

Quantitative Study to Evaluate VLN™ Hypothetical Product Messages
Among U.S. Adult Cigarette Smokers, Adult Former Cigarette Smokers and
Adult Never Cigarette Users

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Principal Investigator: I have read the protocol entitled "*Quantitative Study to Evaluate VLN™ Hypothetical Product Messages Among U.S. Adult Cigarette Smokers, Adult Former Cigarette Smokers and Adult Never Cigarette Users*" and have conducted the study as outlined in this document. In addition, I have conducted the study in compliance with all applicable regulations and guidelines as stated in the protocol and other information supplied by the Sponsor.

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List of Abbreviations

Abbreviation	Definition
3-D	Three-Dimensional
AS	Adult Smokers
CCs	Conventional Cigarettes
CFR	Code of Federal Regulations
CRO	Contract Research Organization
CSIQ	Current Smokers with Intent to Quit
CSNIQ	Current Smokers with No Intent to Quit
EDC	Electronic Data Capture
FDA	Food and Drug Administration
FFC	Full-Flavor Tasting Cigarettes
FGs	Focus Groups
HINTS	Health Information National Trends Survey
IDIs	In-Depth Interviews
IRB	Institutional Review Board
LA	Legal-Age
LTC	Light-Tasting Cigarettes
MRTTP	Modified Risk Tobacco Product
NHIS	National Health Interview Survey
NRT	Nicotine Replacement Therapy
NSGP	Never Smokers General Population
NSLA	Never Smokers Legal-Age to 25
PI	Principal Investigator
PII	Personally Identifiable Information
PATH	Population Assessment of Tobacco Use and Health
PRI-P	Perceived Risk Instrument – Personal
RE	Reduced Exposure
REALM	Rapid Estimate of Adult Literacy in Medicine
RR	Reduced Risk
ULTC	Ultra-Light Tasting Cigarettes
US	United States
WHO	World Health Organization

1.0 Introduction: Background

To obtain a marketing order for a Modified Risk for Tobacco Products (MRTP), the FDA's MRTPA Draft Guidance states that applications "must contain evidence to show that the advertising and labeling concerning modified risk products enable the public to comprehend the information concerning modified risk and to understand the relative significance of such information in the context of total health and in relation to all of the diseases and health-related conditions associated with the use of tobacco products" (TCA Section 911(h)(1); FDA MRTPA Draft Guidance 2012, pp. 5, 20). Such information will assist FDA to evaluate the effects of modified risk messages for tobacco products on consumer understanding and perceptions. In addition, The MRTP Draft Guidance further states that MRTP applications should address the effect of the product, label, messaging and marketing material on (1) "Tobacco use behavior among current tobacco users," (2) "Tobacco use initiation among non-users (both never users and Former users)," and (3) "Consumer understanding and perceptions."

The complexity in developing an MRTP is creating a product that maximizes interest in the product as a substitute for CCs among Adult Smokers (while not dissuading them from the idea that they would be better off quitting smoking entirely) yet minimizes interest among Adult Never Smokers and Former Smokers. Further, it is imperative that these products do not negatively impact the Intention to Quit among Adult Smokers who have the Intention to Quit CCs.

2.0 VLN™ Consumer Perception Research

The Quantitative Study to Evaluate VLN™ Hypothetical Product Messages focuses on a candidate MRTP product, menthol and non-menthol cigarettes (Figure 1 and Figure 2). Pack Example Images; images for all packs in Appendix), planned to be commercialized under the brand name of "VLN™."

VLN™ cigarettes differ from CCs in that they contain 95% less nicotine than CCs, thereby lowering nicotine consumption. VLN™ cigarettes offer the same ritual properties of smoking and, while VLN™ may still pose the same health risks as CCs, conversion from CCs to VLN™ cigarettes significantly reduces Adult Smoker's exposure to nicotine.

This Quantitative Study to Evaluate VLN™ Hypothetical Product Messages research included:

- Three major sample cohorts and five separate groups of US consumers based on self-identified qualification
 - Adult Current Smokers (with statistically valid representation of both menthol and non-menthol users) divided into two groups:
 - With Intention to Quit
 - Without Intention to Quit
 - Adult Former Smokers divided into two groups based on length of cessation:
 - Recent Quitters (within the past year)
 - Longer-term Quitters (more than one year of cessation)
 - Adult Never Smokers

This study also included subjects of Legal-Age (LA) to 25 years of age who have never smoked (Never Smokers) as a proxy for youth smokers who are not part of the study because they may not be interviewed without parental consent by law. For the purposes of this research, Legal-Age was defined as the minimum age for tobacco purchase as determined by each participant's US state of residence.

The study gathered quantitative data addressing each of these areas of investigation with respect to VLN™ label and messaging involving modified exposure claims.

The comprehensive research program has the following overall structure:

- Successive Four-Phase Qualitative Investigation to Develop and Refine VLN™ Label and Messaging
 - Development of the VLN™ label and messaging.
 - Qualitative Assessment of Comprehension of the VLN™ label and messaging.
 - Qualitative Assessment of Risk Perception of VLN™ based on the VLN™ label and messaging.
 - Evaluation of Future Intention to Use VLN™ based on final VLN™ label and messaging.
- Quantitative Study to Test VLN™ Label and Messaging for Comprehension, Risk Perception and Intention to Use Among Adult Smokers, Adult Former Smokers and Adult Never Smokers

3.0 Definition of Label and Messaging

XXII has defined "label" and "messaging" for the program, as a whole, as:

- VLN "label" refers to the display of brand name text or graphical material, including branding on the pack containing VLN™ cigarettes, or the packaging box of VLN™ cigarettes.
- VLN "messaging" refers to printed statements which accompany VLN™. For example, messaging could refer to text statements printed on the front, side or back of packaging containing VLN™ cigarettes.

4.0 VLN™ Product Description

VLN™ and VLN™ menthol are 84-millimeter cigarettes (sometimes called "shorts," "regulars" or "kings") and are made with the same components found in commercial brands of cigarettes such as a filter, cigarette paper and tobacco. VLN™ and VLN™ menthol are manufactured in a manner similar to that of a typical cigarette.

The tobacco in VLN™ cigarettes is different than the tobacco used in most cigarette brands. VLN™ cigarettes are made from a tobacco plant that has been altered to contain much lower levels of nicotine than the tobacco used in traditional cigarettes.

Figure 1. VLN™ Pack Example Image – Non-Menthol.

Figure 2. VLN™ Pack Example Image – Menthol.



Figure 1.



Figure 2.

5.0 Objective and Purpose

5.1 DESIGN OVERVIEW

5.1.1 Quantitative Study

In addition to requiring that a modified risk tobacco product will significantly reduce harm and the risk of tobacco-related disease to individual tobacco users, the TCA requires that a modified risk tobacco product will benefit the health of the population as a whole, taking into account both users and non-users of tobacco products (TCA Section 911(h)(1)). The Quantitative Study to Evaluate VLN™ Hypothetical Product Messages Among U.S. Adult Cigarette Smokers, Adult Former Cigarette Smokers and Adult Never Cigarette Users was a randomized four-cell methodology, with each cell representing a distinct concept (label and messaging) where participants, Current Smokers as well as Former Smokers and Never Smokers, were assigned to each condition to evaluate a distinct and unique iteration of VLN™'s label and messaging as well as control concepts, one of which was branded as Marlboro as the brand exists in the marketplace and one that was described as the existing brand but displays the VLN™ packaging with no claim statements. This assumes three primary test concepts and one of two possible control concepts of an existing CC brand and VLN™ presented exactly the same as current marketing for the comparator CC brand. Figure 3 gives an overview of study design and procedures.

Subjects were categorized into four primary subject groups, based on self-reported smoking behavior:

- Group 1 – Adult Smokers with no Intention to Quit CC
- Group 2 – Adult Smokers with the Intention to Quit CC
- Group 3 – Adult Former Smokers
- Group 4 – Adult Never Smokers

Former Smokers and Current Smokers were further divided based on cessation recency and Intention to Quit within the next six months, respectively. Other subsets of Current Smokers light smokers (less than 10 cigarettes per day) and heavy smokers (10+ cigarettes per day) as well as menthol versus non-menthol preferences. In addition, an oversample of young Adult Never Smokers (from the legal smoking age to 25 years; "LA-25 Never Smokers") was used to enable the collection of sufficient data to describe responses within this group independently. Legal-Age was defined as the minimum age for tobacco purchase as determined by each participant's US state of residence.

5.1.2 Quantitative Study

Each comprehensive concept, or unique combinations of (1) Primary Claim, (2) Secondary Claim, (3) Disclaimer and (4) Back of Pack Message, was evaluated by approximately equally-sized primary subject groups. Subjects were randomly assigned a concept following a least-fill method (ConformIt, 2016) to ensure representative distribution within each concept across cigarette usage and demographic criteria.

Product stimulus including 3-D images of a product package as well as flat image views of all four sides of each package with test messaging printed on packaging as expected in final market placement was presented to each participant. Participants were asked to review all messaging

thoroughly prior to continuing to the next question. Checks were employed to ensure full and complete exposure of the product packaging and messaging to each participant. For 3-D images, the software required each participant to rotate the image prior to continuing to the next screen. For all flat packaging, a timer disallowing movement to the next screen was placed on the page to ensure a minimum amount of time is spent reviewing packaging.

A baseline assessment of Risk Perception and future Intent to Use was conducted on VLN™ and four Comparator Categories. Assessments of Intent to Use were conducted on four Comparator Categories and each concept. Risk Perception was determined using the Perceived Risk Instrument-Personal (PRI-P) developed and validated in the Phillip Morris Tobacco Heating System research (Chrea, et al, 2016.). This research modified question wording after cognitive testing proved that the question, as originally phrased, caused confusion and questionable responses, particularly among Never Smokers and Former Smokers (Detailed in Cognitive Testing Section 7.1). This research utilized the portions of this scale that address consumer perceptions of the health implications and addictiveness of using nicotine-based products.

In this research, one of the four comparators was assigned randomly per subject and assessment of that comparator occurred prior to exposure to the concept (VLN™ and Control) label and messaging, followed by the same assessment of VLN™ after exposure to the concept. In addition to these measurements, VLN™ was evaluated in direct comparison to the assigned comparator category. All Comparator Categories and products evaluated include:

1. CCs
2. E-Cigarettes
3. Moist Tobacco
4. NRTs
5. VLN™ (three tests with reduced risk messaging and a control with no messaging)
6. Marlboro Gold (Control Concept)

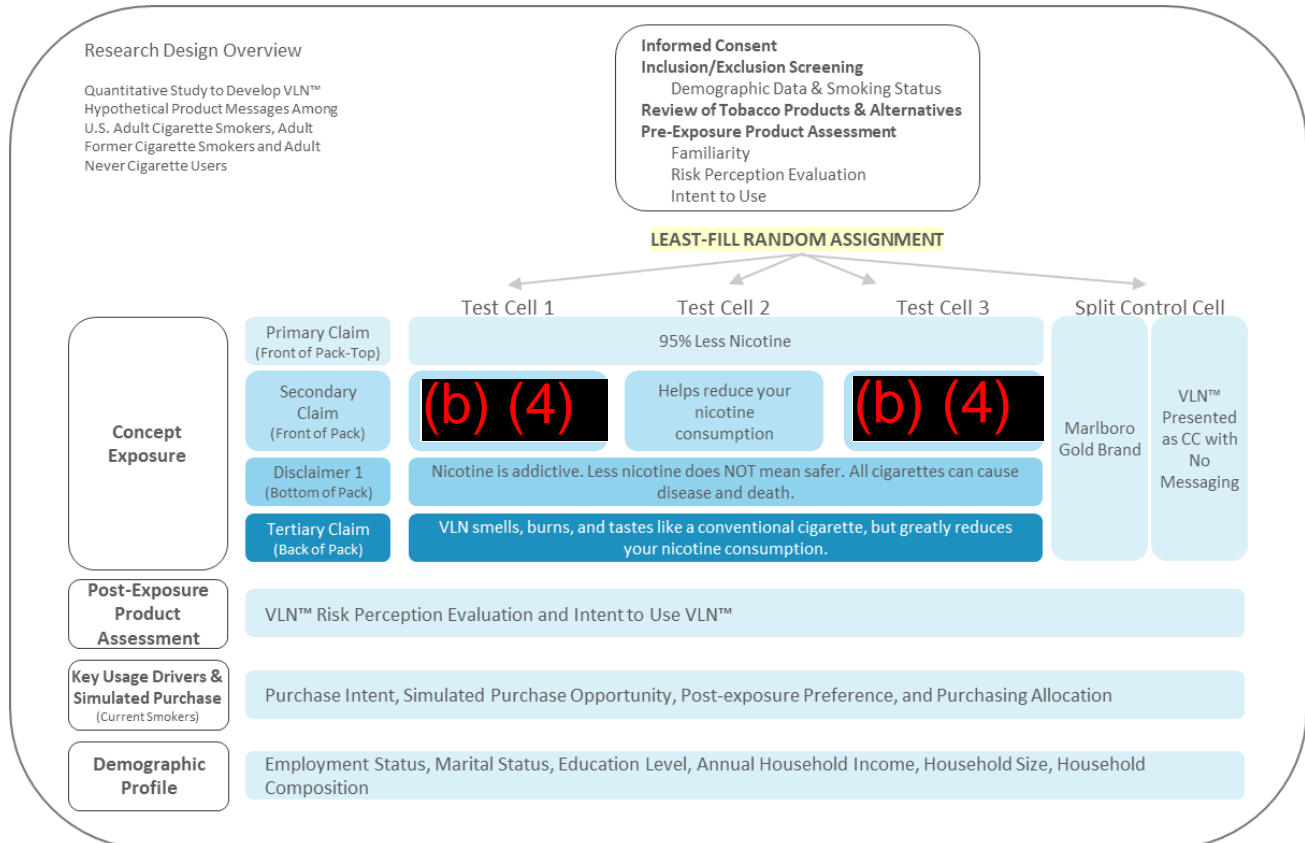
Data analyses conducted during the validation phase of the Perceived Risk Instrument-Personal (PRI-P) developed and validated in the Phillip Morris Tobacco Heating System research (Chrea, et al, 2016.) concluded that the PRI is “applicable for various types of tobacco and nicotine-containing products and provides a comparable measurement between adult smokers and adult non-smokers.”

The product messages tested were:

- Primary Claim (same on all packs)
 - 95% Less Nicotine
- Secondary (Comparative) Claim
 - (b) (4)
 - Helps reduce your nicotine consumption
 - (b) (4)
- Disclaimer (same on all packs)

- Nicotine is addictive. Less nicotine does NOT mean safer. All cigarettes can cause disease and death.
- Back of Pack Language (same on all packs)
 - VLN™ smells, burns, and tastes like a conventional cigarette, but greatly reduces your nicotine consumption.

Figure 3. Research Design Overview.



5.2 PRIMARY GOALS

- Estimate population impact of VLN™ using potential product messaging
- Test hypotheses that potential product messages for VLN™:
 - Generate intent to use among those who could benefit from use (US adult smokers of cigars and cigarettes, adult smokers motivated to quit)
 - Do not generate significant intent to use among those who could be harmed by use (adult never smokers, adult former smokers)
 - Describe the product clearly and promote comprehension

5.3 SECONDARY GOALS

The secondary objectives of the study include:

- Estimated impact of VLN™ among special relevance populations (Adult Never Smokers, Adult Former Smokers, Adult Smokers Motivated to Quit, Never Smokers LA-25)
- Assess risk perception for VLN™ Test Concepts, VLN™ Control and Marlboro Gold Control and four Comparator Categories (CC, NRTs, E-Cigarettes, and Moist Snuff)
- Assess intent to use for VLN™ Test Concepts, VLN™ Control and Marlboro Gold Control and four Comparator Categories (CC, NRTs, E-Cigarettes, and Moist Snuff)

** Legal-Age will be defined as the minimum age for tobacco purchase as determined by each participant's US state of residence.*

5.4 DEFINITIONS

5.4.1 Never Smokers

Adults who have not smoked at least 100 cigarettes in their entire life and currently do not smoke at all – plus currently do not use other tobacco or nicotine products and have never done so “fairly regularly”

5.4.2 Former Smokers

5.4.2.1 Recent Quitters

Adults who have smoked at least 100 cigarettes in their entire life and currently do not smoke at all who indicate they completely quit smoking cigarettes less than 1 year ago

5.4.2.2 Long-Term Quitters

Adults who have smoked at least 100 cigarettes in their entire life and currently do not smoke at all who indicate they completely quit smoking cigarettes 1 year ago or more

5.4.3 Current Smokers

Adult Smokers will be classified by Intention to Quit CCs (i.e. smokers with and without Intention to Quit CCs), based on Prochaska and DiClemente's Stages of Change Model (Prochaska and DiClemente, 1982)

- With Intention to Quit: Adults who have smoked at least 100 cigarettes in their entire life and currently smoke every day or some days – and who respond “Yes” to a question regarding whether they are seriously considering quitting smoking cigarettes in the next 6 months

- With No Intention to Quit: Adults who have smoked at least 100 cigarettes in their entire life and currently smoke every day or some days – and who respond “No” to a question regarding whether they are seriously considering quitting smoking cigarettes in the next 6 months

5.4.4 LA-25 (Legal Age to 25) Never Smokers

LA-25 Never Smokers are defined as Never Smokers between the legal smoking age to 25 years (inclusive).

- LA-25 Never Smokers are defined as Never Smokers between the legal smoking age to 25 years (inclusive).
- This is included as an oversample of young Adult Never Smokers (from the legal smoking age to 25 years) to enable the collection of sufficient data to describe responses within this group.
- These participants are being oversampled to ensure a proxy for participants below the regulated minimum age of purchase (under 18 years of age by federal law).
- Legal-Age will be defined as the minimum age for tobacco purchase as determined by each participant’s US state of residence.
- Oversampling ensures representation among a critical sample subgroup without the unnecessary burden and potential ethical conflict of sampling an audience under the legal purchase age.

5.4.5 Subject Groups

Subjects will offer self-reported smoking status as is consistent with prior research including the World Health Organization (WHO, 1998), The National Cancer Institute’s Health Information National Trends Survey (HINTS), and the Phillip Morris International research on “IQOS.”

The four main subject groups are defined as;

1. Adult Smokers with no Intention to Quit CC: Adult Smokers with no intention to Quit CC, in the pre-contemplation stage of Prochaska and DiClemente's Stages of Change model. This will include Regular Smokers (Prochaska, J. and DiClemente, C, 1983).
2. Adult Smokers with the Intention to Quit CC: Adult Smokers, in the contemplation and/or preparation stages of Prochaska and DiClemente's Stages of Change model. This will include Regular Smokers (Prochaska, J. and DiClemente, C, 1983).
3. Adult Former Smokers: Adults who were previously regular smokers and, at the time of their participation in the study, quit CC more than 30 days ago.
4. Adult Never Smokers: Adults who have never smoked at all, or adults who have never been regular smokers and have smoked less than 100 cigarettes in their lives.

