

**FLAVOR CAPSULES AND COLORS  
ON CIGARETTE PACKS APPEAL  
TO YOUTH IN MEXICO AND  
CONTRIBUTE TO  
MISPERCEPTIONS OF HARM**



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# Funding sources and conflicts of interest

**Funding information:** This work was supported with funding from Bloomberg Philanthropies' Bloomberg Initiative to Reduce Tobacco Use ([bloomberg.org](http://bloomberg.org)).

**Disclosure:** Dr. Moran serves as a paid expert witness in litigation sponsored by the Public Health Advocacy Institute against RJ Reynolds. This arrangement has been reviewed and approved by the Johns Hopkins University in accordance with its conflict of interest policies.



# Background



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# Tobacco marketing

- Tobacco packs are an important marketing tool
- Pack features influence consumer perceptions of product



# Tobacco use in Mexico



- 17.9% of adults and 5.7% of adolescents smoke tobacco<sup>1</sup>
- Flavor capsule cigarettes popular (smoked by 43% of all smokers)<sup>2</sup>
- Females, adolescents, young adults more likely than other groups to use flavor capsule cigarettes<sup>2</sup>

<sup>1</sup>Shamah-Levy T, Vielma-Orozco E, Heredia-Hernández O, et al. Encuesta Nacional de Salud y Nutrición 2018-19: Resultados Nacionales. Cuernavaca, México: Instituto Nacional de Salud Pública, 2020

<sup>2</sup> Zavala-Arciniega L, Gutiérrez-Torres DS, Reynales-Shigematsu LM, et al. Cigarros con cápsulas de sabor en México: prevalencia, proporción de uso entre fumadores y predictores de consumo. *Ensanut 2018-19. Salud Publica Mex.* 2020;62(6):820-828. doi:10.21149/11566



# Flavor capsule cigarettes

- Appeal to youth
- Associated with misperceptions of harm



# Objective

Examine the effect of cigarette pack features communicating flavor on product appeal, perceived harm and use intentions among adolescent smokers and non-smokers (13-17 years old) and adult smokers (18-34 years old) in Mexico City



# Methods



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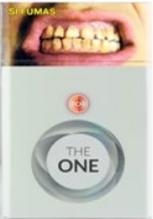
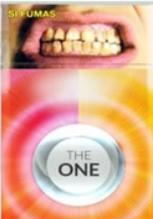
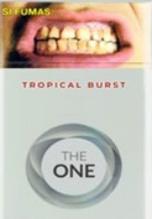
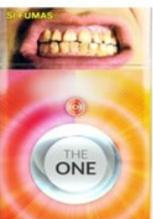
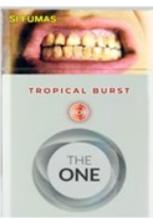
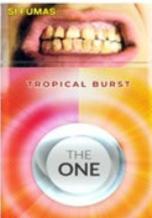
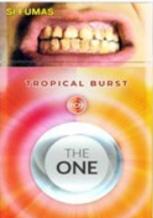
# Sampling

- Household recruitment in Mexico City
- Quota-based sampling
- Adult smokers, ages 18 – 34 and adolescent smokers and non-smokers, ages 13 – 17 eligible



# Design and analysis

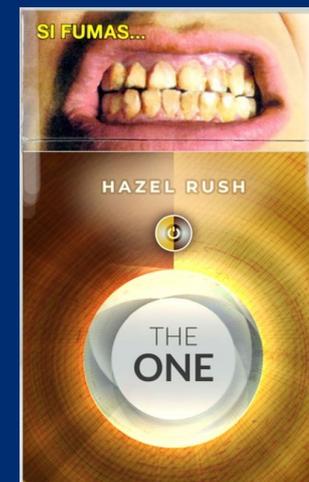
- Electronic, self-administered experimental survey
- Two experimental procedures

Series A Fruity Flavor (Tropical Burst)		Capsule	
 <b>Color</b>	 <b>Name</b>	<b>Color &amp; Capsule</b>	
 <b>Capsule &amp; Name</b>	 <b>Color &amp; Name</b>	<b>Color, Capsule &amp; Name</b>	

Series B –  
Arctic Air  
(minty flavor)



Series C –  
Hazel Rush  
(nutty flavor)

