.6
Other	18	9.3
<i>Condoms available where spend time during the day</i>		
All places	41	19.6
Most places	39	18.7
Some places	98	46.9
No places	11	5.3
Don't know	20	9.6
<i>Ever heard of lubricants</i>		
Yes	185	80.8
No	44	19.2
<i>How often uses lubricants during anal sex</i>		
Every time	30	16.3
Most times	24	13.0
Sometimes	46	25.0
Never	81	44.0
Don't know	3	1.6
<i>How often uses lubricants with a condom during anal sex</i>		
Every time	23	23.0
Most times	24	24.0
Sometimes	44	44.0
Never	8	8.0
Don't know	1	1.0
<i>Has heard of Number One Deluxe Plus</i>		
Yes	95	41.5
No	134	58.5

⁸³ Among those who reported being able to “name 2 places to get a Number One condom within a 10 minute motorbike ride from the place where meets sexual partners” (n=193). More than one response was possible for this question about places where condoms can be obtained.

<i>Knows that Number One Deluxe and Number One Deluxe are different products</i>	n	%
Yes	75	78.9
No	20	21.1
<i>Has used Number One Deluxe Plus</i>	n	%
Yes	65	68.4
No	30	31.6
<i>Number One Deluxe Plus is usually affordable</i>	n	%
Yes	64	98.5
No	1	1.5
<i>Number One Deluxe Plus easily accessible when needed</i>	n	%
Yes	62	95.4
No	3	4.6
<i>Places where Number One Deluxe Plus can be obtained/bought⁸⁴</i>	n	%
Hospital	12	18.5
Pharmacy	57	87.7
Health care center	0	0.0
Private clinic	1	1.5
Guesthouse/hotel	25	38.5
Restaurant	1	1.5
Beer shop/bar	2	3.1
Beauty salon	0	0.0
Friends	6	9.2
Volunteers	0	0.0
Other ⁸⁵	1	1.5
<i>Number One Deluxe Plus first condom ever used</i>	n	%
Yes	27	41.5
No	38	58.5
<i>Number One Deluxe Plus available where meet sex partners</i>	n	%
All places	4	6.2
Most places	17	26.2
Some places	40	61.5
No places	1	1.5
Don't know	3	4.6
<i>Number One Deluxe Plus available where spend time during the day</i>	n	%
All places	6	9.2
Most places	12	18.5
Some places	37	56.9
No places	3	4.6
Don't know	7	10.8
<i>Number One Deluxe Plus available where spend time at night</i>	n	%
All places	5	7.7
Most places	10	15.4
Some places	47	72.3
No places	2	3.1
Don't know	1	1.5

⁸⁴ Among those who had heard of Number One Deluxe Plus, heard of lubricants, and reported being able to name "any places where you can obtain/buy Number One Deluxe Plus" (n=65). More than one response was possible for this question about places where condoms can be obtained.

⁸⁵ The other response offered to this question was minimart.

Disclosure, Money Exchange, and Drug Use

	Total (n=644 unless otherwise indicated)	
	n	%
<i>People who know that respondent has sex with other men or katoey⁸⁶</i>		
No one	116	18.0
Girlfriend	19	3.0
Close friends	421	65.4
All friends	143	22.2
Family	69	10.7
Work colleagues	37	5.7
Don't know	34	5.3
<i>Respondent wants to keep his sexual status secret (that (s)he is katoey or has sex with other men)</i>		
Yes	389	60.4
No	231	35.9
Don't care	24	3.7
<i>Has given money, gifts, meals, or financial support to male or katoey sexual partner(s)</i>		
Yes	268	41.6
No	376	58.4
<i>Has received money, gifts, meals, or financial support to male or katoey sexual partner(s)</i>		
Yes	445	69.1
No	199	30.9
<i>Has tried the following drugs⁸⁷</i>		
Opium	2	0.3
Heroin	2	0.3
Amphetamine (ya baa)	57	8.9
Marijuana	16	2.5
Paint thinner	0	0.0
Marathon (yaa yii)	0	0.0

⁸⁶ Multiple responses possible (n=644).

⁸⁷ Multiple responses possible (n=644).