The National Cancer Institute’s Health Information National Trends Survey (HINTS) and the Population Assessment of Tobacco and Health (PATH) survey both use 100+ cigarettes in a lifetime plus a question about current smoking behavior to define smokers and non-smokers / never users. The threshold of 100 cigarettes was initially established in three 1954/1955 studies on Veteran’s mortality as well as a US population smoking supplement in the US Census Bureau’s Current Population Study. The 100-cigarette threshold became a staple in determining smoking status was

later used in the 1964 Adult Use of Tobacco Survey and the first US National Health Interview Survey (NHIS, 1965) where it became the key criterion for smoking status definitions.

5.5 SAMPLING

At a broad level, the sampling frame included adults living in the US. A main study sample size of 29,219, equivalent to approximately 7,000 subjects per concept (See Table 1), was collected to provide sufficient precision for this study and allow for reporting results by defined population segments, including special relevance populations. The data were weighted to the US population demographics to include smoking status, gender, age, ethnicity and Census Region.

5.6 MAIN STUDY SAMPLING

Base sizes sufficient for statistical testing were collected among each of the groups described herein to enable separate analyses of each age group. Post-stratification weighting (RIM weighting) was used to correct for the effects of stratification by age, gender, ethnicity, Census Region and smoking status so that the total sample reflected the cumulative distribution of the population as a whole.

The main sample for this study was recruited into the study from an online non-probability-based opt-in panel. Potential subjects received an invitation to participate in a research study or self-selected a new survey opportunity from the panel website or an external referring partner via a panel-specific app to access the study's online consent, which describes the study and requested participation. Respondents provided consent prior to being asked any questions. After screening for eligibility, subjects were assigned to a concept following a randomized least-fill method to ensure representative distribution of the full n=7000 interviews within each concept across cigarette usage and demographic criteria (ConfirmIt, 2016).

5.6.1 Smoking Status

For each unique concept a statistically viable number of subjects from each of the main subject groups was collected:

1. Adult Smokers with No Intention to Quit CC
2. Adult Smokers with Intention to Quit CC
3. Adult Former Smokers
4. Adult Never Smokers

5.6.1 Gender

Quotas were established to ensure a representative proportion of male and female subjects.

5.6.1 Age

For each study cell (concept) a representative proportion and statistically viable number of subjects from each of the following age categories was collected:

- Legal Age* to 25 years (oversample)
- Legal Age* to 24 years
- 25 to 44 years

- 45 to 64 years
- 65+ years

Table 1 shows the unweighted representation across all relevant usage groups.

Tables 2 - 4 detail the distribution of completes per concept and per analytic group for all Test Concept Cells analyzed.

Table 5 and Table 6 detail the distribution of completes per concept and per analytic group for both Split Control Concept Cells.

**For the purposes of this study, Legal-Age will be defined as the minimum age for tobacco purchase as determined by each participant's US state of residence.*

Table 1. Total Completed Interviews by Tobacco Usage Per Concept – Unweighted

	Total	VLN™ - Urge (Test 1)	VLN™ - Consumption (Test 2)	VLN™ - Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
Total Sample	29,219	7,931	7,076	7,081	3,555	3,576
Total Never Smokers	8,218	2,056	2,034	2,047	1,038	1,043
Never Smokers	4,212	1,056	1,034	1,045	536	541
Never Smokers Oversample LA-25	4,006	1,000	1,000	1,002	502	502
Total Former Smokers	8,612	2,542	2,024	2,017	1,008	1,021
Long-Term Quitters	6,569	2,150	1,461	1,457	743	758
Recent Quitters	2,043	392	563	560	265	263
Total Current Smokers	12,389	3,333	3,018	3,017	1,509	1,512
Current Smokers with Intent to Quit	6,472	1,882	1,542	1,513	783	752
Current Smokers with No Intent to Quit	5,917	1,451	1,476	1,504	726	760

Table 2. Demographic Representation by Tobacco Usage for VLN™ (Urge Test 1) – Unweighted

		Never Smokers	Never Smokers – LA* to 25	Long-Term Quitter	Recent Quitters	Current Smokers with Intent to Quit	Current Smokers with No Intent to Quit
Total Sample		1,056	1,000	2,150	392	1,882	1,451
Gender	Male	386	365	830	117	809	574
	Female	670	635	1,320	275	1,073	877
Age	LA-25*		1,000				
Age	21-24	131		40	67	205	146
	25-44	347		648	193	888	599
	45-64	345		505	98	732	558
	65+	233		957	34	57	148
Race/ Ethnicity	White, NH	766	659	1,753	316	1,382	1,168
	Black, NH	108	122	105	29	216	91
	Asian, NH	69	54	48	3	57	30
	American Indian/ Alaska Native, NH	8	10	33	5	24	20
	Hispanic	91	142	178	32	177	124
	NH, Multi-race	14	13	33	7	26	18
US Census Regions	Northeast	184	171	417	53	343	230
	Midwest	242	230	488	97	468	360
	South	408	388	778	171	743	594
	West	222	211	467	71	328	267

**For the purposes of this study, Legal-Age will be defined as the minimum age for tobacco purchase as determined by each participant's US state of residence.*

Table 3. Demographic Representation by Tobacco Usage for VLN™ (Consumption – Test 2) – Unweighted

		Never Smokers	Never Smokers – LA* to 25	Long-Term Quitter	Recent Quitters	Current Smokers with Intent to Quit	Current Smokers with No Intent to Quit
Total Sample		1,034	1,000	1,461	563	1,542	1,476
Gender	Male	378	376	658	184	680	588
	Female	656	624	803	379	862	888
Age	LA-25*		1,000				
Age	21-24	135		20	81	173	145
	25-44	351		369	285	711	623
	45-64	333		306	158	616	566
	65+	215		766	39	42	142
Race/ Ethnicity	White, NH	728	649	1,243	436	1,131	1,189
	Black, NH	122	121	86	35	180	105
	Asian, NH	71	59	34	10	46	26
	American Indian/ Alaska Native, NH	5	12	12	9	26	16
	Hispanic	93	140	75	61	134	124
	NH, Multi-race	15	19	11	12	25	16
US Census Regions	Northeast	181	177	297	90	273	232
	Midwest	230	227	327	139	375	387
	South	404	380	512	217	617	622
	West	219	216	325	117	277	235

**For the purposes of this study, Legal-Age will be defined as the minimum age for tobacco purchase as determined by each participant's US state of residence.*

Table 4. Demographic Representation by Tobacco Usage for VLN™ (Less – Test 3) – Unweighted

		Never Smokers	Never Smokers – LA* to 25	Long-Term Quitter	Recent Quitters	Current Smokers with Intent to Quit	Current Smokers with No Intent to Quit
Total Sample		1,045	1,002	1,457	560	1,513	1,504
Gender	Male	379	365	658	167	680	600
	Female	666	637	799	393	833	904
Age	LA-25*		1,002				
Age	21-24	137		14	84	166	144
	25-44	360		366	274	705	628
	45-64	337		309	158	603	566
	65+	211		768	44	39	166
Race/ Ethnicity	White, NH	738	663	1,239	435	1,105	1,219
	Black, NH	121	120	81	43	194	98
	Asian, NH	67	59	36	13	45	32
	American Indian/ Alaska Native, NH	10	12	11	7	18	15
	Hispanic	95	138	74	57	135	118
	NH, Multi-race	14	10	16	5	16	22
US Census Regions	Northeast	177	181	281	99	266	252
	Midwest	242	225	319	144	370	385
	South	398	379	523	225	617	598
	West	228	217	334	92	260	269

**For the purposes of this study, Legal-Age will be defined as the minimum age for tobacco purchase as determined by each participant's US state of residence.*

Table 5. Demographic Representation by Tobacco Usage for VLN™ (No Messaging – Control 1) – Unweighted

		Never Smokers	Never Smokers – LA* to 25	Long-Term Quitter	Recent Quitters	Current Smokers with Intent to Quit	Current Smokers with No Intent to Quit
Total Sample		536	502	743	265	783	726
Gender	Male	204	204	314	70	346	282
	Female	332	298	429	195	437	444
Age	LA-25*		502				
Age	21-24	65		11	48	82	71
	25-44	168		189	136	380	318
	45-64	172		175	67	301	269
	65+	131		368	14	20	68
Race/ Ethnicity	White, NH	367	330	627	212	569	592
	Black, NH	61	59	42	21	97	47
	Asian, NH	32	30	15	4	27	9
	American Indian/ Alaska Native, NH	1	5	5	1	10	8
	Hispanic	70	71	44	24	72	59
	NH, Multi-race	5	7	10	3	8	11
US Census Regions	Northeast	93	90	141	33	143	112
	Midwest	115	111	174	67	193	203
	South	197	185	261	106	307	287
	West	131	116	167	59	140	124

**For the purposes of this study, Legal-Age will be defined as the minimum age for tobacco purchase as determined by each participant's US state of residence.*

Table 6. Demographic Representation by Tobacco Usage for Marlboro Gold (Control 2) – Unweighted

		Never Smokers	Never Smokers – LA* to 25	Long-Term Quitter	Recent Quitters	Current Smokers with Intent to Quit	Current Smokers with No Intent to Quit
Total Sample		541	502	758	263	752	760
Gender	Male	211	204	327	85	357	293
	Female	330	298	431	178	395	467
Age	LA-25*		502				
Age	21-24	67		6	45	76	81
	25-44	167		207	129	346	314
	45-64	173		180	66	312	283
	65+	134		365	23	18	82
Race/ Ethnicity	White, NH	370	321	633	209	538	586
	Black, NH	59	62	48	21	110	83
	Asian, NH	36	35	17	7	21	18
	American Indian/ Alaska Native, NH	6	5	5	1	9	11
	Hispanic	64	70	48	22	66	54
	NH, Multi-race	6	9	7	3	8	8
US Census Regions	Northeast	89	91	143	49	127	124
	Midwest	114	115	191	60	185	203
	South	193	191	256	108	295	322
	West	145	105	168	46	145	111

**For the purposes of this study, Legal-Age will be defined as the minimum age for tobacco purchase as determined by each participant's US state of residence.*

5.7 INCLUSION & EXCLUSION CRITERIA

The study was based on a sample that was as representative of the US population as possible. However, certain groups, such as those who do not speak English with some level of proficiency* or those under the age of 18, will be excluded. The sample will be stratified by smoking status and demographic criteria.

Quota sampling for completed interviews within each smoking-status group using demographic variables was utilized. Due to variances from those goals, the data was weighted so that each group reflects the population for that group and the sample for each smoking-status group is likewise representative of the population as a whole. When analyzing the total sample, post-stratification weighting was implemented to compensate for the effects of stratification so that overall impact on the population as a whole may be estimated accurately. In addition to quota sampling, Random Iterative Method (RIM) Weighting was used to ensure a final distribution of completed interviews that is representative of the population.

5.7.1 Inclusion Criteria

Participants were screened for:

1. Ability to read and understand English*
2. Currently residing in the US
3. Legal age of purchase (Legal-Age will be defined as the minimum age for tobacco purchase as determined by each participant's US state of residence) or older
4. Able and willing to comply with all study requirements
5. Provides informed consent

5.7.2 Stratification

Sample was further stratified into population subgroups based on a variety of characteristics including demographic criteria as well as current smoking status:

1. Number of cigarettes ever smoked
2. Type of cigarette smoked (menthol/non-menthol)
3. Gender and ethnicity to ensure representation consistent with the market
4. Number of cigarettes smoked per day to ensure a mix of participants who are light / social smokers versus those who are heavier smokers
5. Intent to quit smoking within the next year
6. Cessation status - former smokers were classified into recent versus long-term cessation

5.7.3 Exclusion Criteria

Exclusion criteria include:

1. Past 3-month participation in any tobacco-related research
2. Currently pregnant or breastfeeding or planning to become pregnant within the next 6 months
3. Employees of tobacco or vape companies, news or media, advertising / marketing, marketing research, healthcare, or attorney or paralegal, or having a first degree relative that is employed by these types of companies**

**Only English-speaking participants were recruited to participate as the product communication is only expected to be delivered in English at this time.*

***Employees, students and/or first-degree relatives of those who are employed by or pursuing education in sensitive industries were excluded from the research to minimize bias and protect the proprietary product information that is disclosed in the survey.*

5.8 PROCEDURES AND ASSESSMENTS

5.8.1 Recruitment

Subjects were recruited through (b) (4), opt-in online panel companies to which subjects have granted permission to be contacted to participate in market research studies. Panel companies house proprietary databases and dynamically recruit participants who are profiled on basic demographic information which may be used in targeting potential subjects for inclusion into the study. Each participant was provided a unique, anonymous link to use for participation in the study and no personally identifiable information (PII) about any participant was provided by the participants or panel company. All participants were screened for demographic and smoking status as noted below.

5.8.2 Screening

Potential subjects received an invitation to participate in a "Study About Products" or self-selected a new survey opportunity from the panel website or an external referring partner. Those who clicked on the survey link were redirected to the web-based survey and, after reviewing two general introduction screens, were presented with an Informed Consent screen.

Participants were then screened on the basis of the inclusion and exclusion criteria. The screening process assessed smoking status, age, gender, ethnicity and US Census Region which were then used to determine each participant's eligibility for each of the concepts. Based on participant eligibility and quota availability, the survey programmatically determined which concept each participant would see by randomly selecting from the qualifying choices.

Eligible participants who fit the requirements of the sampling plan passed the screener and proceeded to the full survey. Non-eligible participant's interviews were immediately terminated, and they saw a "Thank you" page with a redirect designated by the panel company. Potential subjects were compensated a nominal amount in line with US market research industry and each independent panel's standards.

5.8.3 Informed Consent

Upon passing all screening criteria and being assigned to a concept for evaluation, participants saw a screen with the informed consent form (ICF). Participants were asked to carefully review the informed consent information and, at the end of the form, were asked if they agree to participate in the survey with an option to select “Yes – I agree to participate in this research” or “No – I do not agree to participate in this research.” Selecting “Yes” moved the respondent to the next screen with the first survey question. A selection of “No” immediately terminated the participant and they saw a “Thank you” page with a redirect designated by the panel company.

Regardless of smoking status, all participants viewed exactly the same ICF verbiage, therefore preventing bias or variance in responses based on the possibility that different messages were viewed upon survey entry. Subjects were informed that their participation was completely voluntary. Subjects also were informed that they may voluntarily suspend or withdraw from the survey at any time during the interview by closing their browser button or app.

5.8.4 Survey Flow and Measurements

After passing all screening requirements and freely consenting to participation in the research, subjects began the survey. The survey instrument followed this general outline:

- Introduction to Detailed Subject Matter
- Detailed Review of Tobacco Products and Alternatives
 - CCs
 - E-Cigarettes
 - Moist Snuff
 - NRTs
- Initial Evaluation of Tobacco Products and Alternatives
 - All four Comparator Categories will be evaluated on:
 - Familiarity
 - Intention to Use
 - Risk Perception
 - Perceived Risk Instrument – Personal (PRI-P) used for measurement
 - One product comparator category will be assessed by each participant (CC, E-Cigarettes, Moist Snuff, or Nicotine Replacement Therapies [NRTs])
 - Subjects will be assigned to a product comparator category following a randomized least-fill method to ensure representation across cigarette usage and demographic criteria
- Presentation of Product Package with Messaging
 - 3-D and flat packaging is presented
 - Participants will see instructions to read all text on the packaging in its entirety
 - Programmatic checks will be implemented to ensure respondent does not proceed until a sufficient amount of time to review has elapsed
 - Open-ended Questions to Measure Recall and Comprehension
 - Describe the concept to a friend or family member
 - Describe the benefits of the concept
 - Describe the health or addiction risks of the concept

- Evaluation of VLN™/Control Concept on:
 - Risk Perception
 - Perceived Risk Instrument – Personal (PRI-P) used for measurement
 - Direct (head-to-head) comparison of one comparator category and VLN™/Control Concept
 - Intention to Use
 - VLN™/Control Concept
- Concept Screen (where appropriate – for example, non-users will not have an evoked set of brands and will, therefore, skip related questions)
 - Product Package with Messaging will be available for additional review throughout the survey (via link – “Click here to see the concept”)
 - Simulated repurchase opportunity (Current Smokers only)
 - Measurement of preference for test concept versus evoked product alternatives* (evoked products are those selected by participants as product category (tobacco) items purchased / used in the past)
 - Expected purchase behavior for evoked products vs. test product*
 - Anticipated test concept purchasing
 - Performance versus expectations

**Post-exposure preference and purchasing allocation questions would be asked after the simulated purchase question in the concept interview only for Current Smokers*
- Second Evaluation of VLN™/Control Concept on:
 - Risk Perception
 - Direct (head-to-head) comparison of one comparator category and VLN™/Control Concept
 - Intention to Use
 - CCs
 - E-Cigarettes
 - Moist Snuff
 - NRTs
 - VLN™/Control Concept
 - Demographic Profile

5.9 STATISTICAL CONSIDERATIONS

5.9.1 Statistical Hypotheses

The purpose of this study is to measure responses to versions of VLN™, a “Modified Risk Tobacco Product” (MRTP), and Control Products on label and messaging within populations of (1) Adult Smokers with an intention to quit, (2) Adult Smokers without any intention to quit, (3) Adult Former Smokers and (4) Adult Never Smokers.

Primary Objectives:

- Estimate impact of VLN™ using potential product messaging
- Test hypotheses that potential product messages for VLN™:
 - Generate intent to use among those who could benefit from use (Adult Current Smokers, Adult Current Smokers motivated to quit)
 - Do not generate significant intent to use among those who could be harmed by use (adult never smokers, adult former smokers)
- Describe the product clearly and promote comprehension

Secondary Objectives:

- Estimate population impact of VLN™ among Adult Never Smokers, Adult Former Smokers, Adult Current Smokers motivated to quit CCs and Adult Current Smokers with no Intent to Quit CCs population subsets
- Assess risk perception for VLN™ Test Concepts, VLN™ Control and Marlboro Gold Control and four Comparator Categories (CC, NRTs, E-Cigarettes, and Moist Snuff)
- Assess intent to use for VLN™ Test Concepts, VLN™ Control and Marlboro Gold Control and four Comparator Categories (CC, NRTs, E-Cigarettes, and Moist Snuff)

5.10 ANALYSIS SAMPLES

5.10.1 Full Sample

All subjects invited to participate in the study who satisfy the inclusion and exclusion criteria, fully complete the survey and meet all data quality requirements will be included in the full final sample.

5.10.2 Main Study Sample

The main study sample will include the four primary subject groups (Adult Never Smokers, Adult Former Smokers, Adult Current Smokers with Intent to Quit CCs, Adult Current Smokers with No Intent to Quit CCs) and a representative percentage of LA-25 Never Smokers. These participants must satisfy the inclusion and exclusion criteria, fully complete the survey, and meet all data quality requirements.

5.10.3 Never Smokers LA-25 Oversample

An “oversampling” of LA-25 Never Smokers was included in the study to assure a large enough base to analyze this group separately. These participants were weighted to their appropriate proportions in the total sample. This group may be considered a fifth subject group.