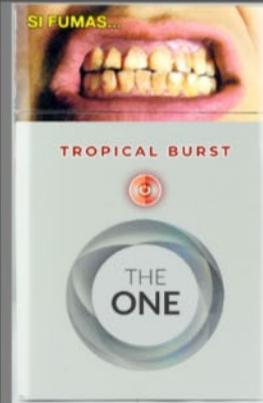
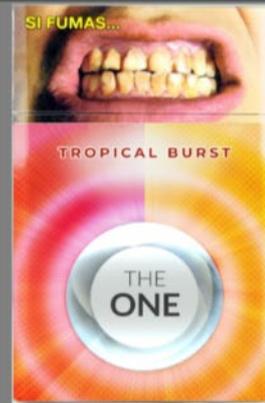
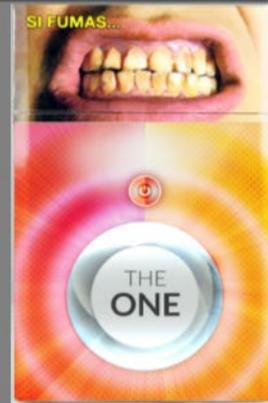


#Q2\_8\_TB.4: Conjunto 4. De este conjunto de cajetillas, ¿cuál cajetilla (1, 2, o 3) usted preferiría probar?

**CAJETILLA 1**

**CAJETILLA 2**

**CAJETILLA 3**



Cajetilla 1

Cajetilla 2

Cajetilla 3

Ninguna de las anteriores

No responde

Siguiente



# Results



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# Participant characteristics

## Adolescents

- N=1500
- Mean age – 15 years
- 17.7% smokers, 78.6% non-smokers

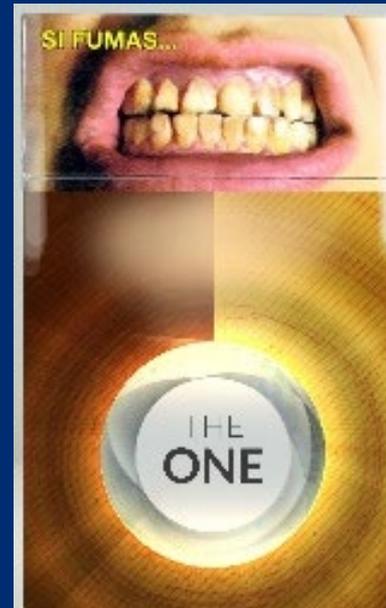
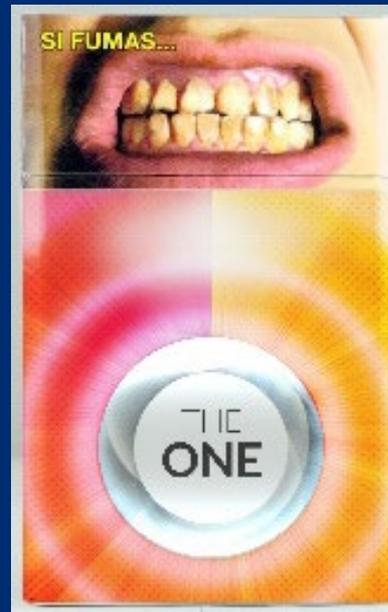
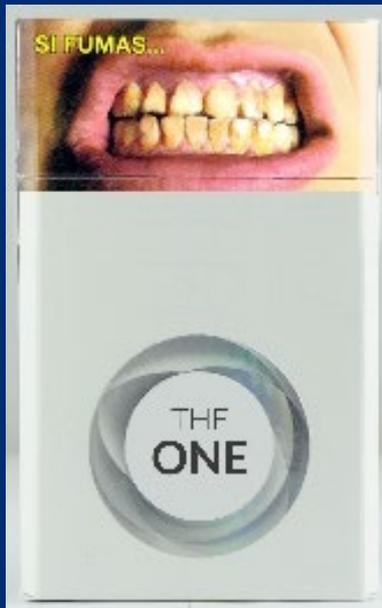
## Adults

