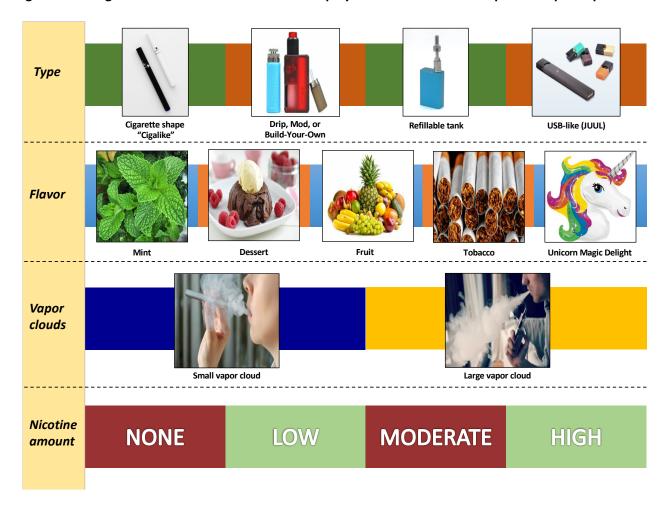
APPENDIX: SUPPLEMENTAL FILES

Electronic Cigarette and Moist Snuff Product Characteristics Independently Associated with Youth Product Beliefs

- Figure A.1. E-cigarette characteristics and levels displayed to discrete choice experiment participants
- **Figure A.2.** Moist snuff smokeless tobacco characteristics and levels displayed to discrete choice experiment participants
- Figure A.3. Example questionnaire item displayed to participants
- **Table A.1.** Adolescents' beliefs associated with e-cigarette product characteristics: interaction by gender
- **Table A.2.** Adolescents' beliefs associated with e-cigarette product characteristics: interaction by e-cigarette ever use
- Table A.3. Adolescents' beliefs associated with moist snuff product characteristics: interaction by gender
- **Table A.4.** Adolescents' beliefs associated with moist snuff product characteristics: interaction by smokeless tobacco ever use

Figure A.1. E-cigarette characteristics and levels displayed to discrete choice experiment participants



Legend: This image was displayed to survey participants in the e-cigarette discrete choice experiment to demonstrate the product characteristics and their possible levels that would appear in subsequent randomly-generated hypothetic e-cigarette composite products.

Figure A.2. Moist snuff smokeless tobacco characteristics and levels displayed to discrete choice experiment participants



Legend: This image was displayed to survey participants in the moist snuff smokeless tobacco discrete choice experiment to demonstrate the product characteristics and their possible levels that would appear in subsequent randomly-generated hypothetic moist snuff composite products.

Figure A.3. Example questionnaire item displayed to participants

Of the following products, which one...?

	Type: tank or pen	Type: JUUL or other pod	
	Flavor: mint	Flavor: dessert	
	Vapor Cloud: large	Vapor Cloud: large	
	Nicotine Amount: high	Nicotine Amount: low	Neither of these options
Are you more curious about?	0	0	0
Is more dangerous to health?	0	0	0
Would be easier to use?	0	0	0
Would give a bigger "buzz" or "head rush"?	0	0	0

Legend: Discrete choice items were displayed to participants in the format above. Participants saw either ecigarette items (above) or moist snuff smokeless tobacco items (not shown). Levels of product characteristics were randomly generated to construct each hypothetical product composite. Figure is simulated to enhance resolution: actual screen images differed slightly in presentation.

Table A.1. Adolescents' beliefs associated with e-cigarette product characteristics: interaction by gender