5.11 METHOD

5.11.1 General Principles

The number of subjects in each subject group (Total Base) as well as the count and proportion of subjects selecting each response option in each question will be presented in all categorical outcome measures. Proportions will be calculated on the total base for each subject group or subset of interest that have non-missing data. Effective base will be used for statistical testing on all data weighted to the population.

The number of subjects in each subject group with non-missing score values will serve as the total base for each subject group or subset of interest. All measures (where appropriate) will be represented with the mean, standard deviation, median, minimum and maximum. Unadjusted 95% Confidence Interval will be calculated for the point estimates of the outcome variables.

Analyses will be performed with SPSS® software (Statistical Package for the Social Sciences, Version 16.0 or higher), SAS, or Quantum tabulation software.

5.11.2 Subject Disposition

Descriptive statistics will be presented as the proportion of subjects who screened, agreed, and completed the study within each concept separately.

5.11.3 Demographics and Subject Characteristics

Descriptive statistics for all demographics and subject characteristics (such as smoking status, age, sex, race/ethnicity, education level, employment details, marital status, and household income) will be presented overall and by subject group within each concept separately.

5.11.4 Statistical Testing – T-Testing and ANOVA Testing

T-Testing was performed in the Quantum-tabulated data to understand if variances in response data across the samples was attributable to something other than chance. Descriptive statistics were tested at 95% Confidence Intervals of the mean of responses for each sample and comparator or test / control concept. For statistical significance evaluations when comparing test or control concept results to the results of comparator categories, dependent t-tests were performed as these samples were not mutually exclusive.

Further, analysis of variance (ANOVA) testing, was used to identify statistically significant differences between the means across the test / control concepts (independent, unrelated groups).

Results are denoted throughout this report using column letters to indicate which sample groups differ at statistically significant levels and confidence intervals are provided for all mean scores. For specific references to each test used in the Quantum-tabulated data, a platform manual has been provided that outlines all testing methods.

5.12 ANALYSIS OF OBJECTIVES

5.12.1 Intent to Use VLN™, CCs, E-cigarettes and any nicotine containing products

Descriptive statistics and 95% Confidence Interval of the mean responses for each comparator category will be presented by subject group within each concept separately for the items related to Intent to Use. Intent to Use each concept and Comparator Categories will be assessed both pre- and post-exposure to the concepts to understand any change in intention for future cigarette usage as would be influenced by exposure to product concept.

5.12.2 Risk Perception

The Perceived Risk Scale-Personal (PRI-P) scale was validated in the prior PMI IQOS research (Chrea, et al, 2016.). The Perceived Risk Scale-Personal (PRI-P) was presented to participants in three groups of attributes including (1) Risk of Critical Diseases, (2) Risk of General Health Issues and (3) Risk of Addiction. Response data is presented in descriptive statistics and 95% Confidence Interval of the mean of responses. Risk Perception mean scores are offered by subject group and VLN™ / Control concepts to be compared to the four Comparator Categories directly.

5.12.3 Comprehension

Because VLN™ messaging was tested extensively in the qualitative phases of this research and no clear measurement precedent has been established for testing comprehension to market a tobacco product, the need to validate comprehension was assessed using feedback garnered in the qualitative research sessions as well as responses from the quantitative survey to three open-ended questions to ensure recall and basic comprehension. Open-ended responses were coded for each post-exposure open-end question so that data could be coded and aggregated into tabulated data.

Descriptive statistics and 95% Confidence Interval were presented on the proportion of participants indicating responses in the coded, tabulated data who provide clear, logical and relevant responses to each question as well as the proportion offering unclear, irrelevant or “Unsure / Don’t Know” responses.

5.13 SAMPLE SIZE

The sample size calculation is based on attaining sufficient precision in the measures associated with all objectives. The sample sizes within each concept will be equal. As outlined in Table 1, these sample sizes are deemed sufficient to present comparative analyses across the various populations at a 95% confidence interval.

6.0 Comprehension and Perception Research

6.1 QUALITATIVE INTRODUCTION: BACKGROUND AND OBJECTIVES

The FDA MRTPA Draft Guidance indicates that a critical issue to address is consumers' beliefs about the health risks of the MRTP relative to cigarette smoking. Consumers should understand that the modified risk message may carry lower risk than cigarette smoking for certain diseases, but they should not view the VLN™ as being safe or free of risk.

Participants understanding of the risks of VLN™ relative to other nicotine-based products was evaluated by asking participants to directly characterize qualitatively the risk of VLN™ relative to other nicotine-based products.

The Qualitative study was conducted in four different phases between March and July 2018. Participants were screened for demographics and use of tobacco products. A total of 460 respondents qualified for participation and showed at local testing facilities in 13 cities across the U.S. Of those, 358 qualified participants, including groups and subgroups, were selected for participation. Participants were further screened at the test sites for literacy using the REALM (Rapid Estimate of Adult Literacy in Medicine) screener and efforts were made to ensure those respondents scoring less than 60 on the assessment, a score indicating a reading level at or below 8th grade, were included in the qualitative interviews. Overall, 27% of participants tested as low-literacy, or a level of literacy that was at or below an 8th grade reading level.

Participants were shown reduced risk and reduced exposure messaging, which consisted of primary and secondary proposed messages. The bottom fifth of each image included one of four government-mandated warning label statements. The proposed modified risk messages were tested for PARE/VLN™ cigarettes.

The primary objectives of this research include:

- Evaluating consumer perception of and understanding surrounding proposed ad and pack messaging for Brand A (PARE / VLN™)
- Understanding perceptions of risk and communication of that risk through the statements on the pack

The scope of ad/pack messaging that was evaluated included:

- Primary Claim
- Secondary (Comparative) Claim
- Disclaimer
- Back of Pack Language

All ad/pack messages were evaluated assuming all standard Surgeon General warnings for cigarettes are in place. Further, the claims tested included both reduced risk and reduced exposure iterations. The proposed messaging included multiple claims per phase.

6.2 QUALITATIVE METHODOLOGY

Phase 1 of the study commenced during March 2018 with 12 focus groups (FGs) being conducted in four US cities. Cities were selected across geographic region of the United States to avoid possible regional bias (see below). Specifically, the focus groups took place at research facilities in the Northeast (Focus Room – NYC), the South (Focus Point Global – Atlanta), the Midwest (Michigan Market Research – Detroit), and the West (Q-Insights – Los Angeles).

Phase 2 FGs followed in March 2018, with a total of 30 groups completed. Again, cities were selected in different US regions. Research took place in facilities in the Northeast (Great Blue – Cromwell, CT), the South (Focus Point Global – Dallas, TX), the Midwest (Focus Point Global – Chicago, IL), and the West (Plaza Research – Denver, CO).

Phase 3 In-Depth Interviews (IDIs) began in April 2018. The research team completed 50 IDIs in facilities located in different geographical regions. IDIs were conducted in the Northeast (National Field & Focus – Boston), the South (Wilkins Research Services – Chattanooga), the Midwest (Peters Marketing Research, Inc. – St. Louis), and the West (Las Vegas Field & Focus – Las Vegas).

Phase 4 In-Depth Interviews began in July 2018. The team completed 54 IDIs in the Northeast (Plaza Research – Paramus, NJ). Study participants were recruited via email and telephone using recruitment lists and databases maintained by recruitment agencies.

Participant Breakdown

Table 7. Phase 1 Focus Groups (n=69) – Cities, Definitions and Participant Counts by Segment

City	Focus Group Segment	# of Participants
NYC March 14, 2018	Males 50+ Current Smokers – Intend to Quit (MX)	8
	Females 35-49 Current Smokers – No Intent to Quit (MX)	6
	Males LA-34 Current Smokers – No Intent to Quit (MX)	6
	Females 50+ Current Smokers – No Intent to Quit (MX)	6
Atlanta March 15, 2018	Males 35-49 Current Smokers – No Intent to Quit (MX)	6
	Females 18-34 Current Smokers – Intend to Quit (MX)	7
	Males 50+ Current Smokers – No Intent to Quit (MX)	7
Detroit March 15, 2018	Females 35-49 Current Smokers – Intend to Quit (MX)	5
	Males LA-34 Current Smokers – Intend to Quit (MX)	6
	Females 50+ Current Smokers – Intend to Quit (MX)	6
Los Angeles March 16, 2018	Males 36-50 Current Smokers – Intend to Quit (MX)	6
	Females LA-35 Current Smokers – No Intent to Quit (MX)	6
	Total Participants	69

*Abbreviations: "LA" means Legal Age which varied by market.

“(NM)” indicates smokers who use Non-Menthol cigarettes, “(M)” indicates those who use Menthol cigarettes and “(MX)” indicates a mix of Non-Menthol and Menthol users

Table 8. Phase 2 Focus Groups (n=177) – Cities, Definitions and Participant Counts by Segment

City	Focus Group Segment	# of Participants
Chicago, IL March 22-23, 2018	Females 50+ Current Smokers – No Intent to Quit (NM)	7
	Males 50+ Current Smokers – No Intent to Quit (NM)	6
	Males 35-49 Current Smokers – Intend to Quit (MX)	5
	Females LA-34 Current Smokers – No Intent to Quit (M)	6
	Females LA-34 Recent Quitters	6
	Females 50+ Current Smokers – Intend to Quit (MX)	7
	Females 50+ Long-term Quitters	6
	Males 35-49 Long-term Quitters	6
Hartford, CT March 22-23, 2018	Females 50+ Current Smokers – No Intent to Quit (M)	6
	Males 35-49 Current Smokers – No Intent to Quit (M)	6
	Females LA-34 Current Smokers – No Intent to Quit (M)	3
	Females LA-34 Current Smokers – Intend to Quit (MX)	6
	Females LA-34 Long-term Quitters	6
	Females 50+ Recent Quitters	6
	Males 35-49 Recent Quitters	6
Dallas, TX March 26-27, 2018	Males 50+ Current Smokers – No Intent to Quit (NM)	6
	Males 50+ Current Smokers – Intend to Quit (MX)	6
	Females 35-49 Current Smokers – No Intend to Quit (NM)	6
	Males LA-34 Current Smokers – No Intent to Quit (NM)	6
	Males LA-34 Current Smokers – Intend to Quit (MX)	6
	Males LA-34 Recent Quitters	7
	Males 50+ Long-term Quitters	6
	Females 35-49 Recent Quitters	6
	Male LA-34	6

Denver, CO March 28-29, 2018	Current Smokers – No Intent to Quit (NM)	
	Male LA-34 Long Term Quitters	6
	Male 50+ Current Smokers – No Intent to Quit (M)	6
	Male 50+ Recent Quitters	5
	Female 35-49 Current Smokers – No Intent to Quit (NM)	6
	Female 35-49 Current Smokers – Intend to Quit (MX)	6
	Female 35-49 Long Term Quitters	6
	Total Participants	177

*Abbreviations: “LA” means Legal Age which varied by market.

“(NM)” indicates smokers who use Non-Menthol cigarettes, “(M)” indicates those who use Menthol cigarettes and “(MX)” indicates a mix of Non-Menthol and Menthol users

Table 9. Phase 3 IDIs (n=50) – Cities, Definitions and Participant Counts by Segment

Segment	Males				Females			
	LA-25	26-34	35-49	50+	LA-25	26-34	35-49	50+
Never Smokers	2	1	1	1	-	2	1	1
Recent Quitters	-	2	1	1	-	4	1	1
Long-term Quitters	-	2	1	1	-	2	1	2
Current Smokers – Intend to Quit (MX)	-	2	1	1	-	2	1	1
Current Smokers – No Intent to Quit (MX)	-	5	2	2	-	4	2	2
Total Participants								51**

*Abbreviations: “LA” means Legal Age which varied by market.

“(NM)” indicates smokers who use Non-Menthol cigarettes, “(M)” indicates those who use Menthol cigarettes and “(MX)” indicates a mix of Non-Menthol and Menthol users

**Two participants were removed from the total sample due to missing recordings.

Table 10. Phase 4 IDIs (n=56) – Cities, Definitions and Participant Counts by Segment

Segment	Males				Females			
	LA-25	26-34	35-49	50+	LA-25	26-34	35-49	50+
Never Smokers	2	2	1	-	2	2	2	2
Recent Quitters	-	2	1	2	-	1	1	-
Long-term Quitters	-	1	2	1	-	3	2	2
Current Smokers – Intend to Quit (MX)	-	1	1	2	-	2	1	-
Current Smokers – No Intent to Quit (MX)	-	3	3	1	-	4	2	3
Total Participants								54

*Abbreviations: “LA” means Legal Age which varied by market.

“(NM)” indicates smokers who use Non-Menthol cigarettes, “(M)” indicates those who use Menthol cigarettes and “(MX)” indicates a mix of Non-Menthol and Menthol users

6.3 QUALITATIVE SCOPE

The scope of Phase 1 focuses on establishing a familiarity of different types of Tobacco Products among participants. Participants in Phase 1 were given verbal description of each type of Tobacco Product followed by reviewing written statements (Claims). Then participants were asked a series of questions related to intent to use, risk of exposure to toxins and harmful chemical as well as risk of developing smoking-related diseases. Six types of nicotine-based products were presented in the study:

- Type 1: Full-Flavor Tasting Cigarettes
- Type 2: Light Tasting Cigarettes
- Type 3: Ultra-Light Tasting Cigarettes
- Type 4: E-cigarettes
- Type 5: Moist Snuff
- Type 6: SNUS
- Type 7: Nicotine Replacement Therapies (NRTs)

In Phase 2 and 3 of the study, SNUS was removed as a category, and the full-flavor tasting, light-tasting, and ultra-light tasting cigarette categories were combined into one category: “Traditional Cigarettes.” Visual aids were used within each FG and IDI as the basis for the discussion of the “risk” and “intention to use.” Participants were asked to rate the relative risk (exposure to harmful compounds and risk of developing disease) associated with using the products listed above, plus their intent to personally use the products. In addition, they rated “smoking cessation” (Phase 1) or “Quitting Smoking” (Phases 2 and 3) as a category on the risk scales.

While this data cannot be considered statistically representative measurements, the process of positioning helped to ground and focus the research participants. The patterns of the positioning also served as a springboard for exploration and discussion of the attitudes and feelings as related to the “why’s” on placement. The visual aids were described in the final report of the study.

Participants’ perceptions of risk associated with using PARE / VLN™ Cigarettes and intent to use were captured on the chart in comparison to the other nicotine-based products, which was documented in the final report of the study.

Participants were then exposed to a randomized series of written statements (Claims) that could be listed on a pack of PARE / VLN™ Cigarettes. The statements were broken into two categories: Reduced Exposure (RE) statements and Reduced Risk (RR) statements. Wording for each statement set was varied between phases.

Table 11. Examples of Written Claims Samples

Reduced Exposure (RE)	Reduced Risk (RR)
TOP OF FRONT PANEL VERY LOW NICOTINE PARE / VLN™ Cigarettes Contain 95% Less Nicotine Than Leading Brands Approximately 95% less nicotine in tobacco and smoke compared to the top 3 selling brands.	TOP OF FRONT PANEL VERY LOW NICOTINE Nicotine is an addictive chemical. PARE / VLN™ Cigarettes may help reduce your urge to smoke. The tobacco in PARE / VLN™ Cigarettes Contains Less Than 5% of the nicotine of the three leading US cigarettes.

<p>BOTTOM OF FRONT PANEL The Tobacco Smoke From PARE / VLN™ Cigarettes Is No Safer Than Smoke From Any Other Cigarette.</p> <p>BACK OF PACK PARE / VLN™ exposes you to significantly less nicotine, an addictive chemical.</p> <p>BOTTOM</p>	<p>BOTTOM OF FRONT PANEL No Cigarette Is Safe. Smoked long term, PARE / VLN™ Cigarettes Present the Same Health Risks as Traditional Cigarettes.</p> <p>BACK OF PACK People smoke cigarettes to get nicotine, but it's the smoke or "tar" that kills smokers. Studies show that by smoking PARE / VLN™ Cigarettes, you will likely experience less craving for nicotine. That can help you reduce the numbers of cigarettes that you smoke and may increase your motivation to quit.</p>
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In Phase 1, participants reviewed written statements of the RE claims series and the RR claims series (five versions each for RE and RR), in their entirety (first one, then the other, randomized between groups). Within each series, they were asked to identify:

- First, the claim set in each series they felt did the best job of communicating about the PARE / VLN™ product to the consumer, and
- Second, in a build-your-own fashion, their preferred configuration of Top of Front Panel, Bottom of Front Panel, and Back of Pack claims based on effectiveness of the presented statements.

As an evolution of the conversation, participants indicated which overall claim series, RE or RR, did the best job of explaining the product to the consumer. Further, it was explicitly asked what type of consumer would be interested in purchasing PARE / VLN™.

In Phase 2, full-flavor tasting cigarettes (FFC), light-tasting cigarettes (LTC), and ultra-light-tasting cigarettes (ULTC) were combined into one category: conventional cigarettes (CCs). SNUS was removed as a category. The category "cessation" was changed to "quitting smoking." Phase 2 featured written statements and corresponding mock-up packs (five versions each for RE and RR), Phase 3 used mock-up packs only (four versions each for RE and RR).

Non-menthol and menthol statements for each version were identical; the only difference between them was the pack color (yellow for non-menthol, green for menthol) and the words "Regular" or "Menthol" listed on the front and back of the pack.

Statement locations on the packs included:

- Top of front panel
- Bottom of front panel
- Back of pack

6.3.1 Participants' Perceptions of Risks of Exposure to Harmful Chemicals

In the qualitative study, Participants were asked to rate the level of risk on a scale of One to Four (Scale 1-4) where one (1) is “No Risk” and Four (4) is the “Highest Risk”. In Phase 1, 2, and 3, Participants believe that the different types of tobacco products, including full-flavor tasting cigarettes (FFC), light-tasting cigarettes (LTC), ultra-light-tasting cigarettes (ULTC), SNUS, and Moist Snuff, pose the highest risk of exposure to harmful chemicals and toxins. Participants also noted that direct exposure to tobacco via the lungs and GI tract contributed to these high-risk ratings.

Despite noting a lack of sufficient data and information about risk and long-term effect, E-cigarettes were perceived to pose moderate risk of exposure to toxins and harmful chemicals. Nicotine Replacement Therapies (NRTs) were believed to pose moderate to low risk as it contains and delivers nicotine which is perceived by participants as harmful.

Of participants who understood the question, Smoking Cessation was perceived to pose no risk due to the fact that quitting tobacco use altogether does not expose users to long-term effects of toxins and harmful chemicals.

Participants also indicated that, based on the reduced exposure and reduced risk claims shown, PARE / VLN™ Cigarettes would represent a Moderate to High Risk as PARE / VLN™ delivers lower amounts of nicotine and, therefore, poses a lower likelihood of long-term addiction, but still exposes users to chemicals/components similar to those found in traditional tobacco products.

Participants also believe that, while there is still some risk associated with smoking PARE / VLN™, users would hopefully smoke fewer cigarettes, thus reducing the risk of exposure. When asked to consider a one-to-one comparison of PARE / VLN™ to a traditional cigarette, participants believe that PARE / VLN™ would pose a similar risk, placing it closer to the High-Risk category.

Participants recognized Nicotine, Tar, formaldehyde and carbon monoxide as harmful chemicals which are associated with tobacco products.