- N=950
- Mean age – 25.7 years



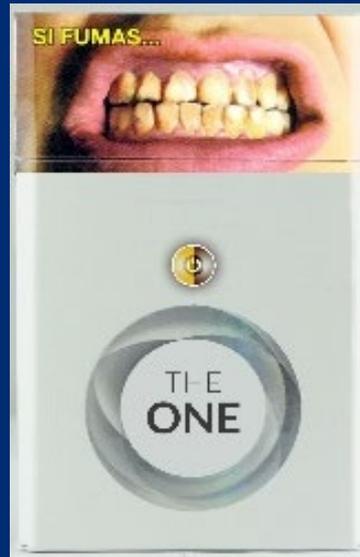
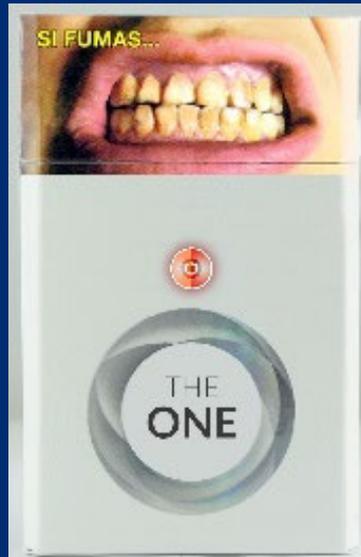
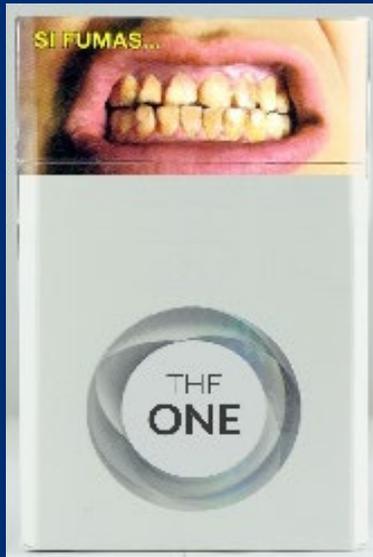
# Effects of pack features on appeal

	Adults (n=950)			Adolescents (n=1500)		
	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
Color	4.836	3.982-5.874	<0.001	15.039	12.085-18.715	<0.001



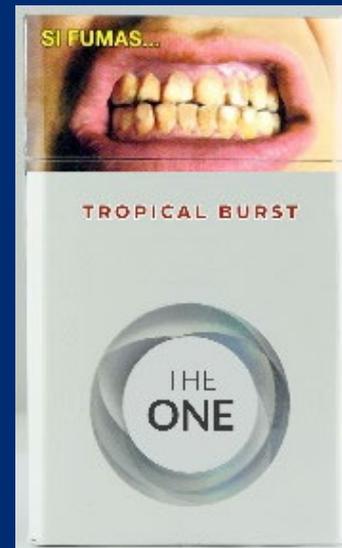
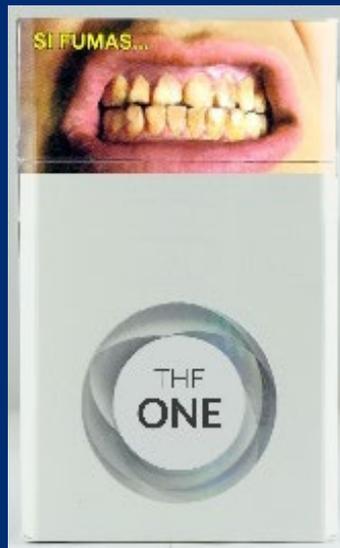
# Effects of pack features on appeal

	Adults (n=950)			Adolescents (n=1500)		
	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
<b>Capsule</b>	<b>1.851</b>	<b>1.526-2.245</b>	<b>&lt;0.001</b>	<b>1.826</b>	<b>1.471-2.266</b>	<b>&lt;0.001</b>



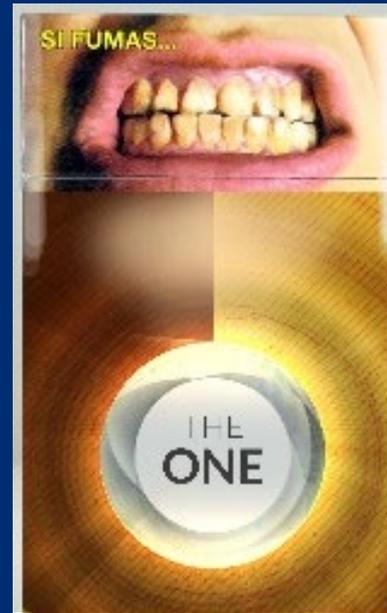
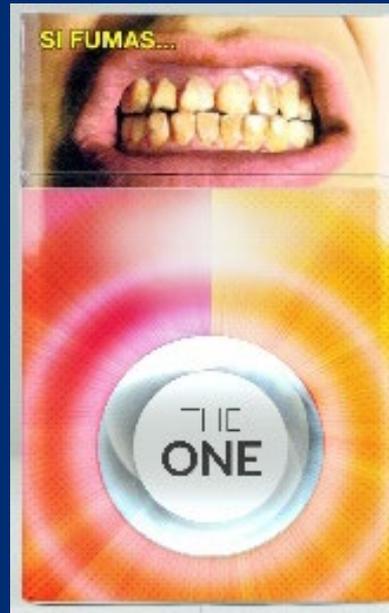
# Effects of pack features on appeal