	Curiosity Coefficient (95% CI) P-for-interaction = 0.55		Danger Coefficient (95% CI) P-for-interaction = 0.49		Buzz Coefficient (95% CI) P-for-interaction = 0.11		Ease of Use Coefficient (95% CI) P-for-interaction = 0.79	
	Female	Male	Female	Male	Female	Male	Female	Male
Device Type								
Cigalike	reference	reference	reference	reference	reference	reference	reference	reference
Tank	0.35 (0.07, 0.62)	0.46 (0.16, 0.76)	-0.15 (-0.36, 0.05)	0.03 (-0.20, 0.26)	0.05 (-0.15, 0.25)	0.33 (0.06, 0.59)	0.21 (-0.03, 0.45)	0.24 (-0.01, 0.48)
Drip-mod	0.05 (-0.24, 0.33)	0.09 (-0.23, 0.41)	0.08 (-0.14, 0.30)	-0.03 (-0.24, 0.19)	0.06 (-0.16, 0.27)	0.27 (0.03, 0.51)	-0.21 (-0.46, 0.04)	-0.03 (-0.27, 0.21)
Pod	0.38 (0.13, 0.63)	0.39 (0.06, 0.71)	0.01 (-0.22, 0.24)	0.01 (-0.21, 0.23)	0.03 (-0.18, 0.24)	0.15 (-0.11, 0.39)	0.54 (0.32, 0.76)	0.62 (0.37, 0.88)
Flavor								
Tobacco	reference	reference	reference	reference	reference	reference	reference	reference
Dessert	1.10 (0.76, 1.44)	0.75 (0.40, 1.10)	-0.14 (-0.38, 0.11)	-0.34 (-0.59, -0.09)	-0.01 (-0.26, 0.23)	-0.15 (-0.40, 0.10)	0.52 (0.27, 0.77)	0.31 (0.02, 0.59)
Fruit	1.07 (0.73, 1.41)	1.00 (0.65, 1.36)	-0.20 (-0.45, 0.05)	-0.31 (-0.57, -0.04)	-0.09 (-0.33, 0.16)	-0.08 (-0.34, 0.17)	0.52 (0.28, 0.77)	0.46 (0.18, 0.73)
Mint	0.84 (0.48, 1.19)	0.67 (0.29, 1.04)	-0.27 (-0.49, -0.05)	-0.38 (-0.66, -0.10)	-0.08 (-0.32, 0.17)	-0.25 (-0.53, 0.02)	0.37 (0.11, 0.63)	0.34 (0.07, 0.62)
Unicorn	0.56 (0.21, 0.90)	0.70 (0.34, 1.06)	-0.24 (-0.46, -0.02)	-0.31 (-0.57, -0.04)	-0.10 (-0.33, 0.13)	-0.14 (-0.38, 0.10)	0.30 (0.05, 0.54)	0.25 (-0.03, 0.54)
Vapor Cloud								
Large	reference	reference	reference	reference	reference	reference	reference	reference
Small	-0.08 (-0.27, 0.11)	0.00 (-0.20, 0.20)	-0.32 (-0.49, -0.16)	-0.31 (-0.47, -0.14)	-0.35 (-0.51, -0.18)	-0.47 (-0.64, -0.29)	0.29 (0.14, 0.44)	0.24 (0.06, 0.41)
Nicotine								
None	reference	reference	reference	reference	reference	reference	reference	reference
Low	-0.10 (-0.35, 0.14)	-0.24 (-0.52, 0.03)	0.94 (0.68, 1.20)	0.77 (0.49, 1.06)	0.68 (0.44, 0.92)	0.51 (0.21, 0.80)	-0.09 (-0.31, 0.12)	-0.25 (-0.48, -0.02)
Moderate	-0.30 (-0.57, -0.03)	-0.32 (-0.62, -0.03)	1.65 (1.37, 1.93)	1.57 (1.27, 1.86)	1.31 (1.04, 1.57)	1.05 (0.76, 1.35)	-0.34 (-0.57, -0.10)	-0.49 (-0.76, -0.23)
High	-0.41 (-0.69, -0.14)	-0.62 (-0.98, -0.26)	2.24 (1.91, 2.58)	2.13 (1.79, 2.47)	1.86 (1.56, 2.15)	1.70 (1.36, 2.04)	-0.53 (-0.78, -0.28)	-0.54 (-0.81, -0.27)
Position								
Left	reference	reference	reference	reference	reference	reference	reference	reference
Right	-0.04 (-0.21, 0.12)	-0.08 (-0.28, 0.12)	0.06 (-0.06, 0.19)	-0.02 (-0.16, 0.12)	0.11 (-0.01, 0.24)	-0.06 (-0.20, 0.08)	-0.03 (-0.15, 0.09)	0.15 (0.00, 0.30)

Table reports coefficients from conditional logistic regression models in a discrete choice experiment. Interaction terms were added to assess differences by gender. Coefficients indicate how much the attribute level in question (e.g., flavor: fruit) increased or decreased the log-odds of a displayed e-cigarette product being chosen relative to the reference level (e.g., flavor: tobacco), adjusted for all other displayed e-cigarette attributes. For each displayed pair of e-cigarettes, participants were asked about which they were more curious, and which was more dangerous, would give a greater buzz, and would be easier to use. Positive values indicate characteristics (relative to reference) that independently contributed to greater curiosity or perceived danger, buzz, and ease of use, respectively.