Participants in all three phases believe that quitting smoking altogether will reduce the risk of smoking related diseases and reduce the likelihood of exposure to toxins and harmful chemicals.

Questions posed to participants were adapted from published studies that addressed health risk beliefs and risk perceptions of different types of nicotine-based products (e.g., Haddock et al. 2004; O'Connor et al. 2005a; Peiper et al. 2010).

6.3.3 Participants' beliefs about the risks of Developing Smoking-Related Disease

In Phases 2 and 3, participants' belief that smoking PARE / VLN™ Cigarettes is associated with a higher risk of developing smoking related diseases similar to the risk associated with smoking traditional tobacco. Participants attribute the fact that PARE / VLN™ Cigarettes contains similar chemicals/components to the ones found in traditional tobacco products. Therefore, PARE / VLN™ Cigarettes was perceived to pose a High-Risk of developing smoking related diseases.

Participants' belief that E-cigarettes to pose a moderate risk of developing smoking/tobacco-related diseases. Nicotine Replacement Therapies (NRTs), if used as directed, was believed to pose a lower risk than combustion products. *Furthermore, Smoking Cessation Products were believed to pose No Risk.* Overall, participants' belief that tobacco products, including CCs and Moist Snuff, pose the highest risk of developing smoking-related diseases. After reviewing reduced risk and reduced exposure claims, participants believe that the PARE / VLN™ reduced risk claims convey a higher risk of developing smoking/tobacco related diseases compared to the PARE / VLN™ reduced exposure claims.

Quitting smoking altogether was believed to pose low to no risk of developing smoking related diseases.

6.3.4 Intent to Use

In Phase 1, participants who were current smokers indicate a much higher likelihood to use full-flavor tasting and light-tasting cigarettes compared to the other nicotine-based products. Current smokers were also more likely to use E-cigarettes than NRTs, Moist Snuff, and ultra-light-tasting cigarettes. Current smoker participants were very unlikely to consider using NRTs.

Participants' intent to use SNUS is very low. Many participants were unfamiliar with SNUS and how such products are used. Based on the reduced risk and reduced exposure PARE / VLN™ claims, current smokers indicated interest in using PARE / VLN™ compared to E-Cigarettes. Factors, such as taste and price, were important considerations in the decision to use PARE / VLN™ long-term.

In Phase 2, participants indicate a higher likelihood to use traditional cigarettes compared to the other products reviewed. E-cigarettes and NRTs are considered as very unlikely options for use, Moist Snuff use is deemed highly likely. Based on the RR and RE PARE / VLN™ claims, participants indicate a likelihood to use PARE / VLN™, nearly comparable to that of traditional cigarettes.

Similar to the feedback from participants in Phase 2, participants in Phase 3 express a higher likelihood to use CCs as compared to the other nicotine-based products. Participants were very to somewhat unlikely to use NRTs and E-Cigarettes.

Most respondents indicated that the RR claims more effectively convey the purpose of PARE / VLN™ than the RE claims. However, respondents felt that RE claims do not call out the long-term intended benefits of PARE / VLN™ as clearly as RR claims.

On the other hand, participants stated their intent to use PARE / VLN™ as somewhat unlikely based on perception of risk associated with smoking the Concept Product PARE / VLN™ after reviewing both RR and RE claims. The overall perception of participants to the Concept Products (PARE / VLN™) varied among the four main groups: current smokers (No Intent to Quit), Current Smokers (Intent to Quit), Quitters (Recent and Long-Term) and Never Smokers (summarized below).

Current Smokers (No Intent to Quit)

Heavier smokers seem to be more skeptical of the product's ability to aid them in cutting back or quitting. Current Smoker participants "want their nicotine," and it was believed that current smokers might smoke more cigarettes of the Concept Product (PARE/ VLN™) to get the same amount of nicotine. Brand loyalty is clearly called out.

Current Smokers (Intend to Quit)

Current Smokers (intent to Quit) note that PARE / VLN™ offers an important benefit and advantage over NRTs or E-Cigarettes, namely the ability to continue smoking an actual cigarette while cutting down on nicotine consumption. Participants express an interest in trying PARE / VLN™ if it were available. Several note an interest in becoming dual users of PARE / VLN™ and NRTs, as the former satisfies the hand-to-mouth activity.

Quitters (Recent and Long-Term)

Quitter participants like the concept, but many stress that total abstinence from CCs is a key in successfully quitting. It is noted that PARE / VLN™ offers a "softer" and smooth transition to quit smoking, assuming quitters use the product as they should. Some quitters said they could see themselves using a product like this if they absolutely "needed a smoke" due to stress.

Never Smokers

Never Smokers express no interest in personally using the product. Many never smokers have family and friends who actively smoked, and several mentioned that they would recommend PARE / VLN™ as an alternative to CCs or as a way to quit.

Age Group

Younger participants (21-24, 25-34) very quickly pick up on both the product's intended use and the target audience. Several participants noted immediately that the product was designed to help current smokers to quit smoking after seeing the first package concept. PARE / VLN™ seems to garner a more positive reaction overall from the younger audience, including current smokers who indicated a strong interest in product trial. Older participants, including all users, seemed more skeptical of the product and its ability to be an aid in quitting.

6.4 QUALITATIVE SUMMARY AND CONCLUSIONS

Participants in Phase 1, 2 and 3 believe that traditional tobacco and Moist Snuff pose the highest health risk associated with smoking. E-cigarettes are believed to pose moderate risk, while Nicotine Replacement Therapies (NRTs) poses the least health risk. Smoking cessation is believed to pose no health risk among participants who understood the questions related to cessation.

In General, participants believe that PARE / VLN™ poses a higher risk of developing smoking-related diseases, similar to the risk posed by traditional tobacco products. However, some participants believe that lower level of nicotine in PARE / VLN™ may reduce the risk of exposure and addiction.

The perception of moderate risk of exposure to Concept Product (PARE / VLN™) among participants is attributed to the fact that, the concept product (PARE / VLN™) may expose users to the similar

toxins and chemicals as traditional tobacco products. Based on the RE and RR claims shown, participants also indicate that, PARE / VLN™ cigarettes would represent a Moderate Risk, as PARE / VLN™ delivers lower amounts of nicotine but still exposes users to similar chemicals/components found in traditional tobacco products.

Participants who are all current smokers express a higher likelihood to use traditional cigarettes than other tobacco products. Participants are very to somewhat unlikely to use Nicotine Replacement Therapies (NRTs) and E-Cigarettes. At the same time, never smoker participants show no interest in smoking PARE / VLN™.

In addition, some of the feedback from participants show that:

- Aside from its addictiveness, some younger participants are less aware of the danger associated with nicotine use, and
- Some of the additional components/chemicals perceived by participants to be included in tobacco include nicotine, tar, arsenic, carbon monoxide, and formaldehyde.

Participants believed PARE / VLN™ to be intended for:

- Those trying to quit smoking or cut back
- Casual smokers
- To a lesser degree, new smokers

In summary, in the evaluation of the Primary Claim, “95% less nicotine,” it is clear that the claim is understood and resonates well with participants. The Primary Claim is perceived as eye-catching to smokers and as having more attractive wording than the phrase “Very Low Nicotine.” Participants’ believe that the primary claim, “95% less nicotine,” offers a compelling piece of information related to how PARE / VLN™ differed from other cigarettes. In contrast, the message “Contains Less Than 5% of the nicotine of the three leading US cigarettes” was unclear and was misunderstood by many participants.

Numerous participants perceive statements such as “Contains Less Nicotine” and “Helping to Curb Craving” to convey some benefits. At the same time, they were perceived to contradict the risk claim, “The Product is No Safer than any other Cigarette,” associated with the Concept Product PARE / VLN™. However, participants repeatedly noted that they like the “Honesty” shown by the Concept Product PARE / VLN™. In addition, participants noted that references to Nicotine as “Addictive” are important, but many stated that it is a known fact, especially to smokers, and does not provide additional value.

Participants noted that the Reduced Risk (RR) claims more effectively convey the purpose of PARE / VLN™ to the consumer. On the other hand, Reduced Exposure (RE) claims do not call out the intended benefits of PARE / VLN™ as clearly as reduced risk claims.

Other feedback and comments related to different versions of the claim are included in the full study report (Qualitative Study to Develop PARE / VLN™ Claims within the United States Phases 1, 2, 3, and

4-Study Number: 5180077, 5180078) that will be submitted with this Application. The full study report will also include the complete study results and findings for each of the subgroups of interest (i.e., current tobacco users, former tobacco users, never tobacco users, and young adults LA-25).

7.0 Quantitative Comprehension and Perception Study

7.1 DEMOGRAPHICS

Among the 29,219 participants, 42.4% (n=12,389) were current smokers, 29.5% (n=8,612) were former tobacco users, 28.1% (n=8,218) were never tobacco users. Among the current smokers, 52.2% (n=6,472) were current smokers with intent to quit and 47.8% (n=5,917) were current smokers with no intention to quit. Among all former smokers, 76.3% (n=6,569) were long-term quitters (quit smoking for one year or more) and 23.7% (n=2,043) were recent quitters (quit smoking within the past year). Of all never smokers, 51.3 % (n=4,212) were never smokers and 48.7% (n=4,006) never smokers oversample LA-25.

A higher percentage of participants were female, 60.0% (n=17,528)) versus 40.0% (n=11,691) male. Respondents were 18 and older and, excluding the LA-25 Oversample (13.7% of total respondents), age distribution was 8.9% aged 18-24, 38.5% aged 25-44, 32.5% aged 45-64 and 20.2% aged 65 and older. Including the LA-25 Oversample, age distribution was 18.8% aged 18-24, 35.8% aged 25-44, 28.0% aged 45-64 and 17.4% aged 65 and older. Among the respondents, 3.7% had less than a high school education, 23.2% had a high school education, 34.4% completed some college or trade school, and 37.9% had a bachelor's or advanced degree and 0.8% refused to answer. The majority of the sample was white, Non-Hispanic (75.9%), 9.2% were Black, Non-Hispanic, 9.1% were Hispanic, 3.5% Asian, Non-Hispanic, 1.3% Non-Hispanic, Multi-race, and other, as well as 1.1% American Indian or Alaskan Native.

Of all current smokers (n=12,389), 42.6% (n=5,280) of respondents claimed that their usual brand of cigarette was Menthol flavor and 57.4% (n=7,109) of respondents claimed that their usual brand of cigarette was Non-Menthol. Current Smokers self-identified the total number of cigarettes smoked each day and were classified as light smokers (less than 10 cigarettes per day) or heavy smokers (10+ cigarettes per day); 42.6% (n=5,280) were light smokers and 57.4% (n=7,109) were considered heavy smokers.

In terms of geographic distribution, 38.6% were from the South, 19.9% from the West, 23.9% from the Midwest, and 17.6% from the Northeast US Census Regions. The weighted demographic profile of the full sample was comparable to the U.S. population overall for the demographic profile of the sample by smoking user group. See Table 12 and Table 13.

Table 12. Demographic Representation by Smoking Status - Unweighted

	Smoking Status				
	Never Smokers	Long-Term Quitters	Recent Quitters	Current Smokers - Intend to Quit	Current Smokers - No Intent to Quit
Total Sample Size	8,218	6,569	2,043	6,472	5,917
Gender					
Male	3,072	2,787	623	2,872	2,337
Female	5,146	3,782	1,420	3,600	3,580
Age					
18-24	3,777	91	325	702	587
25-44	2,157	1,779	1,017	3,030	2,482
45-64	1,360	1,475	547	2,564	2,242
65+	924	3,224	154	176	606
Ethnicity					
White, Non-Hispanic	5,591	5,495	1,608	4,725	4,754
Black, Non-Hispanic	955	362	149	797	424
Hispanic	974	419	196	584	479
Asian, Non-Hispanic	512	150	37	196	115
American Indian/ Alaska Native, Non-Hispanic	74	66	23	87	70
Non-Hispanic, Multi-race, Other	112	77	30	83	75
Census Region					
Northeast	1,434	1,279	324	1,152	950
Midwest	1,851	1,499	507	1,591	1,538
South	3,123	2,330	827	2,579	2,423
West	1,810	1,461	385	1,150	1,006

Table 13. Demographic Representation by Smoking Status - Weighted.

	Smoking Status Group				
	Never Smokers	Long-Term Quitters	Recent Quitters	Current Smokers - Intend to Quit	Current Smokers - No Intent to Quit
Total Sample Size	17,224	6,767	615	2,768	1,845
Gender					
Male	7,062	3,519	314	1,356	941
Female	10,162	3,248	301	1,412	904
Age					
18-24	2,239	68	68	277	146
25-44	5,512	1,827	261	1,190	676
45-64	5,339	338	193	1,246	731
65+	4,134	4,534	94	55	292
Ethnicity					
White, Non-Hispanic	11,368	5,481	437	1,965	1,403
Black, Non-Hispanic	2,067	474	68	415	221
Hispanic	2,411	474	80	221	148
Asian, Non-Hispanic	1,047	199	13	91	35
American Indian/ Alaska Native, Non-Hispanic	126	58	8	40	20
Non-Hispanic, Multi-race, Other	205	82	10	35	19
Census Region					
Northeast	2,790	1,353	79	443	277
Midwest	3,651	1,556	170	720	517
South	6,080	2,098	219	1,024	646
West	4,702	1,759	146	581	406

7.2 COGNITIVE TESTING

Prior to initiating the quantitative research, cognitive testing of the survey instrument was conducted. This exploratory research phase was developed to ensure that:

- Participants understood all questions and answer choices
- Responses were consistent with the intended meaning of the questions and answer choices
- No critical components of the research were either overlooked or meaningfully altered
- Specifically, items on the Risk Perception Scale or the Intent to Use questions would not be misunderstood by participants
- Neither questions nor answer choices were missing such that the objectives of the study could not be fulfilled

7.2.1 Cognitive Testing Methodology

Cognitive testing commenced during September 2018 with 29 in-depth interviews (IDIs) conducted in four US cities. Like the qualitative phases, cities were selected across the same geographic region of the United States to avoid possible regional bias. Specifically, the in-depth interviews took place at research facilities in the Northeast (Insights Loft – New York City, NY), the South (Wilkins Research– Chattanooga, TN), the Midwest (Michigan Market Research – Detroit, MI), and the West (Q-Insights – Los Angeles, CA).

7.2.1.1 Participants and Procedures

All participants in the study:

- Were 21 years of age or older
- Acknowledged that they understood all information provided by signing ICF
- Completed a lobby survey to re-confirm their smoking status

Participants were divided into age groups (listed below); a mix of ethnicities and household income was recruited.

Participant Exclusions

- Not willing to participate in a study that involved the reading of materials
- Inability to read or speak English as evaluated by the research agency when asked to complete the ICF
- No proof of age (photo ID, such as passport or driver's license) upon arrival at the research facility
- Employed in the fields of market research, marketing, advertising, media or journalism, law, the tobacco industry, the health sector, or have family members or close friends employed in those fields
- Participated in any tobacco-related consumer research study within the past six months
- Women who were pregnant or currently breastfeeding

Smoking Status

Research participants were categorized based on their smoking status according to self-report. The categories are defined as follows:

“Adult smokers with no intention to quit”

- Current smokers, based on self-reporting, who have smoked at least 100 cigarettes in his/her lifetime, are currently smoking at least one cigarette each day or on most days, and have no intention to quit within the next six months.

“Adult smokers with intention to quit”

- Current smokers, based on self-reporting, who have smoked at least 100 cigarettes in his/her lifetime, are currently smoking at least cigarette per day or on most days, and plan to quit within the next six months.
- Note on both segments of adult smokers (AS) – AS with no intention to quit and AS with intention to quit were asked the following during recruitment screening:
 - Being concerned about the effects of smoking on his/her health and on the health of others based on answering two questions (e.g. *“How concerned are you, if at all, about the effects of smoking on your health?”* and *“How concerned are you, if at all, about the effects of smoking on the health of others?”*).
 - Current smokers were also screened for non-menthol and menthol cigarette use.

“Recent quitters”

- Adults who, based on self-reporting, had smoked at least 100 cigarettes in his/her lifetime and, at the time of the study, had quit smoking within the past year.

“Long-term quitters”

- Adults who, based on self-reporting, had smoked at least 100 cigarettes in his/her lifetime and, at the time of the study had not smoked for one year or more. The threshold of one year captures former adult smokers with a certain stability in their status.

“Never used”

- Adults who, based on self-reporting, who were not smoking at the time of the study and had not smoked at least 100 cigarettes in his/her lifetime.

Low-Literacy participants

All participants were screened to determine their literacy level using the Rapid Estimate of Adult Literacy in Medicine (REALM) screener. Efforts were made to include in the study those respondents scoring less than 60 on the assessment, a score indicating a reading level at or below 8th grade. Overall, 28% of participants were assessed with a score of 60 or lower to indicate that their reading level was at or below an 8th grade reading level.

7.2.1.2 Participation by Cigarette User Group, Age and Gender by City

The cognitive testing included 29 IDIs among the following segments:

Table 14. Cognitive Testing IDIs (n=29) – Cities, Definitions and Participant Counts by Segment

Segment	Males				Females				
	LA-25	26-34	35-49	50+	LA-25	26-34	35-49	50+	Total
New York City									
Never Used	-	-	-	-	1	-	-	-	1
Recent Quitter	-	-	1	-	-	-	-	1	2
Current Smoker – Intend to Quit (MX)	-	1	-	-	1	-	-	-	2
Chattanooga									
Never Used	1	1	-	-	-	-	-	-	2
Recent Quitter	-	-	-	1	-	1	-	-	2
Long-term Quitter	-	-	-	-	1	-	-	-	1
Current Smoker – Intend to Quit (MX)	1	-	-	-	-	1	-	-	2
Current Smoker – No Intent to Quit (MX)	-	-	1	-	-	-	-	1	2
Detroit									
Never Used	1	-	-	1	-	-	-	-	2
Recent Quitter	-	-	-	-	-	-	1	-	1
Long-term Quitter	-		1	-	-	-	-	1	2
Current Smoker – Intend to Quit (MX)	-	-	-	1	-	-	1	-	2
Current Smoker – No Intent to Quit (MX)	1	-	-	-	-	-	-	-	1
Los Angeles, CA									
Never Used	-	-	-	-	-	-	-	1	1

Recent Quitter	1	1	-	-	-	-	-	-	2
Long-term Quitter	-	-	-	1	-	-	1	-	2
Current Smoker – Intend to Quit (MX)	-	1	-	-	-	-	-	1	2
Total									29

**Abbreviations: “LA” means Legal Age which varied by market.*

“(NM)” indicates smokers who use Non-Menthol cigarettes, “(M)” indicates those who use Menthol cigarettes and “(MX)” indicates a mix of Non-Menthol and Menthol users

7.2.2 Simulated Online Survey Experience

Participants reviewed a programmed, online version of the questionnaire to simulate the real survey-taking experience. Participants were asked to complete the survey as they would if they were in a normal environment such as home or work. Participants were also asked to read questions aloud and explain their thoughts to the moderator as they determined which answer to select. Participants were also asked to share any thoughts about each question, answer options, the survey flow and any items are missing or would be helpful in completing the survey such as instructions, question context or clarifications.