Name	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
Tropical Burst	1.123	0.845-1.492	0.710	<b>1.607</b>	<b>1.180-2.190</b>	<b>0.003</b>
Hazel Rush	1.185	0.880-1.595	0.264	1.079	0.776-1.500	0.653
Arctic Air	0.898	0.673-1.199	0.467	<b>1.791</b>	<b>1.254-2.559</b>	<b>0.001</b>



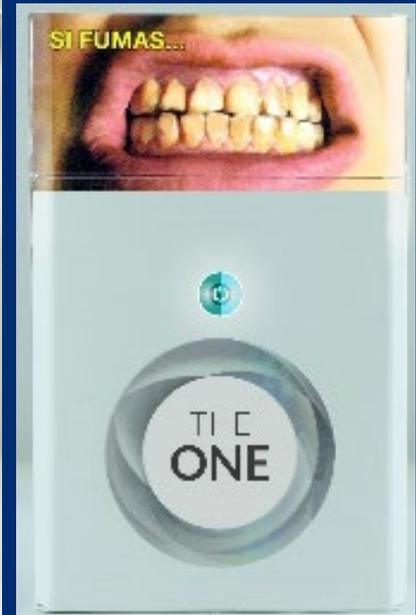
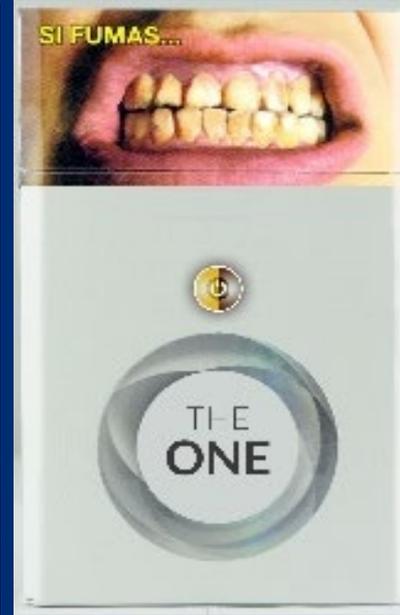
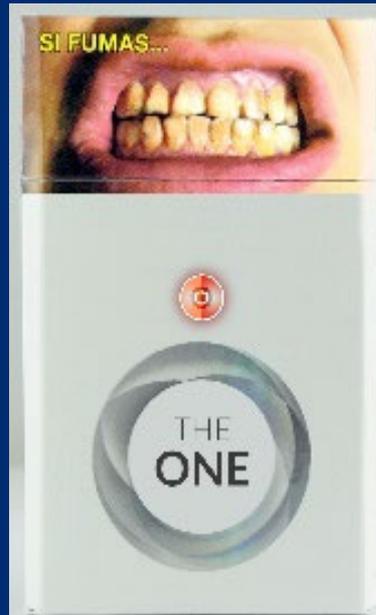
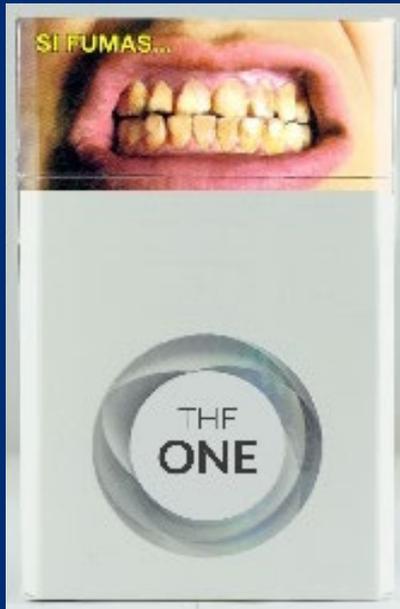
# Effects of pack features on perceived harm

	Adults (n=950)			Adolescents (n=1500)		
	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
<b>Color</b>	0.857	0.671-1.096	0.219	<b>0.756</b>	<b>0.619-0.924</b>	<b>0.006</b>