Exposure to Interventions: Katoey

	Total (n=415 unless otherwise indicated)	
	n	%
<i>Has heard of MSM activities for katoey</i>		
Yes	326	78.6
No	88	21.2
Don't know	1	0.2
<i>Reported organization that conducted the activity for katoey⁸⁸</i>		
PSI	291	89.3
LYAP	9	2.8
Burnet Institute	7	2.1
Other ⁸⁹	19	5.8
<i>Ever read PSI katoey brochure</i>		
Yes	235	56.6
No	178	42.9
Don't know	2	0.5
<i>Ever heard of PSI Pheun Mai drop in center</i>		
Yes	247	59.5
No	165	39.8
Don't know	3	0.7
<i>Ever attended a LYAP group discussion</i>		
Yes	59	14.2
No	355	85.5
Don't know	1	0.2
<i>Ever been contacted by a PSI peer educator</i>		
Yes	198	47.7
No	215	51.8
Don't know	2	0.5
<i>How long ago were you contacted by a PSI peer educator⁹⁰</i>		
Last week	4	2.0
Last 3 months	52	26.3
Last 6 months	63	31.8
Last year	79	39.9
<i>Ever attended a PSI group discussion⁹¹</i>		
Yes	170	85.9
No	28	14.1
<i>Topic of PSI group discussion⁹²</i>		
STI	77	45.3
HIV/AIDS knowledge	137	80.6
Condom use	44	25.9
Lubricant use	6	3.5
Condom demonstration	8	4.7
VCT service promotion	0	0.0
Drop in center promotion	2	1.2
Sexuality transgenders	23	13.5
HIV status	22	12.9

⁸⁸ Among those who had heard of MSM activities for katoey (n=326).

⁸⁹ Other reported organizations included the Lao Red Cross and UNICEF, although neither of those organizations provides activities for MSM.

⁹⁰ Among those who had ever been contacted by a peer educator (n=198).

⁹¹ Among those who had ever been contacted by a peer educator (n=198).

⁹² Among those who had ever been contacted by a peer educator and attended a PSI group discussion (n=245).

Multiple responses were possible for this question, so the proportion is provided out of the total number of respondents for each item.

<i>Ever attended PSI camping/training</i>	n	%
Yes	95	48.0
No	103	52.0
<i>When attended PSI camping/training⁹³</i>	n	%
Last week	1	1.1
Last month	1	1.1
Last 3 months	57	60.0
Last year	36	37.9

⁹³ Among those who had ever attended PSI camping/training (n=95).

Exposure to Interventions: Partners of Katoey

	Total (n=229 unless otherwise indicated)	
	n	%
<i>Has heard of MSM activities for katoey</i>		
Yes	124	54.1
No	104	45.4
Don't know	1	0.4
<i>Reported organization that conducted the activity for katoey⁹⁴</i>		
PSI	111	89.5
LYAP	1	0.8
Burnet Institute	1	0.8
Don't know	11	8.9
<i>Ever read PSI katoey brochure</i>		
Yes	83	36.2
No	144	62.9
Don't know	2	0.9
<i>Ever heard of PSI Pheun Mai drop in center</i>		
Yes	47	20.5
No	178	77.7
Don't know	4	1.7
<i>Ever attended a LYAP group discussion</i>		
Yes	15	6.6
No	211	92.1
Don't know	3	1.3
<i>Ever been contacted by a PSI peer educator</i>		
Yes	18	7.9
No	210	91.7
Don't know	1	0.4
<i>How long ago were you contacted by a PSI peer educator⁹⁵</i>		
Last week	0	0.0
Last 3 months	5	27.8
Last 6 months	2	11.1
Last year	11	61.1
<i>Ever attended a PSI group discussion⁹⁶</i>		
Yes	13	72.2
No	5	27.8
<i>Topic of PSI group discussion⁹⁷</i>		
STI	4	30.8
HIV/AIDS knowledge	9	69.2
Condom use	3	23.1
Lubricant use	0	0.0
Condom demonstration	1	7.7
VCT service promotion	0	0.0
Drop in center promotion	0	0.0
Sexuality transgenders	0	0.0
HIV status	2	15.4

⁹⁴ Among those who had heard of MSM activities for katoey (n=326).

⁹⁵ Among those who had ever been contacted by a peer educator (n=18).

⁹⁶ Among those who had ever been contacted by a peer educator (n=18).

⁹⁷ Among those who had ever been contacted by a peer educator and attended a PSI group discussion (n=13). Multiple responses were possible for this question, so the proportion is provided out of the total number of respondents for each item.

<i>Ever attended PSI camping/training</i>	n	%
Yes	3	83.3
No	15	16.7
<i>When attended PSI camping/training⁹⁸</i>	n	%
Last week	0	0.0
Last month	0	0.0
Last 3 months	3	100.0
Last year	0	0.0

⁹⁸ Among those who had ever attended PSI camping/training (n=3).