7.2.3 Cognitive Testing Summary and Conclusions

Three critical issues with the survey instrument surfaced throughout the cognitive interviews, two of which were problems originating in the Perceived Risk Scale. A few other minor issues become evident and were addressed as noted in section 7.3.3.3.

- Perceived Risk caused extensive confusion due to two problems with the way the original question was phrased, and the questions asked in the context of Cessation – many participants asked for clarity on these questions
 1. Participants were asked to think about the health or addiction risk of nicotine-containing products to them, personally, if they were to start / continue / restart using one of the products, even if they had never used or tried the product before
 2. When asked about Cessation, participants were confused by the question and unclear on what a suitable response would be
- When all Current Smokers who indicated that Marlboro Gold was their primary brand were exposed the Marlboro Gold concept, the follow-up questions were misunderstood and difficult for them to answer

7.2.3.1 Perceived Risk – Rephrasing the Question

The original Perceived Risk Instrument question was phrased as:

ASK IF CURRENT SMOKERS:

“If you were to successfully quit smoking, what do you think would be the risk, if any, to you personally of getting the following (sometime during your lifetime) because you smoked cigarettes in the past...”

ASK IF FORMER SMOKERS:

“If you remain a former smoker, what do you think is the risk, if any, to you personally of getting the following (sometime during your lifetime) because you smoked cigarettes in the past...”

Because this question text seemed awkward and difficult to read, it was modified slightly to clarify the meaning without changing the intent of the question to read as:

Now, please think about the risk of developing smoking or tobacco-related diseases to you if you, personally, used each of these products.

The risk of developing smoking or tobacco-related diseases means the chance of developing a disease, depending on the product, such as heart disease, lung cancer, and emphysema when using a combustion-based product, and heart disease, gum disease or lesions, oral cancer, throat cancer and pancreatic cancer, when using an oral product.

Considering this, how much risk do you associate with [NICOTINE-CONTAINING PRODUCT]?

This change made it easier to understand the meaning of the question, but as participants proceeded from the Perceived Risk Instrument to subsequent questions, the answers provided were inconsistent with how participants described themselves in brief introductory statements or how they were profiled in the original screening (i.e., never smoked a cigarette).

For example, one participant initially indicated that he found smoking to be “disgusting” and would never “consider picking up a cigarette.” However, when asked post-exposure questions such as Intent to Use and Purchase Intent, his responses were positive (“Probably Would Use/Purchase”). Because this was inconsistent with previous statements about smoking, the interview was paused and his responses probed. This participant stated that, because he had been asked to think of himself as a smoker in the prior question, he assumed that he should continue to answer questions with that mindset. Given that the proposed concept was “95% less nicotine,” if he was a smoker, this might be a good option for him to use so that he could try to break the addiction. This happened several times throughout the Cognitive Testing and had also occurred during the qualitative interviews.

To ensure the effect of this question was not visited on the remainder of the survey, the question text for Q3a/Q3b (pre-exposure ratings of Comparator Categories) and QRE1_1/QRE1_2 was modified to read as:

The next questions ask for your views about the health and addiction risks of [COMPARATOR CATEGORY / CONCEPT].

Think about the [health / addiction] risks associated with [COMPARATOR CATEGORY / CONCEPT] use.

Taking into consideration everything you know about [COMPARATOR CATEGORY / CONCEPT], indicate what you believe is the risk of each of the following long-term or lifetime [health-related / addiction-related] issues because of [COMPARATOR CATEGORY / CONCEPT] use.

7.2.3.2 Perceived Risk – Removing Cessation as a Comparator Category

Throughout the cognitive testing, a majority of participants were confused by the Risk Perception Scale in the context of Cessation (i.e., “what is the long-term or lifetime risk of lung cancer associated with quitting smoking altogether?”). While many asked for clarity from the moderator, several indicated that they would have discontinued the interview because they were unsure about what would constitute an appropriate response, despite being offered an “Unsure” response option. Upon being offered a non-leading, unbiased explanation of the question or simply having the question repeated verbatim with key words emphasized, there were two primary outcomes: 1) participants said they understood the question although their responses were not consistently clear enough to confirm understanding, or 2) participants responded with additional questions such as, “I’ve smoked for 20 years, so I guess my risk of lung cancer is still Very High, is that right?”

Over the course of qualitative interviewing where 358 participants had an opportunity to voice thoughts or opinions about questions posed, two similar risk perception questions were asked about the four Comparator Categories described in the methodology as well as Cessation, and the same issue occurred frequently, particularly with low-literacy participants. However, as noted above, in all qualitative sessions, a moderator was available to guide participants through the questions to ensure responses were consistent with the intended meaning.

As this would not be the case with a self-administered online survey, given the complexity of the question, the difficulties identified in the qualitative sessions combined with the findings in the cognitive testing, the decision was made to eliminate the evaluation of Cessation from the Risk Perception Scale for quantitative testing due to concerns about collecting inaccurate data that would be challenging to validate post-collection.

7.2.3.2 Other Minor Issues Detected in Cognitive Testing

As noted, a few minor issues unrelated to critical question lines arose during cognitive testing. Descriptions of those issues and the corresponding resolutions are noted in table 15.

Table 15. Minor Issues Detected in Cognitive Testing, Resolutions and Rationales

Q#	Original Question or Issue	Resolution	Rationale
QS16	Question caused confusion for recent quitters due to lack of timeframe clarity. <i>“Do you now smoke cigarettes...?”</i>	Reworded question: <i>Do you currently smoke cigarettes...?</i>	Clarifies timeframe
Q2	Participants asked if response should be based on actual usage or other knowledge of the product. <i>Now that you have reviewed each of these product types, please indicate how familiar you are with each of these products.</i>	Reworded question: <i>Considering everything you know or may have seen or heard, even if you have never used the product, please indicate how familiar you believe you are with each of these.</i>	Repositions familiarity as any knowledge of the product regardless of usage
QIU1 QIU2	Original question caused confusion, especially among non-users <i>Now think about your personal intent to use [INSERT CONCEPT]. By intent to use, we mean that you intend to use the product on a regular, ongoing basis.</i>	Reworded question: <i>Now think about your personal intent to use [INSERT CONCEPT]. By intent to use, we mean that you personally [IF NEVER / FORMER SMOKER: “, as a non-smoker,”] now intend to smoke [INSERT CONCEPT] on a regular, ongoing basis.</i>	Provides clarity and focuses the question on personal intent to use
QINT	Participant responses on questions such as Intent to Use or Purchase Intent were not consistent with expressed negative opinions of tobacco or nicotine-containing products. Introduction to Main Survey (prior to concept exposure)	Reworded introduction to include: <i>This research is not being conducted to help a manufacturer market or promote a new product. Rather, this research is to help understand how the release of a new product might affect the greater public health.</i>	Eliminates the likelihood of satisficing by orienting participant’s thoughts on public health over assisting in a marketing effort.
Q12	Question was confusing, particularly for those with negative perceptions. <i>Assuming that [INSERT CONCEPT] was priced equivalently to a pack of cigarettes, how would you describe its value relative to the price?</i>	Removed from survey.	Question was not critical for analysis

Q15	<p>Original question caused confusion, especially among non-users, because not everyone knew cigarette price points.</p> <p><i>If [INSERT CONCEPT] lived up to your expectations, and assuming [INSERT CONCEPT] were priced equivalently to a pack of cigarettes, how many times would you buy it in a typical four-week period? You may answer "0" if you would not purchase the product.</i></p>	Removed from survey.	Question was not critical for analysis
Q16	<p>Original question also caused confusion as it was a follow-up question to Q15.</p> <p><i>And, how many packs of [INSERT CONCEPT] would you buy each time?</i></p>	Removed from survey.	Question was not critical for analysis

8.0 Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products

Before exposure to a test or control Concept, respondents rated the addiction risks of one Comparator Category (Conventional Cigarettes (CCs), E-Cigarettes, Moist Snuff, Nicotine Replacement Therapies (NRTs)) using the Perceived Risk Instrument-Personal (PRI-P) scale developed and validated in the Phillip Morris Tobacco Heating System research (Chrea et al., 2016.). Respondents provided ratings on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5). Respondents were also offered a response of “Unsure.” Respondents indicating “Unsure” are not included in mean score calculations presented.

After rating a Comparator Category, respondents viewed the concept assigned to them and were subsequently asked to rate that concept on the same critical health attributes presented for the Comparator Category. When rating the health risks of the Concepts, respondents used the same scale they had previously used to rate the concept. The question was posed as:

“Taking into consideration everything you know about [CATEGORY], indicate what you believe is the risk of each of the following long-term or lifetime health-related issues because of [CATEGORY] use.”

Section 8.0 addresses how long-term use of the products is perceived to lead to four categories (including lung cancer, emphysema, mouth or throat cancer, and heart disease) grouped under the heading Critical Diseases and Section 9.0 addresses how long-term use contributes to general health conditions grouped under the heading General Health Issues.

8.1 PERCEIVED RISK OF CRITICAL DISEASES – NEVER SMOKERS

8.1.1 Perceived Risk of Critical Diseases – Total Never Smokers

Among Total Never Smokers, long-term use of VLN™ (Consumption – Test 2) is perceived as being slightly lower in risk for lung cancer, emphysema, mouth or throat cancer, and heart disease (mean range across all critical diseases 3.93-4.04) than CCs (mean range across all critical diseases 4.34-4.61) and Marlboro Gold (Control 2) (mean range across all critical diseases 4.35-4.54). Those exposed to VLN™ (No Messaging – Control 1) provide ratings of risk between those of VLN™ (Consumption – Test 2) and Marlboro Gold (Control 2) (mean range across all critical diseases 4.14-4.27). VLN™ (Consumption – Test 2), however, was perceived to be of greater risk for these conditions than were E-cigarettes (mean range across all critical diseases 3.68-3.84) and NRTs (mean range across all critical diseases 3.06-3.19). VLN™ (Consumption – Test 2) was believed to be higher in risk than Moist Snuff across all critical diseases except for mouth / throat cancer (VLN™ Test 2, 3.94 and Moist Snuff, 4.54). See Table 16.

Table 16. Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products Among Total Never Smokers

	Ratings of Comparator Categories Among Total Never Smokers				Ratings of Test or Control Concepts Among Total Never Smokers				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	2071	2026	2026	2095	2056	2034	2047	1038	1043
Having lung cancer	4.61	3.84	3.59	3.12	4.06	4.04	4.06	4.27	4.54
<i>Confidence Intervals</i>	(4.57 - 4.65)	(3.78 - 3.9)	(3.53 - 3.65)	(3.06 - 3.18)	(4.02 - 4.1)	(4 - 4.08)	(4.02 - 4.1)	(4.21 - 4.33)	(4.5 - 4.58)
<i>% Unsure</i>	2%	12%	13%	15%	4%	5%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGHI	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Having emphysema	4.55	3.75	3.56	3.06	4.01	4.01	4.01	4.24	4.49
<i>Confidence Intervals</i>	(4.51 - 4.59)	(3.69 - 3.81)	(3.5 - 3.62)	(3 - 3.12)	(3.97 - 4.05)	(3.97 - 4.05)	(3.97 - 4.05)	(4.18 - 4.3)	(4.43 - 4.55)
<i>% Unsure</i>	3%	13%	15%	16%	5%	4%	5%	6%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Having mouth / throat cancer	4.45	3.75	4.54	3.15	3.94	3.94	3.95	4.14	4.35
<i>Confidence Intervals</i>	(4.41 - 4.49)	(3.69 - 3.81)	(4.5 - 4.58)	(3.09 - 3.21)	(3.9 - 3.98)	(3.9 - 3.98)	(3.91 - 3.99)	(4.08 - 4.2)	(4.29 - 4.41)
<i>% Unsure</i>	3%	13%	5%	15%	6%	5%	6%	7%	4%
<i>Significantly higher than:</i>	BDEFGHI	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH
Having heart disease	4.34	3.68	3.76	3.19	3.94	3.93	3.95	4.16	4.36
<i>Confidence Intervals</i>	(4.3 - 4.38)	(3.62 - 3.74)	(3.7 - 3.82)	(3.13 - 3.25)	(3.9 - 3.98)	(3.89 - 3.97)	(3.91 - 3.99)	(4.1 - 4.22)	(4.3 - 4.42)
<i>% Unsure</i>	4%	15%	14%	17%	6%	6%	7%	8%	6%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

8.1.2 Perceived Risk of Critical Diseases –Never Smokers General Population (NSGP)

NSGP perception patterns are like those of Total Never Smokers. Among NSGP, the perceived risk associated with all nicotine-containing products across all critical diseases is at or above the median (3.00) with the products identified as CCs (CCs, VLN™ No Messaging and Marlboro Gold) being highest in perceived risk for lung cancer, emphysema and heart disease (range across the three products and three diseases, 4.23 – 4.66) and Moist Snuff highest in perceived risk of mouth / throat cancer (4.62).

Long-term use of VLN™ (Consumption – Test 2) is perceived as being slightly lower in risk for lung cancer, emphysema, mouth or throat cancer, and heart disease (mean range across all critical diseases 3.99-4.11) than CCs (mean range across all critical diseases 4.40-4.66) and Marlboro Gold (Control 2) (mean range across all critical diseases 4.39-4.58). Perceived risk of VLN™ (No Messaging – Control 1) falls between VLN™ (Consumption – Test 2) and Marlboro Gold (Control 2) (mean range

across all critical diseases 4.18-4.31). VLN™ (Consumption – Test 2), however, was perceived to be of greater risk for these conditions than were E-cigarettes (mean range across all critical diseases 3.73-3.85) and NRTs (mean range across all critical diseases 3.02-3.17). VLN™ (Consumption – Test 2) was believed to be higher in risk than Moist Snuff across all critical diseases except for mouth / throat cancer (VLN™ Test 2, 3.99 and Moist Snuff, 4.62). See Table 17.

Table 17. Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products Among Never Smokers General Population (NSGP)

	Ratings of Comparator Categories Among Never Smokers General Population (NSGP)				Ratings of Test or Control Concepts Among Never Smokers General Population (NSGP)				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	1070	1027	1022	1093	1056	1034	1045	536	541
Having lung cancer	4.66	3.85	3.62	3.06	4.12	4.11	4.13	4.31	4.58
<i>Confidence Intervals</i>	(4.62 - 4.7)	(3.77 - 3.93)	(3.54 - 3.7)	(2.96 - 3.16)	(4.06 - 4.18)	(4.05 - 4.17)	(4.07 - 4.19)	(4.23 - 4.39)	(4.52 - 4.64)
<i>% Unsure</i>	2%	14%	15%	16%	4%	5%	6%	5%	3%
<i>Significantly higher than:</i>	BCDEFGHI	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Having emphysema	4.61	3.79	3.59	3.02	4.09	4.08	4.08	4.30	4.58
<i>Confidence Intervals</i>	(4.57 - 4.65)	(3.71 - 3.87)	(3.51 - 3.67)	(2.92 - 3.12)	(4.03 - 4.15)	(4.02 - 4.14)	(4.02 - 4.14)	(4.22 - 4.38)	(4.52 - 4.64)
<i>% Unsure</i>	2%	14%	16%	17%	5%	4%	5%	6%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Having mouth / throat cancer	4.47	3.77	4.62	3.11	4.01	3.99	4.00	4.18	4.39
<i>Confidence Intervals</i>	(4.41 - 4.53)	(3.69 - 3.85)	(4.58 - 4.66)	(3.01 - 3.21)	(3.95 - 4.07)	(3.93 - 4.05)	(3.94 - 4.06)	(4.1 - 4.26)	(4.31 - 4.47)
<i>% Unsure</i>	3%	14%	5%	17%	6%	5%	6%	7%	5%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH
Having heart disease	4.40	3.73	3.79	3.17	4.02	4.01	4.01	4.23	4.44
<i>Confidence Intervals</i>	(4.34 - 4.46)	(3.65 - 3.81)	(3.73 - 3.85)	(3.09 - 3.25)	(3.96 - 4.08)	(3.95 - 4.07)	(3.95 - 4.07)	(4.15 - 4.31)	(4.36 - 4.52)
<i>% Unsure</i>	4%	16%	14%	19%	7%	6%	7%	8%	6%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

8.1.3 Perceived Risk of Critical Diseases – Never Smokers LA-25 Oversample (NSLA)

Overall, NSLA perceive the risk of critical diseases (lung cancer, emphysema, mouth or throat cancer, and heart disease) associated with long-term use of nicotine-containing products to be slightly lower than NSGP. The notable exception is NRTs where mean risk ratings among NSLA for NRTs range from 3.22 to 3.32. While NSLA rate NRTs lower than the risk associated with other Comparator Categories, this group's risk perception of NRTs is still slightly lower than NSGP.

Among NSLA, the risk perception of VLN™ (Consumption – Test 2) (mean range across all critical diseases 3.68-3.83) are in the same relative position as they are for all participants: lower than ratings associated with long-term use of CCs (mean range across all critical diseases 4.11-4.43) and Marlboro Gold (mean range across all critical diseases 4.06-4.40) and also lower than ratings associated with VLN™ (No Messaging – Control 1) (mean range across all critical diseases 3.90-4.13). They are, however, higher than the risk associated with NRTs (mean range across all critical diseases 3.22-3.32) and E-cigarettes (mean range across all critical diseases 3.54-3.80). NSLA believe that Moist Snuff has lower risk associated with lung cancer and emphysema (means of 3.51 and 3.44, respectively) than both CCs (means of 4.43 and 4.32, respectively) and E-cigarettes (means of 3.80 and 3.62, respectively), but higher risk of mouth or throat cancer than E-cigarettes (Moist Snuff, 4.30; E-cigarettes, 3.67). See Table 18.