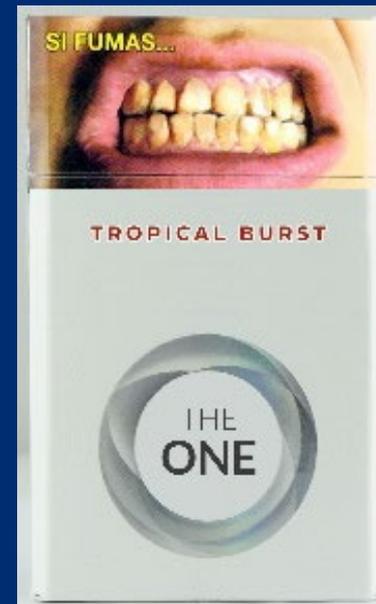
# Effects of pack features on perceived harm

	Adults (n=950)			Adolescents (n=1500)		
	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
<b>Capsule</b>	0.913	0.714-1.166	0.466	<b>0.751</b>	<b>0.615-0.918</b>	<b>0.005</b>



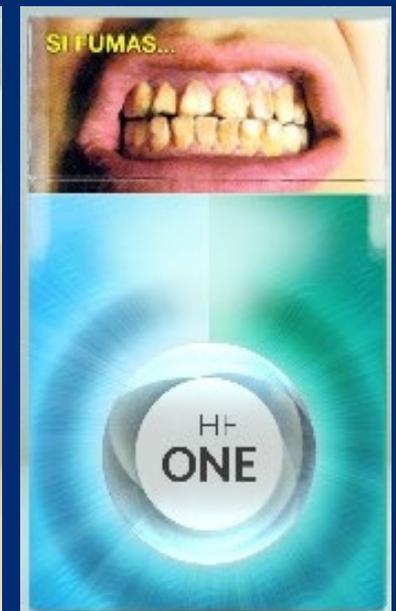
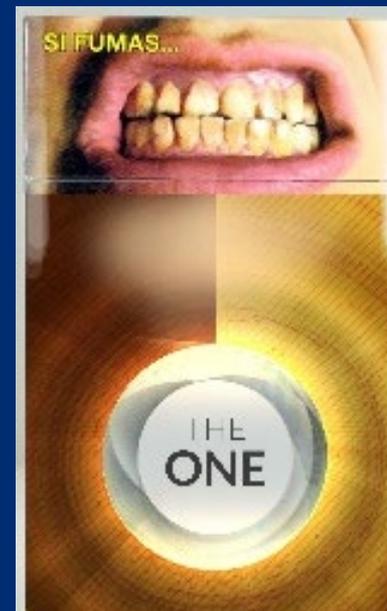
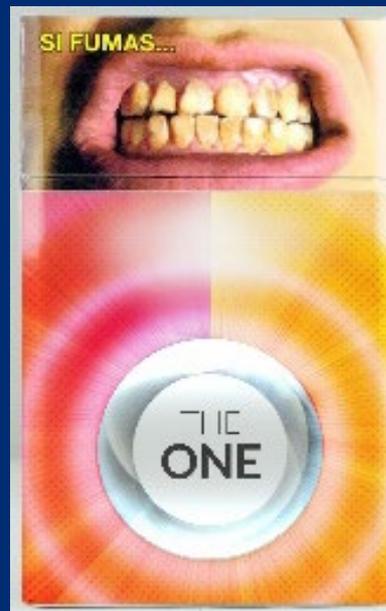
# Effects of pack features on perceived harm

	Adults (n=950)			Adolescents (n=1500)		
	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
<b>Flavor</b>						
<b>Tropical Burst</b>	1.040	0.724-1.494	0.832	<b>0.674</b>	<b>0.500-0.908</b>	<b>0.009</b>
<b>Hazel Rush</b>	0.848	0.578-1.245	0.400	1.024	0.761-1.379	0.874
<b>Arctic Air</b>	1.154	0.802-1.660	0.441	1.048	0.768-1.423	0.769