Distribution of Individual Items in Ability and Motivation for Consistent Condom Use

INDICATORS	TOTAL
ABILITY	
<i>Social Support</i>	Mean
- You encourage your friends to use condoms	4.77
- Your friends tell you not to use condoms	4.46
- You can ask your friends for condoms when you need them	4.41
- It is normal for friends to carry condoms	4.57
- None of your friends talk about condom use	3.75
- Your friends think that condom use is not acceptable	4.33
- Your friends encourage you to carry condoms	4.77
MOTIVATION	
<i>Belief</i>	Mean
- Condoms should only be used with a partner you trust	3.33
- A faithful partner will not infect me with HIV	3.53
- Using a condom would introduce distrust between you and your partner	3.63
- If you use lubricant, you don't have to use a condom	4.36
- You will lose your good looking partner if you use condoms with him	3.72
- You don't need to use a condom if your partner's sexual organs look clean	4.15
- Your sex partner likes using condoms	4.58
- Using condom implies that you are cheating on your partner	3.83
- You know that a partner uses condoms with all partners, so there is no need for you to use condoms with him	3.97
<i>Locus of Control</i>	Mean
- You can always negotiate condom use with your partner	4.16
- You can only use a condom if your partner wants to	3.48
- It's a matter of luck whether one is infected with HIV	4.32
- Fate determines whether you get HIV	4.14
- You always make decisions whether a condom is used during sex	4.42
- When you pay someone to have sex, you can decide whether condoms are used	4.14
- Your partner can convince you to do anything	3.83
- You can decide whether condoms are used with your partner	4.38
- Your partners do not want you to use condoms so you don't use them	4.14

Methodology

Sampling and participants The sample population was katoey and men-who-have-sex-with-men aged 15 to 35 in three urban centers in Laos: Vientiane, Luang Prabang, and Savannakhet. For inclusion in the study, respondents must have had oral or anal sex with a man in the past 6 months. Respondents were asked about two types of partners: fan and phoubao. Fan partners are defined as men with whom katoey are emotionally committed, such as regular partners or boyfriends. Phoubao are defined as men with whom katoey are not in an emotionally committed relationship, or someone that they might have only had sex with once or a few times.

Data Collection Procedure Eight katoey fieldworkers and two female fieldworkers collected data from study respondents. This survey used time-location sampling to collect data from 415 katoey and convenience sampling to survey 219 partners of katoey. Katoey are defined as biological males who self-identify as female and may or may not dress as women. Based on extensive mapping of hotspots where katoey congregate in each of the three urban areas to be surveyed, clusters were created. A total of 139 clusters were created based on the mapping data (see Table 1 below).

Table 1. Description of RDS seeds selected for sampling using PPS.

Location (Urban Area)	Number of clusters
Vientiane	102
Savannakhet	20
Luang Prabang	17
Total	139

In order to obtain a representative sample of the target population, a list of clusters was created with different combinations of times hotspots were frequented along with hotspot locations. Clusters were then selected through probability proportional to size (PPS). During fieldwork, a take-all methodology was employed, whereby fieldworkers visited each cluster at the peak time when the target population would visit the hotspot and stay at the site for a two-hour period, interviewing every eligible katoey respondent present at the hotspot who did not refuse the interview. In addition, a convenience sample of partners was taken, meaning that men present at the hotspot identified by fieldworkers as sexual partners of katoey were approached and asked to participate in the interview. Those who consented were included in the overall sample as partners of katoey respondents. The number of katoey, the number of partners, the number of

refusals, and the number of respondents interviewed at the cluster, was recorded by fieldworkers who remained on site for the entire two hour period. If the katoey or the partner was approached and passed the screening criteria, (s)he was interviewed by one of the trained fieldworkers on site at the hotspot or in a location very close to the hotspot. Study participants received modest monetary incentives for completing the interview. Data collection in the three urban areas took place from May to June 2006.

Survey Instrument(s) The main questionnaire used for collecting data included a short screening section at the beginning of the questionnaire. The screening questions established eligibility for survey participation and explained confidentiality before requesting verbal confirmation from the respondent for participation. The main questionnaire was comprised of ten sections: background characteristics; condoms and lubricants (including condom and lubricant availability and affordability); sexual history (including condom use); female sexual partners; sexual-orientation disclosure and money exchange; scaled questions concerning social support, beliefs about trust, and locus of control; knowledge and opinions about STIs; true and false statements concerning HIV/AIDS and STIs; and exposure to interventions. Questions measuring beliefs, locus of control, and social support were measured with a six-point Likert scale format, with responses ranging from strongly agree to strongly disagree. The questionnaire was pre-tested before study implementation and the language improved. Reliability tests were also conducted on scaled items: constructs and items deemed unreliable were abandoned.