Table 18. Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products Among Never Smokers LA-25

	Ratings of Comparator Categories Among Never Smokers LA-25				Ratings of Test or Control Concepts Among Never Smokers LA-25				
	CCs A	E-cigs B	Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	1001	999	1004	1002	1000	1000	1002	502	502
Having lung cancer	4.43	3.80	3.51	3.29	3.83	3.83	3.83	4.13	4.40
<i>Confidence Intervals</i>	(4.37 - 4.49)	(3.72 - 3.88)	(3.43 - 3.59)	(3.19 - 3.39)	(3.75 - 3.91)	(3.75 - 3.91)	(3.77 - 3.89)	(4.03 - 4.23)	(4.32 - 4.48)
<i>% Unsure</i>	2%	7%	7%	10%	3%	4%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Having emphysema	4.32	3.62	3.44	3.22	3.74	3.76	3.72	4.02	4.19
<i>Confidence Intervals</i>	(4.24 - 4.4)	(3.54 - 3.7)	(3.34 - 3.54)	(3.12 - 3.32)	(3.66 - 3.82)	(3.68 - 3.84)	(3.64 - 3.8)	(3.92 - 4.12)	(4.09 - 4.29)
<i>% Unsure</i>	4%	9%	12%	12%	5%	4%	5%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFG
Having mouth / throat cancer	4.35	3.67	4.30	3.32	3.70	3.75	3.76	4.01	4.24
<i>Confidence Intervals</i>	(4.29 - 4.41)	(3.59 - 3.75)	(4.22 - 4.38)	(3.22 - 3.42)	(3.62 - 3.78)	(3.67 - 3.83)	(3.68 - 3.84)	(3.91 - 4.11)	(4.16 - 4.32)
<i>% Unsure</i>	2%	9%	6%	10%	4%	5%	6%	5%	3%
<i>Significantly higher than:</i>	BDEFGH	D	BDEFGH		D	D	D	BDEFG	BDEFGH

Having heart disease	4.11	3.54	3.64	3.25	3.68	3.68	3.73	3.90	4.06
<i>Confidence Intervals</i>	(4.03 - 4.19)	(3.46 - 3.62)	(3.56 - 3.72)	(3.15 - 3.35)	(3.6 - 3.76)	(3.6 - 3.76)	(3.65 - 3.81)	(3.8 - 4)	(3.96 - 4.16)
<i>% Unsure</i>	5%	12%	11%	12%	4%	4%	6%	7%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	D		D	D	BD	BCDEFG	BCDEFG

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

8.2 PERCEIVED RISK OF CRITICAL DISEASES – FORMER SMOKERS

8.2.1 Perceived Risk of Critical Diseases – Total Former Smokers

Former Smokers perceive the risk of Critical Diseases (lung cancer, emphysema, mouth or throat cancer, and heart disease) associated with long-term use of nicotine-containing products higher than Current Smokers. Among the four Comparator Categories, risk perception associated with NRTs is lowest for all critical diseases (mean range across all critical diseases 2.86-3.09). Followed in order by E-cigarettes (mean range across all critical diseases 3.54-3.61), Moist Snuff (mean range across all critical diseases 3.30-4.58), and CCs, which have the highest perception of risk (mean range across all critical diseases 4.34- 4.58).

The risk perception of VLN™ (Consumption – Test 2) (mean range across all critical diseases 3.94-4.07) was lower than ratings for CCs (mean range across all critical diseases 4.34- 4.58). At the same time, the perceived risk of VLN™ (Consumption – Test 2) was lower than that of VLN™ (No Messaging – Control 1) (mean range across all critical diseases 4.08-4.26) and Marlboro Gold (mean range 4.30-4.52). The perceived risk among Former Smokers of developing lung cancer associated with CCs was the highest of all nicotine-containing products (4.58) among other Critical Diseases, which matches the mean rating for mouth/throat cancer caused by Moist Snuff (4.58). See Table 19.

Table 19. Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products Among Total Former Smokers

	Ratings of Comparator Categories Among Total Former Smokers				Ratings of Test or Control Concepts Among Total Former Smokers				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	2148	2149	2164	2151	2542	2024	2017	1008	1021
Having lung cancer	4.58	3.61	3.35	2.92	4.04	4.07	4.10	4.26	4.52
<i>Confidence Intervals</i>	(4.56 - 4.6)	(3.55 - 3.67)	(3.29 - 3.41)	(2.86 - 2.98)	(4 - 4.08)	(4.03 - 4.11)	(4.06 - 4.14)	(4.2 - 4.32)	(4.48 - 4.56)
<i>% Unsure</i>	1%	13%	12%	17%	5%	4%	4%	3%	2%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH

Having emphysema	4.53	3.60	3.30	2.86	4.01	4.06	4.06	4.23	4.48
Confidence Intervals	(4.49 - 4.57)	(3.54 - 3.66)	(3.24 - 3.36)	(2.8 - 2.92)	(3.97 - 4.05)	(4.02 - 4.1)	(4.02 - 4.1)	(4.17 - 4.29)	(4.44 - 4.52)
% Unsure	1%	13%	14%	16%	5%	4%	4%	3%	2%
Significantly higher than:	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Having mouth / throat cancer	4.34	3.55	4.58	3.00	3.89	3.94	3.95	4.08	4.30
Confidence Intervals	(4.3 - 4.38)	(3.49 - 3.61)	(4.54 - 4.62)	(2.94 - 3.06)	(3.85 - 3.93)	(3.9 - 3.98)	(3.91 - 3.99)	(4.02 - 4.14)	(4.24 - 4.36)
% Unsure	1%	13%	3%	17%	6%	5%	4%	4%	2%
Significantly higher than:	BDEFGH	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH
Having heart disease	4.35	3.54	3.75	3.09	3.95	3.98	3.98	4.13	4.35
Confidence Intervals	(4.31 - 4.39)	(3.48 - 3.6)	(3.71 - 3.79)	(3.03 - 3.15)	(3.91 - 3.99)	(3.94 - 4.02)	(3.94 - 4.02)	(4.07 - 4.19)	(4.29 - 4.41)
% Unsure	2%	14%	14%	17%	6%	5%	5%	4%	2%
Significantly higher than:	BCDEFGH	D	BD		BCD	BCD	BCD	BCDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

8.2.2 Perceived Risk of Critical Diseases – Recent Quitters

Among the Comparator Categories, Recent Quitters’ perception of risk of associated with CCs was highest (mean range across all critical diseases 4.10- 4.30), whereas NRTs are perceived as lowest in risk across all critical diseases (mean range across all critical diseases 2.81- 2.98). E-cigarettes (mean range across all critical diseases 3.23- 3.34) and Moist Snuff (mean range across all critical diseases 3.16- 4.49) score lower than cigarettes but higher than NRTs.

When comparing the risk of developing Critical Diseases between VLN™ (Consumption – Test 2) and VLN™ (No Messaging – Control 1), Recent Quitters perceive the risk associated with VLN™ (Consumption – Test 2) (mean range across all critical diseases 3.66-3.81) to be lower than VLN™ (No Messaging – Control 1) (mean range across all critical diseases 3.81- 3.97), which scored lower than Marlboro Gold (Control 2) (mean range across all critical diseases 4.09- 4.26). Lung cancer associated with CCs (4.30) was perceived to have the highest risk across other nicotine-containing products, whereas Moist Snuff had the highest associated risk of mouth / throat cancer (Moist Snuff mean, 4.49). See Table 20.

Table 20. Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products Among Recent Quitters

	Ratings of Comparator Categories Among Recent Quitters				Ratings of Test or Control Concepts Among Recent Quitters				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	501	497	510	535	392	563	560	265	263
Having lung cancer	4.30	3.34	3.20	2.93	3.78	3.81	3.82	3.97	4.26
<i>Confidence Intervals</i>	(4.22 - 4.38)	(3.22 - 3.46)	(3.08 - 3.32)	(2.79 - 3.07)	(3.68 - 3.88)	(3.71 - 3.91)	(3.74 - 3.9)	(3.85 - 4.09)	(4.14 - 4.38)
<i>% Unsure</i>	3%	11%	13%	9%	3%	5%	4%	3%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCD	BCDEFGH
Having emphysema	4.28	3.29	3.16	2.81	3.74	3.76	3.80	3.93	4.23
<i>Confidence Intervals</i>	(4.2 - 4.36)	(3.17 - 3.41)	(3.04 - 3.28)	(2.67 - 2.95)	(3.64 - 3.84)	(3.66 - 3.86)	(3.72 - 3.88)	(3.81 - 4.05)	(4.11 - 4.35)
<i>% Unsure</i>	4%	10%	17%	9%	4%	4%	4%	3%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCD	BCDEFGH
Having mouth / throat cancer	4.10	3.24	4.49	2.94	3.67	3.66	3.69	3.81	4.09
<i>Confidence Intervals</i>	(4 - 4.2)	(3.12 - 3.36)	(4.41 - 4.57)	(2.8 - 3.08)	(3.57 - 3.77)	(3.56 - 3.76)	(3.61 - 3.77)	(3.67 - 3.95)	(3.97 - 4.21)
<i>% Unsure</i>	3%	11%	4%	9%	5%	6%	4%	3%	2%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		BD	BD	BD	BD	BDEFGH
Having heart disease	4.19	3.23	3.73	2.98	3.76	3.67	3.75	3.83	4.19
<i>Confidence Intervals</i>	(4.11 - 4.27)	(3.11 - 3.35)	(3.63 - 3.83)	(2.86 - 3.1)	(3.66 - 3.86)	(3.57 - 3.77)	(3.67 - 3.83)	(3.69 - 3.97)	(4.07 - 4.31)
<i>% Unsure</i>	4%	10%	15%	12%	3%	5%	4%	4%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BD	BD	BD	BD	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

8.2.3 Perceived Risk of Critical Diseases – Long-Term Quitters

Similar to Recent Quitters, Long-Term Quitters’ perceived risk of developing critical diseases associated with CCs was highest (mean range across all critical diseases 4.37 - 4.60) except for mouth/throat cancer where Moist Snuff was perceived to have the highest associated risk (mean=4.59). NRTs have the lowest perceived risk (mean range across all critical diseases 2.87 - 3.10). E-cigarettes (mean range across all critical diseases 3.57 - 3.63) and Moist Snuff (mean range across all critical diseases 3.31 - 4.59) score lower than CCs (except for mouth/throat cancer) but higher than NRTs (mean range across all critical diseases 2.87 - 3.10).

Perceived risk means associated with VLN™ (Consumption – Test 2) are higher for lung cancer (4.10), emphysema (4.08), and heart disease (4.00) than E-cigarettes and NRTs while perceived risk of mouth / throat cancer is highest with Moist Snuff. Risk perception of VLN™ (No Messaging – Control 1) for

all critical diseases is lower (mean range across all critical diseases 4.11 - 4.29) compared to Marlboro Gold (Control 2) (mean range across all critical diseases 4.32 - 4.54).

Again, similar to Recent Quitters, lung cancer associated with smoking CCs (mean=4.60) is perceived to have the highest risk across other tobacco products (Comparator Categories), whereas mouth or throat cancer was associated with the highest risk caused by Moist Snuff (mean=4.59). See Table 21.

Table 21. Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products Among Long-Term Quitters

	Ratings of Comparator Categories Among Long-Term Quitters				Ratings of Test or Control Concepts Among Long-Term Quitters				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	1647	1652	1654	1616	2150	1461	1457	743	758
Having lung cancer	4.60	3.63	3.37	2.92	4.07	4.10	4.12	4.29	4.54
<i>Confidence Intervals</i>	(4.56 - 4.64)	(3.57 - 3.69)	(3.31 - 3.43)	(2.84 - 3)	(4.03 - 4.11)	(4.06 - 4.14)	(4.08 - 4.16)	(4.23 - 4.35)	(4.48 - 4.6)
<i>% Unsure</i>	1%	13%	12%	17%	5%	4%	4%	3%	2%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Having emphysema	4.56	3.62	3.31	2.87	4.04	4.08	4.08	4.26	4.50
<i>Confidence Intervals</i>	(4.52 - 4.6)	(3.56 - 3.68)	(3.25 - 3.37)	(2.79 - 2.95)	(4 - 4.08)	(4.02 - 4.14)	(4.04 - 4.12)	(4.2 - 4.32)	(4.44 - 4.56)
<i>% Unsure</i>	1%	13%	14%	16%	5%	4%	4%	4%	2%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Having mouth / throat cancer	4.37	3.58	4.59	3.01	3.91	3.97	3.97	4.11	4.32
<i>Confidence Intervals</i>	(4.33 - 4.41)	(3.52 - 3.64)	(4.55 - 4.63)	(2.93 - 3.09)	(3.87 - 3.95)	(3.91 - 4.03)	(3.93 - 4.01)	(4.05 - 4.17)	(4.26 - 4.38)
<i>% Unsure</i>	1%	13%	3%	18%	6%	5%	4%	4%	2%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH
Having heart disease	4.37	3.57	3.75	3.10	3.97	4.00	4.00	4.15	4.36
<i>Confidence Intervals</i>	(4.33 - 4.41)	(3.51 - 3.63)	(3.69 - 3.81)	(3.04 - 3.16)	(3.93 - 4.01)	(3.94 - 4.06)	(3.96 - 4.04)	(4.09 - 4.21)	(4.3 - 4.42)
<i>% Unsure</i>	2%	14%	14%	18%	6%	5%	5%	4%	3%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BCD	BCD	BCD	BCDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

8.3 PERCEIVED RISK OF CRITICAL DISEASES – TOTAL CURRENT SMOKERS

8.3.1 Perceived Risk of Critical Diseases – Total Current Smokers

Considering Total Current Smokers, among the Comparator Categories, Moist Snuff has the highest score for risk associated with developing any one critical disease (mean for mouth/throat cancer=4.27), however, CCs are considered to pose the highest risk for developing lung cancer with a mean of 4.10. In addition, NRTs considered to be lowest in risk across all critical diseases (mean range across critical diseases is 2.93 - 3.07), followed by E-cigarettes (mean range across critical diseases is 3.31 - 3.41) and Moist Snuff (mean range across critical diseases is 3.19 - 4.27).

When comparing the risk of developing Critical Disease between VLN™ (Consumption – Test 2) and VLN™ (No Messaging – Control 1), Current Smokers perceive the risk associated with VLN™ (Consumption – Test 2) (mean range across all critical diseases 3.34 - 3.45) to be lower than VLN™ (No Messaging – Control 1) (mean range across all critical diseases 3.45 - 3.65), which is still lower than the perceived risk of critical diseases associated with Marlboro Gold (Control 2) (mean range across all critical diseases 3.85 - 4.04).

8.3.2 Comparison between Current Smokers and Never Smokers

Current Smokers' perceived risk of developing critical diseases associated with Comparator Categories was generally lower than Never Smokers. VLN™ (No Messaging – Control 1) was perceived to have a slightly lower risk of developing critical diseases (mean range across all critical diseases 3.45- 3.65) compared to Marlboro Gold (Control 2) (mean range across all critical diseases 3.85-4.04).

8.3.3 Comparison between Current Smokers and Former Smokers

Current Smokers' perception about the risk of critical diseases associated with cigarettes, E-Cigarettes, and Moist Snuff was lower than Formers Smokers. Interestingly, compared to Former Smokers, Current Smokers perceive a higher risk of developing lung cancer, emphysema, and mouth / throat cancer associated with NRTs, but at the same time, Current Smokers believed that NRTs pose a lower risk of developing heart disease than Former Smokers. See Table 22.

Table 22. Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products Among Current Smokers

	Ratings of Comparator Categories Among Current Smokers				Ratings of Test or Control Concepts Among Current Smokers				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	3076	3132	3105	3076	3333	3018	3017	1509	1512
Having lung cancer	4.10	3.41	3.26	3.01	3.45	3.45	3.43	3.65	4.04
<i>Confidence Intervals</i>	(4.06 - 4.14)	(3.37 - 3.45)	(3.22 - 3.3)	(2.95 - 3.07)	(3.41 - 3.49)	(3.41 - 3.49)	(3.39 - 3.47)	(3.59 - 3.71)	(3.98 - 4.1)
<i>% Unsure</i>	2%	12%	13%	10%	6%	6%	6%	6%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Having emphysema	4.02	3.37	3.19	2.93	3.39	3.39	3.37	3.60	4.00
<i>Confidence Intervals</i>	(3.98 - 4.06)	(3.33 - 3.41)	(3.15 - 3.23)	(2.87 - 2.99)	(3.35 - 3.43)	(3.35 - 3.43)	(3.33 - 3.41)	(3.54 - 3.66)	(3.94 - 4.06)
<i>% Unsure</i>	3%	12%	14%	11%	6%	6%	6%	6%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Having mouth / throat cancer	3.88	3.31	4.27	3.02	3.29	3.34	3.29	3.45	3.85
<i>Confidence Intervals</i>	(3.84 - 3.92)	(3.27 - 3.35)	(4.23 - 4.31)	(2.96 - 3.08)	(3.25 - 3.33)	(3.3 - 3.38)	(3.25 - 3.33)	(3.39 - 3.51)	(3.79 - 3.91)
<i>% Unsure</i>	3%	12%	6%	10%	7%	6%	7%	7%	5%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		D	D	D	BDEFG	BDEFGH
Having heart disease	3.93	3.33	3.55	3.07	3.36	3.36	3.37	3.56	3.91
<i>Confidence Intervals</i>	(3.89 - 3.97)	(3.29 - 3.37)	(3.51 - 3.59)	(3.01 - 3.13)	(3.32 - 3.4)	(3.32 - 3.4)	(3.33 - 3.41)	(3.5 - 3.62)	(3.85 - 3.97)
<i>% Unsure</i>	4%	13%	13%	11%	7%	6%	6%	7%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	D	BDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

8.3.4 Perceived Risk of Critical Diseases – Current Smokers with Intent to Quit (CSIQ)

Current Smokers with Intent to Quit (CSIQ) follow a pattern similar to Total Current Smokers, as Moist Snuff is perceived to pose the highest risk for developing mouth / throat cancer (4.40), whereas CCs are perceived to pose the highest risk of developing lung cancer (4.32). In addition, NRTs are perceived to have the lowest risk (mean range across all critical diseases 3.02- 3.16), followed by E-cigarettes (mean range across all critical diseases 3.40- 3.53).

When comparing the risk of developing critical diseases between VLN™ (Consumption – Test 2) and VLN™ (No Messaging – Control 1), CSIQ perceive the risk associated with VLN™ (Consumption – Test 2) (mean range across all critical diseases 3.45-3.54) to be lower than VLN™ Control Concept (Control 1) (mean range across all critical diseases 3.59- 3.78), which is still lower than Marlboro Gold (Control 2) (mean range across all critical diseases 4.08- 4.27). See Table 23.

Table 23. Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products Among Current Smokers with Intent to Quit

	Ratings of Comparator Categories Among Current Smokers with Intent to Quit				Ratings of Test or Control Concepts Among Current Smokers with Intent to Quit				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	1581	1621	1648	1622	1882	1542	1513	783	752
Having lung cancer	4.32	3.53	3.39	3.08	3.57	3.54	3.56	3.78	4.27
<i>Confidence Intervals</i>	(4.28 - 4.36)	(3.47 - 3.59)	(3.33 - 3.45)	(3 - 3.16)	(3.51 - 3.63)	(3.48 - 3.6)	(3.5 - 3.62)	(3.7 - 3.86)	(4.19 - 4.35)
<i>% Unsure</i>	2%	10%	11%	7%	4%	4%	4%	4%	2%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Having emphysema	4.24	3.48	3.34	3.02	3.52	3.48	3.49	3.72	4.21
<i>Confidence Intervals</i>	(4.2 - 4.28)	(3.42 - 3.54)	(3.28 - 3.4)	(2.94 - 3.1)	(3.46 - 3.58)	(3.42 - 3.54)	(3.43 - 3.55)	(3.64 - 3.8)	(4.13 - 4.29)
<i>% Unsure</i>	3%	10%	12%	9%	5%	4%	4%	4%	3%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Having mouth / throat cancer	4.11	3.40	4.40	3.11	3.41	3.45	3.42	3.59	4.08
<i>Confidence Intervals</i>	(4.07 - 4.15)	(3.34 - 3.46)	(4.36 - 4.44)	(3.03 - 3.19)	(3.35 - 3.47)	(3.39 - 3.51)	(3.36 - 3.48)	(3.51 - 3.67)	(4 - 4.16)
<i>% Unsure</i>	2%	11%	4%	9%	5%	5%	5%	5%	3%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		D	D	D	BDEFG	BDEFGH
Having heart disease	4.14	3.45	3.69	3.16	3.48	3.46	3.49	3.67	4.14
<i>Confidence Intervals</i>	(4.1 - 4.18)	(3.39 - 3.51)	(3.63 - 3.75)	(3.08 - 3.24)	(3.42 - 3.54)	(3.4 - 3.52)	(3.43 - 3.55)	(3.59 - 3.75)	(4.06 - 4.22)
<i>% Unsure</i>	3%	12%	11%	9%	5%	4%	4%	5%	4%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	D	BDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

8.3.5 Perceived Risk of Critical Diseases – Current Smokers with No Intent to Quit (CSNIQ)

Following a pattern similar to that of Total Current Smokers and Current Smokers with Intent to Quit (CSIQ), Current Smokers with No Intent to Quit (CSNIQ) rate Moist Snuff as highest in risk of developing mouth/throat cancer with a mean of 4.05, whereas CCs rate the highest risk of developing lung cancer with a mean of 3.77. NRTs were perceived to have the lowest risk for all critical diseases (mean range across critical diseases 2.77 - 2.92), followed by E-cigarettes (mean range across critical diseases 3.14 - 3.22) and Moist Snuff (mean range across critical diseases 2.95 - 4.05).