Table A.2. Adolescents' beliefs associated with e-cigarette product characteristics: interaction by e-cigarette ever use

	Curiosity		Danger		Buzz		Ease of Use	
	Coefficien	Coefficient (95% CI)		nt (95% CI)	Coefficient (95% CI)		Coefficient (95% CI)	
	<i>P</i> -for-interaction < 0.0001		<i>P</i> -for-interaction = 0.009		<i>P</i> -for-interaction < 0.0001		<i>P</i> -for-interaction < 0.0001	
	Never Used	Ever Used	Never Used	Ever Used	Never Used	Ever Used	Never Used	Ever Used
Device Type								
Cigalike	reference	reference	reference	reference	reference	reference	reference	reference
Tank	-0.02 (-0.30, 0.26)	0.79 (0.50, 1.09)	-0.10 (-0.30, 0.11)	-0.04 (-0.27, 0.20)	0.07 (-0.14, 0.27)	0.30 (0.03, 0.56)	0.08 (-0.15, 0.31)	0.45 (0.18, 0.73)
Drip-mod	-0.22 (-0.50, 0.06)	0.30 (-0.02, 0.61)	-0.03 (-0.22, 0.17)	0.16 (-0.09, 0.42)	0.12 (-0.08, 0.32)	0.22 (-0.04, 0.48)	-0.26 (-0.48, -0.04)	0.02 (-0.26, 0.30)
Pod	0.22 (-0.06, 0.49)	0.54 (0.25, 0.83)	0.01 (-0.19, 0.21)	0.00 (-0.26, 0.27)	0.02 (-0.19, 0.23)	0.14 (-0.11, 0.39)	0.46 (0.25, 0.68)	0.73 (0.47, 0.99)
Flavor								
Tobacco	reference	reference	reference	reference	reference	reference	reference	reference
Dessert	0.46 (0.10, 0.82)	1.38 (1.02, 1.74)	-0.31 (-0.54, -0.08)	-0.13 (-0.41, 0.14)	-0.26 (-0.49, -0.04)	0.18 (-0.09, 0.45)	0.27 (0.03, 0.52)	0.62 (0.33, 0.90)
Fruit	0.81 (0.46, 1.16)	1.34 (0.98, 1.71)	-0.38 (-0.61, -0.16)	-0.03 (-0.34, 0.28)	-0.25 (-0.47, -0.03)	0.12 (-0.16, 0.40)	0.40 (0.16, 0.63)	0.64 (0.35, 0.94)
Mint	0.49 (0.11, 0.87)	1.13 (0.77, 1.49)	-0.40 (-0.62, -0.18)	-0.17 (-0.46, 0.12)	-0.38 (-0.62, -0.15)	0.23 (-0.05, 0.50)	0.22 (-0.02, 0.47)	0.59 (0.30, 0.89)
Unicorn	0.36 (0.00, 0.71)	0.96 (0.59, 1.33)	-0.40 (-0.61, -0.19)	-0.05 (-0.34, 0.25)	-0.34 (-0.55, -0.14)	0.22 (-0.06, 0.51)	0.03 (-0.21, 0.26)	0.67 (0.37, 0.98)
Vapor Cloud								
Large	reference	reference	reference	reference	reference	reference	reference	reference
Small	-0.08 (-0.28, 0.13)	0.01 (-0.19, 0.21)	-0.33 (-0.48, -0.18)	-0.29 (-0.48, -0.10)	-0.44 (-0.60, -0.29)	-0.33 (-0.52, -0.14)	0.24 (0.09, 0.40)	0.33 (0.15, 0.51)
Nicotine								
None	reference	reference	reference	reference	reference	reference	reference	reference
Low	-0.39 (-0.66, -0.11)	0.01 (-0.24, 0.26)	0.86 (0.61, 1.10)	0.85 (0.55, 1.15)	0.58 (0.34, 0.83)	0.59 (0.29, 0.88)	-0.21 (-0.42, 0.00)	-0.11 (-0.36, 0.13)
Moderate	-0.67 (-0.98, -0.37)	-0.07 (-0.34, 0.21)	1.54 (1.29, 1.79)	1.68 (1.35, 2.01)	1.15 (0.89, 1.41)	1.22 (0.91, 1.52)	-0.48 (-0.71, -0.24)	-0.36 (-0.62, -0.10)
High	-0.91 (-1.24, -0.57)	-0.24 (-0.55, 0.07)	2.10 (1.82, 2.39)	2.24 (1.85, 2.64)	1.73 (1.45, 2.01)	1.82 (1.44, 2.19)	-0.63 (-0.87, -0.39)	-0.44 (-0.74, -0.15)
Position								
Left	reference	reference	reference	reference	reference	reference	reference	reference
Right	-0.01 (-0.21, 0.19)	-0.06 (-0.23, 0.11)	0.03 (-0.09, 0.15)	0.05 (-0.11, 0.20)	0.04 (-0.07, 0.16)	0.04 (-0.12, 0.20)	-0.03 (-0.16, 0.09)	0.17 (0.02, 0.31)