Analytic Technique Data were entered by Mr. Ratsamee and the PSI/Laos Research Manager cleaned data before analysis. SPSS 13.0 was used for analysis and data were manipulated using PSI's Dashboard Analysis techniques. The following analyses were conducted by the PSI/Laos Technical Advisor:

- Frequencies were obtained for all study variables.
- Exploratory factor analysis was conducted on scaled constructs to determine whether potential subscales existed.
- Reliability testing was conducted for scaled items. Scales were considered reliable if they achieved a Cronbach's alpha of 0.70 or higher. Individual items from unreliable scales were used in subsequent analyses, but as individual predictors of consistent condom use, not as a construct.
- Data were tested for bivariate correlations and multicollinearity. Predictors from each bubble category (opportunity, ability and motivation) that were significantly

correlated with the behavioral outcome (consistent condom use vs. inconsistent condom use) were selected for inclusion in the logistic regression model. Population characteristics that were not collinear with any other population characteristics were used as controls.

- Stepwise logistic regression analyses were conducted until models containing only significant predictors of condom use at last sex with phoubao was produced. Proportions for significant predictors were adjusted for the effects of other significant determinants in the model via UNIANOVA. Unadjusted proportions were also run for variables not significant at the multivariate level. Data were unweighted.
- Monitoring analysis was conducted by merging the data from the first and second rounds and running UNIANOVA tests to identify significant differences. Variables from the logframe and significant items from segmentation analyses were included in this analysis.
- Evaluation analysis was conducted by merging the data from the first and second study rounds and running UNIANOVA tests to identify the impact of exposure to PSI programs on items found significant in the monitoring table. Baseline levels from 2004 were compared to three exposure categories in 2006: none, low, and high.

Challenges Although katoey were willing to participate in the study, one of the primary concerns with data collection was the difficulty of finding appropriate places to interview respondents without distractions. In 11.3% of the interviews, a third party was present during the interview, the majority of whom distracted respondents during the interview, according to fieldworkers. This lack of privacy may have resulted in information bias and affected study results.

Since data collection began at the beginning of rainy season, there were many sudden downpours that may have influenced people's decision to attend different venues or prevent them from going out during those evenings. Thus the number of katoey or their partners attending venues may have been lower than it would have been when it was not raining. Also, the Lao national elections, which coincided with the first week of data collection, resulted in a crackdown on entertainment venues and locations where many of the respondents were to be recruited. This resulted in a potential bias in the respondents included in the sample. Furthermore, the proportion of respondents reporting never having been exposed to interventions was only 8.3% of the 2006 sample. The low number of those who had never been exposed to katoey interventions presented challenges for construction of exposure variables because the numbers were too low. On the

other hand, the low number of those never exposed to interventions may have resulted from consistent outreach efforts by PSI katoey peer educators in hotspots.

Improvements for Next Study Round Several improvements should be made to the study questionnaire. First, the questionnaire ID should be improved, q001 can be moved to the front of the questionnaire and three spaces should be left for recording the questionnaire number. The fieldwork supervisor should ensure that each questionnaire is numbered appropriately so that the forms are easy to identify. Skip patterns should be treated with special care and considered carefully before being confirmed for the second round.

Based on pretesting and the survey results, using a 6-point Likert scale is an appropriate format for surveying this population. As shown in the annex describing reliability analysis, scaled questions should be refined so that reliable constructs are possible. Improved items around beliefs about trust and locus of control could create better indices and composite variables that could be significant predictors of condom use. Care should be taken to ensure that scaled constructs are reliable. Consistency of language for scaled constructs and asking from the point of view of the same person might improve reliability. Further refining scales so that they are reliable and measure the appropriate construct would be useful in future rounds. More extensive pretesting of the scaled items for reliability before conducting the study could increase the likelihood that the constructs are measured and can be used in analysis.

The next study round should ask questions to differentiate between NODP and Number One Deluxe (NOD). Because NODP is targeted at katoey and their partners, measuring awareness, accessibility, and affordability is important. Showing a photo of the packaging and the different products in the next round of data collection could potentially improve data quality.