When comparing the risk of developing critical diseases between VLN™ (Consumption – Test 2), and VLN™ (No Messaging – Control 1), CSNIQ perceive the risk associated with VLN™ (Consumption – Test 2) (mean range across critical diseases 3.18 - 3.30) to be lower than Control 1 (mean range across critical diseases 3.22 - 3.44), which was perceived to be lower than the risk associated with Marlboro

Gold (Control 2) (mean range across critical diseases 3.48- 3.70).

Among CSNIQ, VLN™ (Consumption – Test 2) was perceived to be higher in risk for developing lung cancer, emphysema, and heart disease than E-cigarettes and NRTs. VLN™ (No Messaging – Control 1) is rated lower (mean range across critical diseases 3.22- 3.44) than the risk of developing critical diseases compared to Marlboro Gold (Control 2) (mean range across critical diseases 3.48- 3.70). See Table 24.

Table 24. Perceived Risk of Critical Diseases Associated with Nicotine-Containing Products Among Current Smokers with No Intent to Quit

	Ratings of Comparator Categories Among Current Smokers with No Intent to Quit				Ratings of Test or Control Concepts Among Current Smokers with No Intent to Quit				
	CCs A	E-cigs B	Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	1495	1511	1457	1454	1451	1476	1504	726	760
Having lung cancer	3.77	3.22	3.06	2.89	3.26	3.30	3.22	3.44	3.70
<i>Confidence Intervals</i>	(3.71 - 3.83)	(3.16 - 3.28)	(3 - 3.12)	(2.81 - 2.97)	(3.2 - 3.32)	(3.24 - 3.36)	(3.16 - 3.28)	(3.36 - 3.52)	(3.62 - 3.78)
<i>% Unsure</i>	3%	15%	15%	13%	9%	8%	9%	9%	6%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Having emphysema	3.71	3.18	2.95	2.77	3.18	3.25	3.19	3.41	3.68
<i>Confidence Intervals</i>	(3.65 - 3.77)	(3.12 - 3.24)	(2.87 - 3.03)	(2.69 - 2.85)	(3.12 - 3.24)	(3.19 - 3.31)	(3.13 - 3.25)	(3.33 - 3.49)	(3.6 - 3.76)
<i>% Unsure</i>	4%	14%	17%	14%	8%	8%	9%	9%	6%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Having mouth / throat cancer	3.54	3.15	4.05	2.87	3.10	3.18	3.09	3.22	3.48
<i>Confidence Intervals</i>	(3.48 - 3.6)	(3.09 - 3.21)	(3.99 - 4.11)	(2.79 - 2.95)	(3.04 - 3.16)	(3.12 - 3.24)	(3.03 - 3.15)	(3.14 - 3.3)	(3.4 - 3.56)
<i>% Unsure</i>	4%	15%	9%	13%	10%	8%	10%	10%	8%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		D	DG	D	DEG	BDEFGH
Having heart disease	3.61	3.14	3.33	2.92	3.17	3.21	3.16	3.37	3.55
<i>Confidence Intervals</i>	(3.55 - 3.67)	(3.08 - 3.2)	(3.27 - 3.39)	(2.84 - 3)	(3.11 - 3.23)	(3.15 - 3.27)	(3.1 - 3.22)	(3.29 - 3.45)	(3.47 - 3.63)
<i>% Unsure</i>	5%	16%	17%	15%	9%	8%	9%	10%	7%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	D	BDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

9.0 Perceived Risk of General Health Issues Associated with Nicotine-Containing Products

The individual items included in what is classified here as “General Health Issues” range from broad statements about outcomes (e.g., “An earlier death”) to more specific statements about particular health issues that may be associated with use of nicotine-based products (e.g., “Having sores of the mouth or throat”).

For three of these items (“Having poor gum health,” “Losing some sense of taste,” and “Having sores of the mouth and throat”), the highest risk ratings provided across the Comparator Categories tend to be given to Moist Snuff. That is, across different sets of respondents, long-term users of Moist Snuff are perceived to be at higher risk of having these conditions than are long-term users of either CCs, E-Cigarettes, or NRTs. For the remaining items in the “General Health Issues” category, CCs tend to elicit a higher rating of risk than do Moist Snuff, E-Cigarettes, or NRTs. The lowest risk ratings across measures tend to be associated with NRTs.

As with the items detailed in the critical diseases section, Marlboro Gold (Control 2) generally has the highest risk ratings of the concepts tested, followed by VLN™ (No Messaging – Control 1) and then VLN™ (Consumption – Test 2).

The perceived risks of VLN™ (Consumption – Test 2) tends to be lower than those of CCs, but higher than the perceived risks of NRTs or, in the case of Never Smokers and Former Smokers, E-Cigarettes. The perceived risks of Moist Snuff tend to be greater than those of VLN™ (Consumption – Test 2) on “Having poor gum health,” “Losing some sense of taste,” and “Having sores of the mouth and throat.” The perceived risks of Moist Snuff also tend to be higher than the perceived risks of VLN™ (Consumption – Test 2) regarding “An earlier death,” although ratings of Moist Snuff on this item tend to be lower than ratings of CCs and Marlboro Gold (Control 2). On other items in the “General Health Issues” category, the perceived risks of Moist Snuff tend to be lower than the perceived risks of VLN™ (Consumption – Test 2) among Never Smokers and Former Smokers.

Among Current Smokers, the perceived risks of E-cigarettes and Moist Snuff are often higher than the perceived risks of VLN™ (Consumption – Test 2) on items where this is not the case for Never Smokers or Former Smokers.

Discussions of the populations of interest in this section will focus on exceptions to the general pattern described above.

9.1 PERCEIVED RISK OF GENERAL HEALTH ISSUES – NEVER SMOKERS

9.1.1 Perceived Risk of General Health Issues – Total Never Smokers

CCs and Marlboro Gold (Control 2) is rated the highest risk of developing poorer health and mortality. CCs are perceived to have the highest risk of “An earlier death” (Mortality) (4.51) compared to all other Comparator Categories, followed by E-cigarettes (3.77), Moist Snuff (4.07), and NRTs with the lowest perceived risk (3.20). VLN™ (No Messaging – Control 1) was scored higher (4.19) than VLN™ (Consumption – Test 2) (3.94).

Moist Snuff is perceived to cause the highest risk of “Poor gum health” (4.56), “Losing sense of taste” (4.18), and causing “Sores of the mouth or throat” (4.37). Moist Snuff is perceived to pose a greater risk of “An earlier death” (4.07) than is VLN™ (Consumption – Test 2) (3.94). On the other hand, NRTs were perceived to cause the lowest risk associated with General Health Issues and “An earlier death” (Mortality). See Table 25.

Table 25. Perceived Risk of General Health Issues Associated with Nicotine-Containing Products Among Never Smokers

	Ratings of Comparator Categories Among Total Never Smokers				Ratings of Test or Control Concepts Among Total Never Smokers				
	CCs A	E-cigs B	Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	2071	2026	2026	2095	2056	2034	2047	1038	1043
An earlier death	4.51	3.77	4.07	3.20	3.94	3.94	3.92	4.19	4.44
<i>Confidence Intervals</i>	(4.47 - 4.55)	(3.71 - 3.83)	(4.03 - 4.11)	(3.14 - 3.26)	(3.9 - 3.98)	(3.9 - 3.98)	(3.88 - 3.96)	(4.13 - 4.25)	(4.38 - 4.5)
<i>% Unsure</i>	3%	13%	9%	18%	7%	6%	7%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		BD	BD	BD	BCDEFG	BCDEFGH
Respiratory infections	4.36	3.80	3.63	3.06	3.92	3.94	3.93	4.12	4.39
<i>Confidence Intervals</i>	(4.32 - 4.4)	(3.74 - 3.86)	(3.57 - 3.69)	(3 - 3.12)	(3.88 - 3.96)	(3.9 - 3.98)	(3.89 - 3.97)	(4.06 - 4.18)	(4.33 - 4.45)
<i>% Unsure</i>	3%	11%	14%	16%	6%	6%	6%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Aging faster	4.34	3.67	3.75	3.07	3.86	3.88	3.81	4.02	4.32
<i>Confidence Intervals</i>	(4.3 - 4.38)	(3.61 - 3.73)	(3.69 - 3.81)	(3.01 - 3.13)	(3.82 - 3.9)	(3.84 - 3.92)	(3.77 - 3.85)	(3.96 - 4.08)	(4.26 - 4.38)
<i>% Unsure</i>	4%	13%	12%	18%	7%	7%	8%	10%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BD	BCDEFG	BCDEFGH
Occasional wheezing	4.33	3.74	3.54	3.06	3.89	3.90	3.87	4.08	4.31
<i>Confidence Intervals</i>	(4.29 - 4.37)	(3.68 - 3.8)	(3.48 - 3.6)	(3 - 3.12)	(3.85 - 3.93)	(3.86 - 3.94)	(3.83 - 3.91)	(4.02 - 4.14)	(4.25 - 4.37)
<i>% Unsure</i>	3%	12%	15%	16%	6%	5%	6%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH

A bad cough that lasts for days	4.31	3.66	3.63	3.01	3.85	3.82	3.85	4.04	4.32
<i>Confidence Intervals</i>	(4.27 - 4.35)	(3.6 - 3.72)	(3.57 - 3.69)	(2.95 - 3.07)	(3.81 - 3.89)	(3.78 - 3.86)	(3.81 - 3.89)	(3.98 - 4.1)	(4.26 - 4.38)
<i>% Unsure</i>	4%	14%	14%	17%	7%	6%	7%	9%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Early morning cough	4.26	3.64	3.58	2.99	3.86	3.82	3.83	4.03	4.28
<i>Confidence Intervals</i>	(4.22 - 4.3)	(3.58 - 3.7)	(3.52 - 3.64)	(2.93 - 3.05)	(3.82 - 3.9)	(3.78 - 3.86)	(3.79 - 3.87)	(3.97 - 4.09)	(4.22 - 4.34)
<i>% Unsure</i>	5%	14%	15%	18%	7%	7%	7%	8%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Poor gum health	4.25	3.70	4.56	3.16	3.83	3.81	3.82	3.99	4.24
<i>Confidence Intervals</i>	(4.21 - 4.29)	(3.64 - 3.76)	(4.52 - 4.6)	(3.1 - 3.22)	(3.79 - 3.87)	(3.77 - 3.85)	(3.78 - 3.86)	(3.93 - 4.05)	(4.18 - 4.3)
<i>% Unsure</i>	4%	13%	5%	16%	7%	6%	7%	8%	5%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH
Serious illness	4.25	3.63	3.69	3.08	3.86	3.85	3.87	4.08	4.28
<i>Confidence Intervals</i>	(4.21 - 4.29)	(3.57 - 3.69)	(3.63 - 3.75)	(3.02 - 3.14)	(3.82 - 3.9)	(3.81 - 3.89)	(3.83 - 3.91)	(4.02 - 4.14)	(4.22 - 4.34)
<i>% Unsure</i>	6%	14%	15%	18%	7%	7%	8%	8%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Other types of cancer	4.23	3.62	3.82	3.10	3.85	3.85	3.85	4.05	4.17
<i>Confidence Intervals</i>	(4.19 - 4.27)	(3.56 - 3.68)	(3.76 - 3.88)	(3.04 - 3.16)	(3.81 - 3.89)	(3.81 - 3.89)	(3.81 - 3.89)	(3.99 - 4.11)	(4.11 - 4.23)
<i>% Unsure</i>	6%	15%	13%	18%	8%	7%	9%	9%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BD	BD	BD	BCDEFG	BCDEFGH
Reduced stamina	4.13	3.58	3.54	3.01	3.73	3.73	3.71	3.95	4.12
<i>Confidence Intervals</i>	(4.09 - 4.17)	(3.52 - 3.64)	(3.48 - 3.6)	(2.95 - 3.07)	(3.69 - 3.77)	(3.69 - 3.77)	(3.67 - 3.75)	(3.89 - 4.01)	(4.06 - 4.18)
<i>% Unsure</i>	9%	18%	20%	19%	10%	9%	11%	11%	7%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Losing some sense of taste	4.12	3.64	4.18	3.15	3.77	3.70	3.71	3.96	4.16
<i>Confidence Intervals</i>	(4.08 - 4.16)	(3.58 - 3.7)	(4.14 - 4.22)	(3.09 - 3.21)	(3.73 - 3.81)	(3.66 - 3.74)	(3.67 - 3.75)	(3.9 - 4.02)	(4.1 - 4.22)
<i>% Unsure</i>	8%	16%	10%	18%	9%	9%	9%	10%	7%
<i>Significantly higher than:</i>	BDEFGH	D	BDEFGH		BD	D	D	BDEFG	BDEFGH
Being physically unfit	4.06	3.53	3.49	2.95	3.66	3.71	3.68	3.94	4.07
<i>Confidence Intervals</i>	(4.02 - 4.1)	(3.47 - 3.59)	(3.43 - 3.55)	(2.89 - 3.01)	(3.6 - 3.72)	(3.67 - 3.75)	(3.64 - 3.72)	(3.88 - 4)	(4.01 - 4.13)
<i>% Unsure</i>	6%	14%	13%	18%	8%	8%	8%	10%	6%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Sores of the mouth or throat	3.98	3.53	4.37	3.03	3.72	3.74	3.73	3.94	4.08
<i>Confidence Intervals</i>	(3.92 - 4.04)	(3.47 - 3.59)	(4.33 - 4.41)	(2.97 - 3.09)	(3.68 - 3.76)	(3.7 - 3.78)	(3.69 - 3.77)	(3.88 - 4)	(4.02 - 4.14)
<i>% Unsure</i>	9%	15%	6%	17%	9%	9%	10%	10%	7%
<i>Significantly higher than:</i>	BDEFG	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH

Frequent minor illnesses	3.98	3.54	3.65	3.03	3.75	3.75	3.75	3.94	4.10
<i>Confidence Intervals</i>	(3.94 - 4.02)	(3.48 - 3.6)	(3.59 - 3.71)	(2.97 - 3.09)	(3.71 - 3.79)	(3.71 - 3.79)	(3.71 - 3.79)	(3.88 - 4)	(4.04 - 4.16)
<i>% Unsure</i>	6%	14%	14%	17%	8%	7%	7%	9%	7%
<i>Significantly higher than:</i>	BCDEFG	D	BD		BCD	BCD	BCD	BCDEFG	ABCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

9.1.2 Perceived Risk of General Health Issues – Never Smokers General Population (NSGP)

NSGP tend to rate the risk of all products across all general health issues slightly higher than NSLA. VLN™ (No Messaging – Control 1) has lower risk scores compared to CCs for risks of all general health issues, with the largest gaps in mean scores for these health issues: “Aging faster” (NSGP, 4.39 and NSLA, 4.07) and “Respiratory infection” (NSGP, 4.41 and NSLA, 4.17), “Sores in the throat or mouth” (NSGP, 4.02 and NSLA, 4.01) and “Frequent minor illness” (NSGP, 4.04 and NSLA, 4.01) remain at similar levels for VLN™ (No Messaging – Control 1) and CCs. See Table 26.