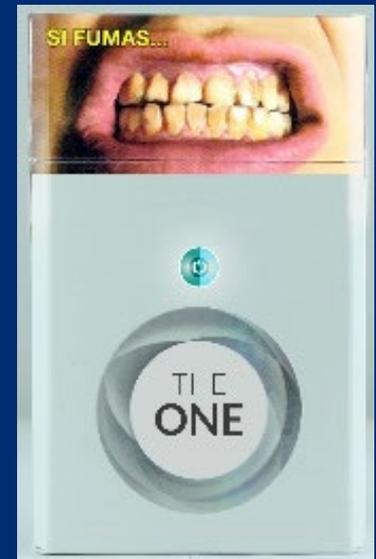
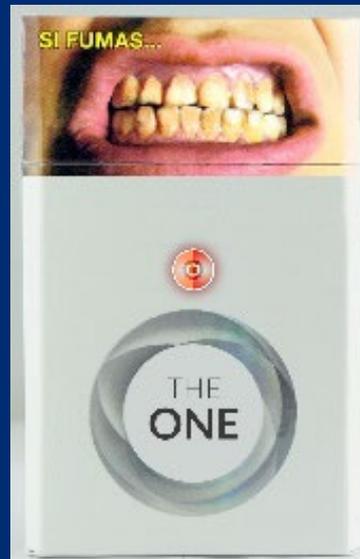
# Effects of pack features on intention to try

	Adults (n=950)			Adolescents (n=1500)		
	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
<b>Color</b>	<b>3.720</b>	<b>2.988-4.631</b>	<b>&lt;0.001</b>	<b>5.374</b>	<b>4.174-6.918</b>	<b>&lt;0.001</b>



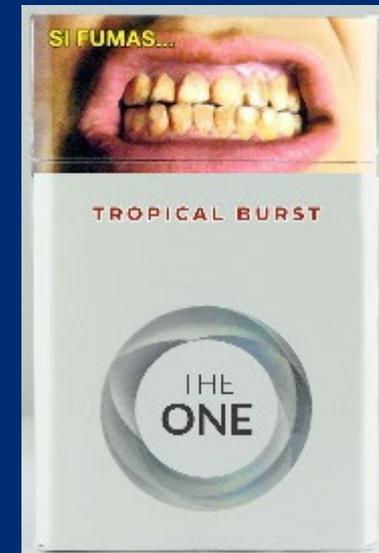
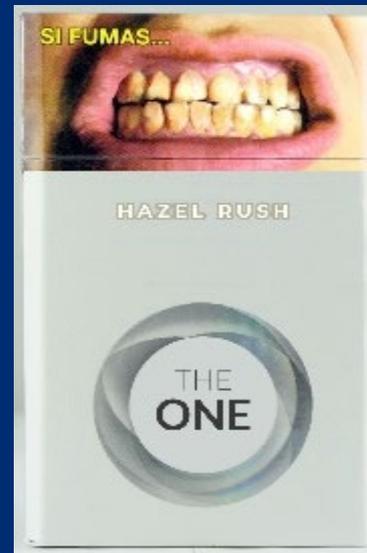
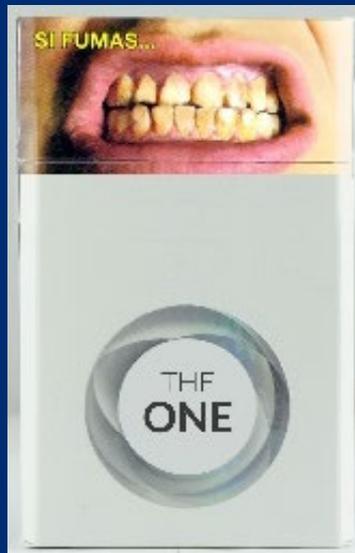
# Effects of pack features on intention to try

	Adults (n=950)			Adolescents (n=1500)		
	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
<b>Capsule</b>	<b>1.527</b>	<b>1.226-1.903</b>	<b>&lt;0.001</b>	<b>1.995</b>	<b>1.546-2.576</b>	<b>&lt;0.001</b>