For the intention item “much more likely to use condoms with casual partners if lubricant available”, the question should be reconsidered. Because it was a significant item in the first round of data collection, the item was retained and found to be significantly different in the second round. However, the question as it stands is imprecise because it does not have a clear direction. If the intent is to measure condom use, it would make more sense to ask about the likelihood of using a condom in the next n months. If the purpose of the question is to measure lubricant use, then the question could be reformulated as “how likely are you to use water-based lubricant when you have sex with a condom in the next n months.”

Future rounds should ensure that questions about exposure to interventions include updated PSI activities with katoey and control for activities conducted by other organizations. Because exposure to interventions is difficult to measure and changes in OAM or behavior may

be partially attributed to environmental or social changes that occur, it is important to be as precise as possible in identifying whether improvements or lack of change can be attributed to PSI's programs or to efforts by other organizations or to other factors external to interventions. Having better measures for environmental factors that may affect changes in behavior or OAM could improve understanding of the differences between the reference group and those who were not exposed to interventions. Adding appropriate questions and rethinking how exposure was measured will be crucial for gaining better measures of impact in future rounds.

In terms of exposure to interventions, the question "ever used water-based lubricant for anal sex" was asked in general, over a lifetime. Because there was no clear time period, the exposure effect on this item is not clear because it is not possible to ascertain whether behavior changed after exposure to interventions. Thus, adding a timeframe to this question should be considered so that the effect of exposure on this behavior can be better measured.

Because the PSI Peuan Mai drop-in centers opened in June 2006, adding an exposure question that could further differentiate individuals with low or high exposure based on having visited the drop-in-center would be appropriate.

Finding appropriate places to interview that improve fieldworker safety and confidentiality should be a top priority. In situations where a third party is involved, fieldworkers should take time to explain to participants about the importance of the interview and the amount of time anticipated to complete the interview. Doing so could decrease distractions by third parties and put the third party at ease while they wait for the interview to be completed.

Improving the identification of new hotspots would improve data collection and sample validity. Efforts should be made to keep the hotspot list updated and specific to the target population. Doing so would minimize the likelihood of excluding new hotspots from the sampling frame for the next study round.

Reliability Analysis

Condom use at last sex with phoubao

Behavior Change Determinants	Initial Items		Items To Be Improved in the Next Study			EFA Subscales	
	Cronbach's Alpha	# of Items	Round			Subscale 1 (Items)	Subscale 2 (Items)
			Cronbach's Alpha	# of Items	Items (from 2006 Questionnaire)		
-Beliefs	0.396	9	0.449	7	b031R, b033R, b034R, b038R, b039, b040R, b041R	b031R, b034R, b040R	b033R, b038R, b041R
-Locus of control	0.397	9	0.453	5	b036R, b042R, b043, b047, b048R	b036R, b042R, b045%	b043, b044 b047, b048R
-Social support	0.508	7	0.508	7	n/a	b026, b027R, b028, b032, b049	n/a

After analysis of the scaled items, it was concluded that the scales were not reliable as constructs, so each item was analyzed separately to determine whether it was significantly related to condom use at last anal sex with phoubao
n/a Not applicable to this study round

Beliefs about trust for condom use at last anal sex with phoubao

1. Using a condom would introduce distrust between you and your partner
2. If you use lubricant, you don't have to use a condom
3. You will lose your good-looking partner if you use condoms with him
4. A faithful partner won't infect me with HIV
5. Condoms should only be used with a partner you trust
6. You know that a partner uses condoms with all partners, so there is no need for you to use condoms with him
7. You don't need to use a condom if your partner's sexual organs look clean
8. Your sex partner likes using condoms
9. Using condom implies that you are cheating on your partner

Locus of control for condom use at last anal sex with phoubao

1. It's a matter of luck whether one is infected with HIV
2. Fate determines whether you get HIV
3. You always make decisions whether a condom is used during sex
4. You can decide whether condoms are used with your partner
5. Your partner can convince you to do anything
6. When you pay someone to have sex, you can decide whether condoms are used
7. Your partners do not want you to use condoms so you don't use them
8. You can only use a condom if your partner wants to
9. You can always negotiate condom use with your partner

Social Support for condom use at last anal sex with phoubao

1. You encourage your friends to use condoms
2. Your friends tell you not to use condoms
3. You can ask your friends for condoms when you need them
4. None of your friends talk about condom use
5. Your friends think that condom use is not acceptable
6. Your friends encourage you to carry condoms
7. It is normal for friends to carry condoms

Performance Framework for Social Marketing