Table reports coefficients from conditional logistic regression models in a discrete choice experiment. Interaction terms were added to assess differences by having ever used an e-cigarette. Coefficients indicate how much the attribute level in question (e.g., flavor: fruit) increased or decreased the log-odds of a displayed e-cigarette product being chosen relative to the reference level (e.g., flavor: tobacco), adjusted for all other displayed e-cigarette attributes. For each displayed pair of e-cigarettes, participants were asked about which they were more curious, and which was more dangerous, would give a greater buzz, and would be easier to use. Positive values indicate characteristics (relative to reference) that independently contributed to greater curiosity or perceived danger, buzz, and ease of use, respectively.

Table A.3. Adolescents' beliefs associated with moist snuff product characteristics: interaction by gender

	Curiosity Coefficient (95% CI) P-for-interaction = 0.009		Danger		Buzz		Ease of Use	
			Coefficier	nt (95% CI)	Coefficient (95% CI)		Coefficient (95% CI)	
			P-for-interaction = 0.003		P-for-interaction = 0.88		<i>P</i> -for-interaction = 0.85	
	Female	Male	Female	Male	Female	Male	Female	Male
Brand								
Copenhagen	reference	reference	reference	reference	reference	reference	reference	reference
Grizzly	-0.05 (-0.37, 0.27)	0.11 (-0.26, 0.48)	-0.18 (-0.41, 0.04)	-0.40 (-0.67, -0.14)	-0.05 (-0.26, 0.15)	-0.20 (-0.45, 0.05)	-0.23 (-0.45, -0.01)	-0.39 (-0.63, -0.14)
Longhorn	-0.03 (-0.37, 0.31)	-0.20 (-0.58, 0.18)	-0.27 (-0.48, -0.06)	-0.18 (-0.41, 0.04)	-0.07 (-0.28, 0.14)	-0.22 (-0.44, 0.01)	-0.18 (-0.39, 0.04)	-0.19 (-0.42, 0.04)
Skoal	-0.09 (-0.39, 0.21)	-0.26 (-0.64, 0.12)	-0.20 (-0.40, 0.01)	-0.18 (-0.42, 0.07)	-0.13 (-0.34, 0.09)	-0.30 (-0.54, -0.06)	-0.25 (-0.46, -0.04)	-0.27 (-0.51, -0.03)
Flavor								
Tobacco	reference	reference	reference	reference	reference	reference	reference	reference
Wintergreen	0.84 (0.37, 1.32)	0.63 (0.18, 1.07)	-0.49 (-0.70, -0.28)	-0.45 (-0.69, -0.21)	-0.16 (-0.39, 0.07)	-0.19 (-0.44, 0.06)	0.19 (-0.07, 0.44)	0.37 (0.12, 0.62)
Mint	1.25 (0.82, 1.67)	1.05 (0.63, 1.48)	-0.61 (-0.85, -0.37)	-0.15 (-0.39, 0.09)	-0.15 (-0.37, 0.07)	-0.05 (-0.29, 0.18)	0.45 (0.18, 0.72)	0.53 (0.30, 0.77)
Fruit	1.61 (1.18, 2.03)	0.79 (0.35, 1.23)	-0.66 (-0.87, -0.45)	-0.51 (-0.78, -0.25)	-0.25 (-0.49, -0.01)	-0.39 (-0.64, -0.14)	0.48 (0.23, 0.73)	0.47 (0.23, 0.70)
Cut								
Fine	reference	reference	reference	reference	reference	reference	reference	reference
Long	0.15 (-0.13, 0.43)	-0.08 (-0.46, 0.31)	0.37 (0.15, 0.59)	0.10 (-0.15, 0.35)	0.12 (-0.10, 0.34)	0.17 (-0.08, 0.43)	-0.37 (-0.60, -0.13)	-0.25 (-0.52, 0.01)
Wide	-0.03 (-0.32, 0.25)	-0.03 (-0.39, 0.32)	0.38 (0.15, 0.61)	0.10 (-0.14, 0.34)	0.22 (0.01, 0.43)	0.13 (-0.12, 0.38)	-0.57 (-0.83, -0.32)	-0.39 (-0.64, -0.14)
Pouch	-0.19 (-0.51, 0.14)	0.14 (-0.20, 0.47)	0.23 (0.01, 0.44)	0.11 (-0.14, 0.36)	0.04 (-0.17, 0.24)	0.21 (-0.02, 0.45)	-0.02 (-0.25, 0.21)	0.12 (-0.13, 0.38)
Price								
\$3	reference	reference	reference	reference	reference	reference	reference	reference
\$5	0.02 (-0.23, 0.27)	0.36 (-0.01, 0.74)	0.15 (-0.05, 0.36)	0.01 (-0.20, 0.22)	0.37 (0.15, 0.59)	0.44 (0.21, 0.68)	-0.04 (-0.24, 0.16)	-0.08 (-0.29, 0.13)
\$8	0.17 (-0.11, 0.46)	0.53 (0.24, 0.82)	0.55 (0.32, 0.78)	0.28 (0.04, 0.51)	0.68 (0.46, 0.90)	0.71 (0.47, 0.94)	-0.19 (-0.42, 0.04)	-0.26 (-0.49, -0.04)
Position								
Left	reference	reference	reference	reference	reference	reference	reference	reference
Right	-0.38 (-0.62, -0.13)	-0.02 (-0.28, 0.25)	0.08 (-0.06, 0.22)	0.01 (-0.14, 0.16)	0.05 (-0.10, 0.20)	0.05 (-0.12, 0.22)	-0.07 (-0.21, 0.07)	-0.01 (-0.18, 0.16)