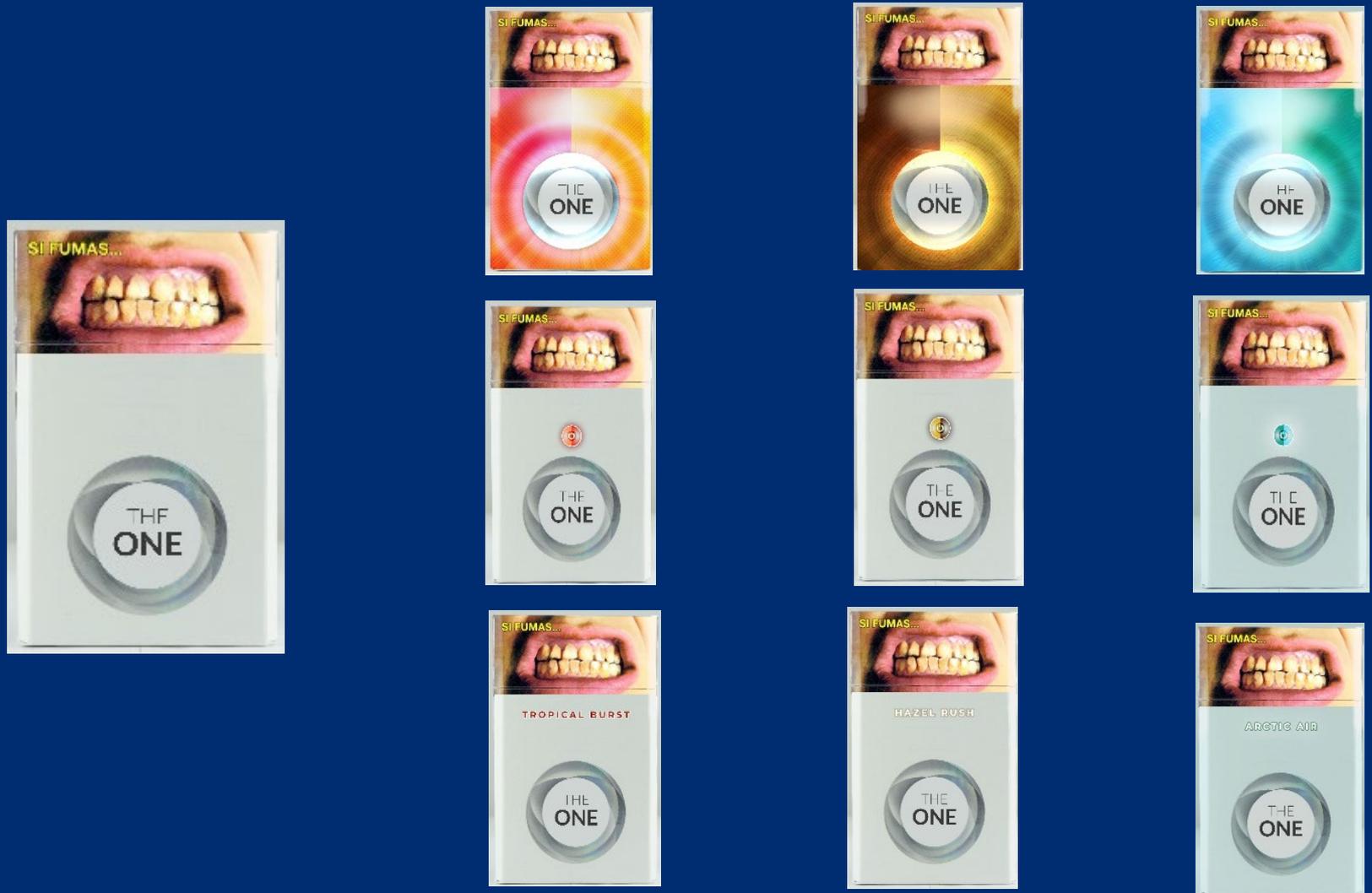


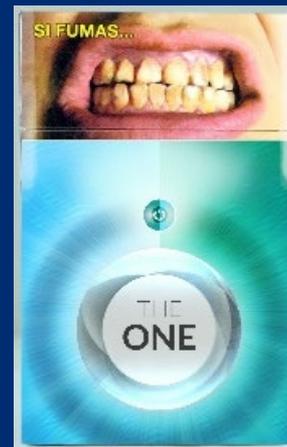
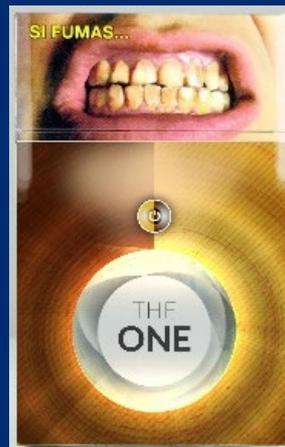
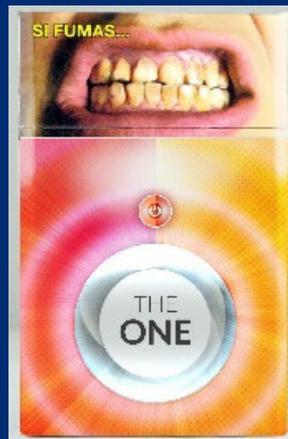
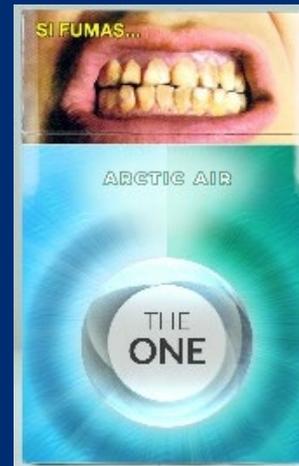
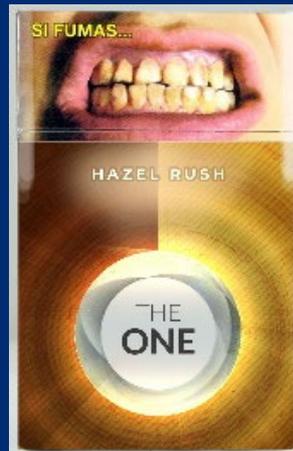
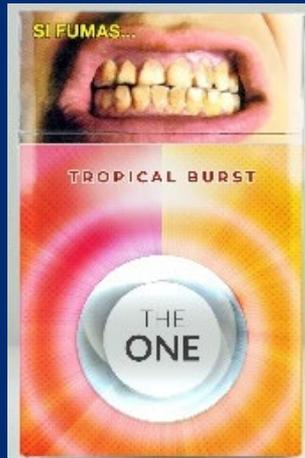
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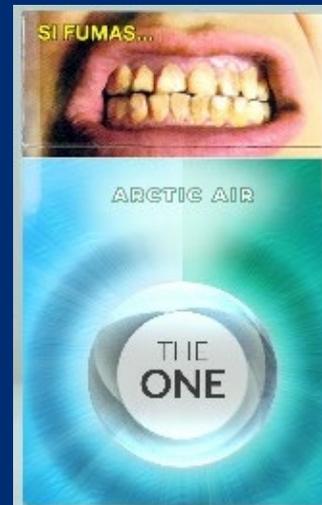
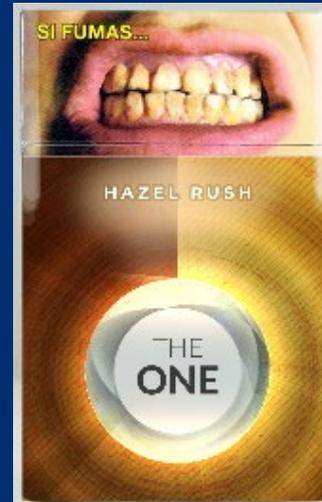
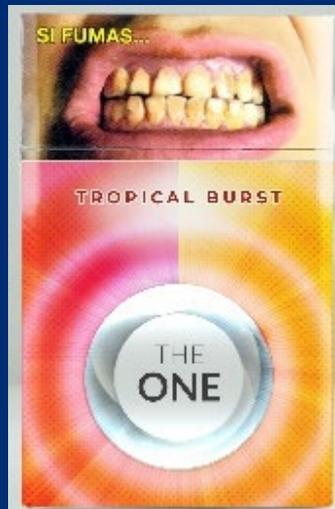
	Adults (n=950)			Adolescents (n=1500)		
	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
<b>Flavor</b>						
<b>Tropical Burst</b>	1.231	0.888-1.705	0.212	<b>1.752</b>	<b>1.220-2.516</b>	<b>0.002</b>
<b>Hazel Rush</b>	<b>1.754</b>	<b>1.262-2.437</b>	<b>0.001</b>	1.078	0.731-1.589	0.706
<b>Arctic Air</b>	1.145	0.826-1.587	0.417	1.036	0.691-1.554	0.863



# Discrete choice analysis







# Strengths and limitations

- Use of fictional packs - allowed us to examine impact of specific pack features on perceptions
- Sample limited to Mexico City



# Conclusions



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# Main findings

- Color and capsules are appealing to adults and adolescents
- Adolescents find flavor names like 'Tropical Burst' and 'Arctic Air' appealing
- Misperceptions of harm among adolescents based on pack features – color, capsule, and 'Tropical Burst'



# Implications

- These findings suggest the need for plain packaging, a flavor ban, and a ban on the display of tobacco at retail



# Thank you!

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