Effects of cigarette packaging & price on quit smoking behavior:

Results from a discrete choice experiment among Vietnamese adults who smoke

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DISCLOSURES & FUNDING STATEMENT

Authors: Hannah E Barker, Kevin Welding, Farahnaz Islam, Chan Nhu Huynh Ba, Joanna E Cohen

Funding: This work was supported by Bloomberg Philanthropies Bloomberg Initiative to Reduce Tobacco Use.

COIs: Authors have no conflicts of interest to disclose.

1 in 5 Vietnamese adults smoke; rates of tobacco use slowly declining







Discrete choice experiment: identify the relative importance consumers assign to price & packaging attributes when making hypothetical choices.



HWL image options: text, teeth, abstract, child, lung HWL size options: 30%, 50%, 85% coverage Pack price options (in dong): 2,000, 12,000, 45,000, 100,000 Figure 3. Scaled relative importance of attributes in decision to purchase a cigarette pack



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Figure 3. Scaled relative importance of attributes in decision to purchase a cigarette pack



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Study sample

- Recruited 1500 adults who smoke from existing database maintained by market research firm (Milestones)
- Equally distributed by region (north, central, south)
- Evenly distributed by nicotine dependence level based on Heaviness of Smoking Index (low, medium, high)
- Survey administered over the phone



Price options			Packaging	g options
VN dong	US dollars			
15,000 (avg. price)	\$0.64			
20,000	\$0.85	HÚT THUỐC GÂY UNG THƯ PHỔI		HÚT THUỐC GÂY UNG THƯ PHỔI
80,000	\$1.28	THING 1 ONG	HÚT THUỐC GÂY UNG THƯ PHỎI	THĂNG LONG
40,000	\$1.71	THANG LONG Thuốc là clâu lọc	THĂNG LONG Thước là đầu lớc	

Price options			Packaging	g options	
VN dong	US dollars				
15,000 (avg. price)	\$0.64				SPECIAL BLEND FILTER KINGS
20,000	\$0.85	HÚT THUỘC GÂY UNG THƯ PHÔI		HÚT THUỐC GÂY UNG THƯ PHỔI	TYP
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40,000	\$1.71	Thuốc là đầu lạc	THĂNG LONG Huas là dia bo		

Aim: To estimate the relative importance of price, plain packaging, & larger HWL coverage on hypothetical quit smoking behavior

options		Packaging options
US dollars		
\$0.64		
\$0.85	HÚT THUỘC GÂY UNG THƯ PHÔI	HÚT THUỘC GÂY UNG T
\$1.28	THÁNG LONG	HÚT THUỐC GÂY UNG THƯ PHỔI
\$1.71	Thuốc là đầu lợc	THĂNG LONG Thước là đầu lợc
	US dollars \$0.64 \$0.85 \$1.28 \$1.71	bptions US dollars \$0.64 \$0.85 \$1.28 \$1.71

SPECIAL BLEND FILTER KINGS



Randomized to view 1 of 8 choice set blocks on own cell phone; each image viewed separately, in the predetermined order.

EXAMPLE CHOICE SET						
Block #	No. viewed	IMAGE 1	IMAGE 2	Image 3	IMAGE 4	
		30,000 dong	40,000 dong	20,000 dong	15,000 dong	
7	199 participants	HÚT THUỘC GÁY UNG THƯ PHOI KÚT THUỘC GÁY UNG THƯ PHOI KIỆM CHI CHU	SPECIAL BLEND FILTER KINGS	HÚT THUỘC GÂY UNG THƯ PHỘI THẦNG LONG Chiếc đầu là tác	HÚT THUỐC GÂY UNG THƯ PHÓI THĂNG LONG	



Consider a scenario where you could only purchase the cigarette pack in Image 1. In the situation presented, would you quit smoking? Or continue to smoke?

Consider a scenario where you could only purchase the cigarette pack in Image 2. In the situation presented, would you quit smoking? Or continue to smoke?

Consider a scenario where you could only purchase the cigarette pack in Image 3. In the situation presented, would you quit smoking? Or continue to smoke?



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SAMPLE CHARACTERISTICS

Analytic sample=1494 participants with complete demographic data

Median age

28 yrs 93% male

Household income status



Nicotine dependence



REGRESSION RESULTS

Adjusted relative risk of hypothetical quitting vs. continuing to smoke





Adjusted relative risk of hypothetically quitting vs. continuing to smoke

*adjusted for age, sex, income, nicotine dependence, and last brand purchased



Reference pack

Adjusted relative risk of hypothetically quitting vs. continuing to smoke

*adjusted for age, sex, income, nicotine dependence, and last brand purchased





OR=1.30 [95%CI:1.18-1.42]

Adjusted relative risk of hypothetically quitting vs. continuing to smoke

*adjusted for age, sex, income, nicotine dependence, and last brand purchased







Reference pack

OR=1.30 [95%Cl:1.18-1.42] OR=1.34 [95%CI:1.21-1.49]

Adjusted relative risk of hypothetically quitting vs. continuing to smoke

*adjusted for age, sex, income, nicotine dependence, and last brand purchased



REGRESSION RESULTS - PRICE

Adjusted relative risk of hypothetically quitting vs. continuing to smoke



*adjusted for age, sex, income, nicotine dependence, and last brand purchased

A 5,000 VND tax increase was not significantly associated with hypothetical quit behavior.

A 15,000 VND tax increase was significantly associated with a 20% increase in quitting.

A 25,000 VND tax increase was significantly associated with a 40% increase in quitting.

IMPLICATIONS



 Larger graphic HWLs and plain packaging (with 50% HWL) may be similarly effective at potentially increasing quit behavior

 Increasing the price of cigarettes to at least 30,000 VND (or 15,000 excise tax) could increase potential quit behavior

• Study provides insight into different policy mechanisms to reduce smoking behavior

LIMITATIONS

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Hypothetical nature of design limits ecological validity

Phone-based survey administration may limit how image viewed

National sample may not reflect all Vietnamese adults who smoke

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Ask about quitting & do not address other outcomes (ex. smoking reduction)

Thank you! lczapli1@jhu.edu



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