Table reports coefficients from conditional logistic regression models in a discrete choice experiment. Interaction terms were added to assess differences by gender. Coefficients indicate how much the attribute level in question (e.g., flavor: fruit) increased or decreased the log-odds of a displayed moist snuff product being chosen relative to the reference level (e.g., flavor: tobacco), adjusted for all other displayed product attributes. For each displayed pair of moist snuff products, participants were asked about which they were more curious, and which was more dangerous, would give a greater buzz, and would be easier to use. Positive values indicate characteristics (relative to reference) that independently contributed to greater curiosity or perceived danger, buzz, and ease of use, respectively.

Table A.4. Adolescents' beliefs associated with moist snuff product characteristics: interaction by smokeless tobacco ever use

	Curiosity Coefficient (95% CI) P-for-interaction < 0.0001		Danger		Buzz		Ease of Use	
			Coefficier	nt (95% CI)	Coefficient (95% CI)		Coefficient (95% CI)	
			<i>P</i> -for-interaction = 0.24		P-for-interaction = 0.68		<i>P</i> -for-interaction = 0.11	
	Never Used	Ever Used	Never Used	Ever Used	Never Used	Ever Used	Never Used	Ever Used
Brand								
Copenhagen	reference	reference	reference	reference	reference	reference	reference	reference
Grizzly	0.07 (-0.21, 0.34)	-0.36 (-1.02, 0.30)	-0.27 (-0.45, -0.09)	-0.52 (-1.15, 0.12)	-0.10 (-0.27, 0.06)	-0.33 (-0.91, 0.24)	-0.28 (-0.46, -0.11)	-0.53 (-1.05, -0.01)
Longhorn	-0.09 (-0.37, 0.19)	-0.47 (-1.15, 0.20)	-0.18 (-0.34, -0.02)	-0.62 (-1.15, -0.08)	-0.11 (-0.27, 0.05)	-0.50 (-1.11, 0.12)	-0.16 (-0.33, 0.01)	-0.47 (-0.95, 0.00)
Skoal	-0.08 (-0.34, 0.18)	-0.80 (-1.55, -0.06)	-0.14 (-0.31, 0.03)	-0.58 (-1.14, -0.03)	-0.16 (-0.33, 0.01)	-0.62 (-1.22, -0.02)	-0.21 (-0.37, -0.05)	-0.89 (-1.59, -0.20)
Flavor								
Tobacco	reference	reference	reference	reference	reference	reference	reference	reference
Wintergreen	0.63 (0.27, 1.00)	1.11 (0.24, 1.97)	-0.48 (-0.65, -0.32)	-0.28 (-0.77, 0.26)	-0.20 (-0.38, -0.02)	0.16 (-0.42, 0.75)	0.29 (0.10, 0.48)	-0.01 (-0.61, 0.60)
Mint	1.06 (0.73, 1.40)	1.41 (0.59, 2.24)	-0.41 (-0.59, -0.22)	-0.53 (-1.12, 0.06)	-0.12 (-0.29, 0.06)	-0.10 (-0.51, 0.31)	0.51 (0.32, 0.70)	0.30 (-0.30, 0.91)
Fruit	1.19 (0.85, 1.53)	1.29 (0.43, 2.16)	-0.63 (-0.81, -0.46)	-0.27 (-0.86, 0.33)	-0.36 (-0.54, -0.17)	0.03 (-0.52, 0.58)	0.53 (0.34, 0.72)	-0.13 (-0.57, 0.32)
Cut								
Fine	reference	reference	reference	reference	reference	reference	reference	reference
Long	-0.03 (-0.28, 0.22)	0.62 (-0.10, 1.33)	0.25 (0.07, 0.43)	0.10 (-0.43, 0.63)	0.15 (-0.02, 0.32)	0.01 (-0.70, 0.73)	-0.35 (-0.53, -0.16)	0.09 (-0.64, 0.82)
Wide	-0.06 (-0.31, 0.18)	0.26 (-0.41, 0.92)	0.28 (0.10, 0.45)	0.03 (-0.45, 0.51)	0.19 (0.01, 0.36)	0.13 (-0.38, 0.65)	-0.52 (-0.71, -0.32)	-0.02 (-0.64, 0.61)
Pouch	-0.14 (-0.39, 0.12)	0.70 (0.05, 1.34)	0.20 (0.02, 0.37)	-0.16 (-0.61, 0.30)	0.11 (-0.06, 0.27)	0.18 (-0.31, 0.67)	-0.02 (-0.20, 0.15)	0.74 (0.12, 1.36)
Price								
\$3	reference	reference	reference	reference	reference	reference	reference	reference
\$5	0.12 (-0.12, 0.36)	0.53 (-0.09, 1.15)	0.09 (-0.07, 0.24)	-0.03 (-0.63, 0.56)	0.42 (0.25, 0.58)	0.43 (-0.14, 0.99)	-0.06 (-0.21, 0.09)	0.00 (-0.50, 0.49)
\$8	0.29 (0.06, 0.52)	0.81 (0.33, 1.28)	0.41 (0.24, 0.59)	0.54 (-0.03, 1.11)	0.70 (0.55, 0.87)	0.82 (0.33, 1.30)	-0.25 (-0.42, -0.08)	-0.06 (-0.58, 0.47)
Position								
Left	reference	reference	reference	reference	reference	reference	reference	reference
Right	-0.28 (-0.47, -0.09)	0.24 (-0.36, 0.83)	0.04 (-0.06, 0.15)	0.06 (-0.30, 0.43)	0.08 (-0.03, 0.20)	-0.14 (-0.57, 0.29)	-0.04 (-0.15, 0.07)	-0.01 (-0.50, 0.47)

Table reports coefficients from conditional logistic regression models in a discrete choice experiment. Interaction terms were added to assess differences by having ever used conventional smokeless tobacco. Coefficients indicate how much the attribute level in question (e.g., flavor: fruit) increased or decreased the log-odds of a displayed moist snuff product being chosen relative to the reference level (e.g., flavor: tobacco), adjusted for all other displayed product attributes. For each displayed pair of moist snuff products, participants were asked about which they were more curious, and which was more dangerous, would give a greater buzz, and would be easier to use. Positive values indicate characteristics (relative to reference) that independently contributed to greater curiosity or perceived danger, buzz, and ease of use, respectively.