Table 26. Perceived Risk of General Health Issues Associated with Nicotine-Containing Products Among Never Smokers General Population

	Ratings of Comparator Categories Among Never Smokers General Population				Ratings of Test or Control Concepts Among Never Smokers General Population				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	1070	1027	1022	1093	1056	1034	1045	536	541
An earlier death	4.56	3.81	4.12	3.16	4.02	4.02	3.97	4.22	4.50
<i>Confidence Intervals</i>	(4.52 - 4.6)	(3.73 - 3.89)	(4.06 - 4.18)	(3.08 - 3.24)	(3.96 - 4.08)	(3.96 - 4.08)	(3.91 - 4.03)	(4.14 - 4.3)	(4.44 - 4.56)
<i>% Unsure</i>	3%	15%	9%	19%	7%	6%	7%	7%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		BD	BD	BD	BDEFG	BCDEFGH
Respiratory infections	4.41	3.84	3.68	3.03	3.99	4.02	3.99	4.17	4.44
<i>Confidence Intervals</i>	(4.35 - 4.47)	(3.76 - 3.92)	(3.6 - 3.76)	(2.95 - 3.11)	(3.93 - 4.05)	(3.96 - 4.08)	(3.93 - 4.05)	(4.09 - 4.25)	(4.38 - 4.5)
<i>% Unsure</i>	3%	12%	15%	17%	6%	6%	6%	7%	5%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Aging faster	4.39	3.74	3.80	3.05	3.93	3.95	3.86	4.07	4.38
<i>Confidence Intervals</i>	(4.33 - 4.45)	(3.66 - 3.82)	(3.72 - 3.88)	(2.97 - 3.13)	(3.87 - 3.99)	(3.89 - 4.01)	(3.8 - 3.92)	(3.99 - 4.15)	(4.3 - 4.46)
<i>% Unsure</i>	4%	14%	13%	19%	7%	7%	9%	10%	6%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BD	BCDEG	BCDEFGH

Occasional wheezing	4.35	3.77	3.61	3.03	3.95	3.96	3.92	4.12	4.37
Confidence Intervals	(4.29 - 4.41)	(3.69 - 3.85)	(3.53 - 3.69)	(2.95 - 3.11)	(3.89 - 4.01)	(3.9 - 4.02)	(3.86 - 3.98)	(4.04 - 4.2)	(4.29 - 4.45)
% Unsure	3%	13%	16%	18%	6%	5%	7%	8%	4%
Significantly higher than:	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
A bad cough that lasts for days	4.36	3.70	3.72	2.98	3.91	3.89	3.90	4.10	4.37
Confidence Intervals	(4.3 - 4.42)	(3.62 - 3.78)	(3.64 - 3.8)	(2.9 - 3.06)	(3.85 - 3.97)	(3.83 - 3.95)	(3.84 - 3.96)	(4.02 - 4.18)	(4.29 - 4.45)
% Unsure	4%	15%	15%	18%	8%	7%	8%	9%	4%
Significantly higher than:	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Early morning cough	4.32	3.68	3.67	2.98	3.93	3.90	3.90	4.10	4.34
Confidence Intervals	(4.26 - 4.38)	(3.6 - 3.76)	(3.59 - 3.75)	(2.9 - 3.06)	(3.87 - 3.99)	(3.84 - 3.96)	(3.84 - 3.96)	(4.02 - 4.18)	(4.26 - 4.42)
% Unsure	4%	16%	16%	19%	8%	8%	7%	8%	4%
Significantly higher than:	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Poor gum health	4.26	3.73	4.62	3.11	3.88	3.87	3.87	4.02	4.28
Confidence Intervals	(4.2 - 4.32)	(3.65 - 3.81)	(4.58 - 4.66)	(3.03 - 3.19)	(3.82 - 3.94)	(3.81 - 3.93)	(3.81 - 3.93)	(3.94 - 4.1)	(4.2 - 4.36)
% Unsure	5%	15%	5%	17%	7%	6%	7%	9%	5%
Significantly higher than:	BDEFGH	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH
Serious illness	4.30	3.66	3.74	3.05	3.92	3.93	3.92	4.14	4.36
Confidence Intervals	(4.24 - 4.36)	(3.58 - 3.74)	(3.66 - 3.82)	(2.97 - 3.13)	(3.86 - 3.98)	(3.87 - 3.99)	(3.86 - 3.98)	(4.06 - 4.22)	(4.28 - 4.44)
% Unsure	6%	16%	16%	20%	8%	7%	8%	8%	5%
Significantly higher than:	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Other types of cancer	4.28	3.65	3.90	3.06	3.92	3.93	3.92	4.12	4.24
Confidence Intervals	(4.22 - 4.34)	(3.57 - 3.73)	(3.84 - 3.96)	(2.98 - 3.14)	(3.86 - 3.98)	(3.87 - 3.99)	(3.86 - 3.98)	(4.04 - 4.2)	(4.16 - 4.32)
% Unsure	6%	16%	13%	19%	9%	8%	9%	9%	6%
Significantly higher than:	BCDEFGH	D	BD		BD	BD	BD	BCDEFG	BCDEFG
Reduced stamina	4.17	3.62	3.59	2.96	3.80	3.80	3.76	4.00	4.16
Confidence Intervals	(4.11 - 4.23)	(3.54 - 3.7)	(3.51 - 3.67)	(2.88 - 3.04)	(3.74 - 3.86)	(3.74 - 3.86)	(3.7 - 3.82)	(3.9 - 4.1)	(4.08 - 4.24)
% Unsure	8%	19%	21%	21%	12%	10%	11%	11%	7%
Significantly higher than:	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Losing some sense of taste	4.18	3.72	4.27	3.15	3.85	3.78	3.78	4.02	4.24
Confidence Intervals	(4.12 - 4.24)	(3.64 - 3.8)	(4.21 - 4.33)	(3.07 - 3.23)	(3.79 - 3.91)	(3.72 - 3.84)	(3.72 - 3.84)	(3.94 - 4.1)	(4.16 - 4.32)
% Unsure	8%	17%	10%	19%	10%	9%	10%	10%	7%
Significantly higher than:	BDEFGH	D	BDEFGH		BD	D	D	BDEFG	BDEFGH
Being physically unfit	4.11	3.57	3.57	2.93	3.74	3.81	3.74	4.01	4.14
Confidence Intervals	(4.05 - 4.17)	(3.49 - 3.65)	(3.49 - 3.65)	(2.85 - 3.01)	(3.68 - 3.8)	(3.75 - 3.87)	(3.68 - 3.8)	(3.91 - 4.11)	(4.06 - 4.22)
% Unsure	5%	16%	14%	19%	9%	9%	8%	10%	7%
Significantly higher than:	BCDEFG	D	D		BCD	BCD	BCD	BCDEFG	BCDEFG

Sores of the mouth or throat	4.02	3.58	4.47	3.01	3.80	3.81	3.77	4.01	4.15
<i>Confidence Intervals</i>	(3.96 - 4.08)	(3.5 - 3.66)	(4.41 - 4.53)	(2.93 - 3.09)	(3.74 - 3.86)	(3.75 - 3.87)	(3.71 - 3.83)	(3.91 - 4.11)	(4.07 - 4.23)
<i>% Unsure</i>	9%	17%	6%	19%	10%	9%	10%	11%	7%
<i>Significantly higher than:</i>	BDEFG	D	ABDEFGHI		BD	BD	BD	BDEFG	ABDEFGH
Frequent minor illnesses	4.04	3.59	3.72	3.01	3.83	3.81	3.81	4.01	4.15
<i>Confidence Intervals</i>	(3.98 - 4.1)	(3.51 - 3.67)	(3.64 - 3.8)	(2.93 - 3.09)	(3.77 - 3.89)	(3.75 - 3.87)	(3.75 - 3.87)	(3.93 - 4.09)	(4.07 - 4.23)
<i>% Unsure</i>	6%	15%	15%	19%	9%	8%	7%	9%	8%
<i>Significantly higher than:</i>	BCDEFG	D	BD		BD	BD	BD	BCDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

9.1.3 Perceived Risk of General Health Issues – Never Smokers LA-25 (NSLA)

Similar to NSGP, NSLA perceived risk of general health issues is highest for CCs and Marlboro Gold (Control 2). Among NSLA, CCs have the highest perceived risk of mortality (4.34) compared to all other Comparator Categories which was slightly lower compared to mortality ratings of CCs among NSGP (Earlier death, 4.56). NSLA perceived risk of general health issues was lowest for NRTs (mean range across general health issues 3.02-3.32), followed by E-cigarettes (mean range across general health issues 3.35-3.69), and, finally, Moist Snuff (mean range across general health issues 3.23-4.34). VLN™ (No Messaging – Control 1) perceived risk was higher (mean range across general health issues 3.70-4.05) than VLN™ (Consumption – Test 2) (mean range across general health issues 3.41-3.69).

NSGP and NSLA both perceived Moist Snuff to be the highest risk of poor gum health (4.34) and causing sores of the mouth or throat (4.05). See Table 27.

Table 27. Perceived Risk of General Health Issues Associated with Nicotine-Containing Products Among Never Smokers LA-25

	Ratings of Comparator Categories Among Never Smokers LA-25				Ratings of Test or Control Concepts Among Never Smokers LA-25				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	1001	999	1004	1002	1000	1000	1002	502	502
An earlier death	4.34	3.65	3.91	3.32	3.65	3.69	3.73	4.05	4.23
<i>Confidence Intervals</i>	(4.28 - 4.4)	(3.57 - 3.73)	(3.83 - 3.99)	(3.22 - 3.42)	(3.57 - 3.73)	(3.61 - 3.77)	(3.65 - 3.81)	(3.95 - 4.15)	(4.15 - 4.31)
<i>% Unsure</i>	3%	9%	7%	13%	5%	4%	6%	6%	3%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	D	BDEFG	BCDEFGH
Respiratory infections	4.17	3.69	3.48	3.16	3.67	3.66	3.72	3.97	4.23
<i>Confidence Intervals</i>	(4.09 - 4.25)	(3.61 - 3.77)	(3.4 - 3.56)	(3.06 - 3.26)	(3.59 - 3.75)	(3.58 - 3.74)	(3.66 - 3.78)	(3.87 - 4.07)	(4.13 - 4.33)
<i>% Unsure</i>	3%	8%	11%	11%	5%	4%	6%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Aging faster	4.18	3.45	3.62	3.15	3.62	3.64	3.61	3.84	4.11
<i>Confidence Intervals</i>	(4.1 - 4.26)	(3.37 - 3.53)	(3.54 - 3.7)	(3.05 - 3.25)	(3.54 - 3.7)	(3.56 - 3.72)	(3.53 - 3.69)	(3.74 - 3.94)	(4.01 - 4.21)
<i>% Unsure</i>	5%	10%	10%	13%	5%	6%	6%	7%	3%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BD	BD	BD	BCDEFG	BCDEFGH
Occasional wheezing	4.23	3.64	3.32	3.16	3.70	3.69	3.70	3.94	4.12
<i>Confidence Intervals</i>	(4.17 - 4.29)	(3.56 - 3.72)	(3.24 - 3.4)	(3.06 - 3.26)	(3.62 - 3.78)	(3.61 - 3.77)	(3.64 - 3.76)	(3.84 - 4.04)	(4.02 - 4.22)
<i>% Unsure</i>	2%	7%	10%	11%	4%	5%	6%	5%	3%
<i>Significantly higher than:</i>	BCDEFGH	CD			CD	CD	CD	BCDEFG	BCDEFGH
A bad cough that lasts for days	4.14	3.52	3.35	3.12	3.62	3.56	3.65	3.82	4.15
<i>Confidence Intervals</i>	(4.06 - 4.22)	(3.44 - 3.6)	(3.27 - 3.43)	(3.02 - 3.22)	(3.54 - 3.7)	(3.48 - 3.64)	(3.59 - 3.71)	(3.72 - 3.92)	(4.05 - 4.25)
<i>% Unsure</i>	5%	10%	10%	12%	4%	5%	6%	8%	6%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Early morning cough	4.03	3.51	3.29	3.02	3.62	3.55	3.58	3.82	4.09
<i>Confidence Intervals</i>	(3.95 - 4.11)	(3.43 - 3.59)	(3.21 - 3.37)	(2.92 - 3.12)	(3.54 - 3.7)	(3.47 - 3.63)	(3.5 - 3.66)	(3.72 - 3.92)	(3.99 - 4.19)
<i>% Unsure</i>	6%	10%	12%	14%	4%	6%	6%	8%	6%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Poor gum health	4.22	3.63	4.34	3.31	3.66	3.60	3.67	3.88	4.11
<i>Confidence Intervals</i>	(4.16 - 4.28)	(3.55 - 3.71)	(4.26 - 4.42)	(3.21 - 3.41)	(3.58 - 3.74)	(3.52 - 3.68)	(3.59 - 3.75)	(3.78 - 3.98)	(4.01 - 4.21)
<i>% Unsure</i>	2%	8%	4%	12%	5%	6%	6%	6%	4%
<i>Significantly higher than:</i>	BDEFGH	D	BDEFGHI		D	D	D	BDEFG	BDEFGH
Serious illness	4.06	3.52	3.55	3.19	3.65	3.61	3.69	3.88	4.03
<i>Confidence Intervals</i>	(3.98 - 4.14)	(3.44 - 3.6)	(3.47 - 3.63)	(3.09 - 3.29)	(3.57 - 3.73)	(3.53 - 3.69)	(3.61 - 3.77)	(3.78 - 3.98)	(3.93 - 4.13)
<i>% Unsure</i>	6%	10%	10%	12%	4%	5%	7%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	D	D		D	D	BD	BCDEFG	BCDEFG

Other types of cancer	4.02	3.53	3.57	3.21	3.63	3.58	3.60	3.81	3.92
<i>Confidence Intervals</i>	(3.94 - 4.1)	(3.45 - 3.61)	(3.49 - 3.65)	(3.11 - 3.31)	(3.55 - 3.71)	(3.5 - 3.66)	(3.52 - 3.68)	(3.71 - 3.91)	(3.82 - 4.02)
<i>% Unsure</i>	7%	11%	11%	11%	5%	5%	7%	8%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	D		D	D	D	BCDEFG	BCDEFG
Reduced stamina	3.98	3.46	3.40	3.20	3.49	3.51	3.57	3.77	3.99
<i>Confidence Intervals</i>	(3.9 - 4.06)	(3.38 - 3.54)	(3.32 - 3.48)	(3.12 - 3.28)	(3.41 - 3.57)	(3.43 - 3.59)	(3.49 - 3.65)	(3.67 - 3.87)	(3.89 - 4.09)
<i>% Unsure</i>	10%	13%	15%	14%	6%	8%	9%	9%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	D		D	D	CD	BCDEFG	BCDEFGH
Losing some sense of taste	3.88	3.40	3.88	3.13	3.49	3.45	3.49	3.75	3.89
<i>Confidence Intervals</i>	(3.8 - 3.96)	(3.32 - 3.48)	(3.8 - 3.96)	(3.05 - 3.21)	(3.41 - 3.57)	(3.37 - 3.53)	(3.41 - 3.57)	(3.65 - 3.85)	(3.79 - 3.99)
<i>% Unsure</i>	8%	14%	10%	13%	7%	6%	8%	9%	7%
<i>Significantly higher than:</i>	BDEFG	D	BDEFG		D	D	D	BDEFG	BDEFG
Being physically unfit	3.85	3.40	3.23	3.04	3.39	3.41	3.44	3.70	3.84
<i>Confidence Intervals</i>	(3.77 - 3.93)	(3.32 - 3.48)	(3.15 - 3.31)	(2.96 - 3.12)	(3.31 - 3.47)	(3.33 - 3.49)	(3.36 - 3.52)	(3.6 - 3.8)	(3.74 - 3.94)
<i>% Unsure</i>	7%	9%	10%	12%	6%	6%	9%	9%	5%
<i>Significantly higher than:</i>	BCDEFG	CD	D		CD	CD	CD	BCDEFG	BCDEFG
Sores of the mouth or throat	3.86	3.38	4.05	3.09	3.45	3.52	3.58	3.71	3.84
<i>Confidence Intervals</i>	(3.78 - 3.94)	(3.3 - 3.46)	(3.97 - 4.13)	(3.01 - 3.17)	(3.37 - 3.53)	(3.44 - 3.6)	(3.5 - 3.66)	(3.61 - 3.81)	(3.74 - 3.94)
<i>% Unsure</i>	8%	12%	7%	12%	6%	7%	9%	8%	6%
<i>Significantly higher than:</i>	BDEFG	D	ABDEFGHI		D	D	BD	BDEF	BDEFG
Frequent minor illnesses	3.78	3.35	3.42	3.09	3.50	3.55	3.53	3.72	3.93
<i>Confidence Intervals</i>	(3.7 - 3.86)	(3.27 - 3.43)	(3.34 - 3.5)	(3.01 - 3.17)	(3.42 - 3.58)	(3.47 - 3.63)	(3.45 - 3.61)	(3.62 - 3.82)	(3.83 - 4.03)
<i>% Unsure</i>	8%	11%	11%	12%	5%	6%	7%	9%	5%
<i>Significantly higher than:</i>	BCDEFG	D	D		D	BD	BD	BCDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

9.2 PERCEIVED RISK OF GENERAL HEALTH ISSUES – FORMER SMOKERS

9.2.1 Perceived Risk of General Health Issues – Total Former Smokers

Former Smokers’ perceived risk of “An earlier death” (Mortality) was highest for CCs (4.49). The mean risk of general health issues associated with CCs was higher for all attributes except for “Poor gum health”, “Losing some sense of taste” and “Sores of the mouth or throat,” which were higher for Moist Snuff. Among Comparator Categories, NRTs were perceived to have the lowest risk of “An earlier death” (Mortality) (3.03) as well as all other general health issues (mean range across general health issues 2.80-3.06), followed by E-cigarettes (mean range across general health issues 3.32 - 3.60) and Moist Snuff (mean range across general health issues 3.26 - 4.56). VLN™ (No Messaging – Control 1) was perceived to have higher risk of “An earlier death” (Mortality) (4.12) than VLN™ (Consumption – Test 2) (3.98).

Moist Snuff was perceived to cause the highest risk of “Poor gum health” (4.56), “Losing a sense of taste” (4.18) and causing “Sores of the mouth or throat” (4.43). See Table 28.

Table 28. Perceived Risk of General Health Issues Associated with Nicotine-Containing Products Among Total Former Smokers

	Ratings of Comparator Categories Among Total Former Smokers				Ratings of Test or Control Concepts Among Total Former Smokers				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
Unweighted Base	2148	2149	2164	2151	2542	2024	2017	1008	1021
An earlier death	4.49	3.61	4.00	3.03	3.93	3.98	3.97	4.12	4.42
<i>Confidence Intervals</i>	(4.45 - 4.53)	(3.55 - 3.67)	(3.96 - 4.04)	(2.97 - 3.09)	(3.89 - 3.97)	(3.94 - 4.02)	(3.93 - 4.01)	(4.06 - 4.18)	(4.36 - 4.48)
<i>% Unsure</i>	2%	14%	9%	19%	7%	6%	6%	4%	2%
<i>Significantly higher than:</i>	BCDEFGHI	D	BD		BD	BD	BD	BCDEFG	BCDEFGH
Respiratory infections	4.29	3.60	3.40	2.87	3.91	3.95	3.95	4.15	4.33
<i>Confidence Intervals</i>	(4.25 - 4.33)	(3.54 - 3.66)	(3.34 - 3.46)	(2.81 - 2.93)	(3.87 - 3.95)	(3.91 - 3.99)	(3.91 - 3.99)	(4.09 - 4.21)	(4.27 - 4.39)
<i>% Unsure</i>	2%	11%	13%	17%	5%	5%	4%	4%	2%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Aging faster	4.22	3.47	3.67	2.88	3.80	3.86	3.86	3.98	4.26
<i>Confidence Intervals</i>	(4.18 - 4.26)	(3.41 - 3.53)	(3.61 - 3.73)	(2.82 - 2.94)	(3.76 - 3.84)	(3.82 - 3.9)	(3.82 - 3.9)	(3.92 - 4.04)	(4.2 - 4.32)
<i>% Unsure</i>	4%	15%	14%	17%	8%	7%	7%	6%	4%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BCD	BCD	BCD	BCDEFG	BCDEFGH
Occasional wheezing	4.35	3.54	3.26	2.81	3.90	3.93	3.93	4.08	4.31
<i>Confidence Intervals</i>	(4.31 - 4.39)	(3.48 - 3.6)	(3.2 - 3.32)	(2.75 - 2.87)	(3.86 - 3.94)	(3.89 - 3.97)	(3.89 - 3.97)	(4.02 - 4.14)	(4.25 - 4.37)
<i>% Unsure</i>	1%	11%	14%	16%	6%	5%	4%	3%	2%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH

A bad cough that lasts for days	4.28	3.48	3.40	2.81	3.86	3.90	3.89	4.05	4.31
<i>Confidence Intervals</i>	(4.24 - 4.32)	(3.42 - 3.54)	(3.34 - 3.46)	(2.75 - 2.87)	(3.82 - 3.9)	(3.86 - 3.94)	(3.85 - 3.93)	(3.99 - 4.11)	(4.25 - 4.37)
<i>% Unsure</i>	2%	14%	14%	17%	6%	6%	5%	5%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Early morning cough	4.36	3.50	3.34	2.81	3.87	3.94	3.92	4.07	4.29
<i>Confidence Intervals</i>	(4.32 - 4.4)	(3.44 - 3.56)	(3.28 - 3.4)	(2.75 - 2.87)	(3.83 - 3.91)	(3.9 - 3.98)	(3.88 - 3.96)	(4.01 - 4.13)	(4.23 - 4.35)
<i>% Unsure</i>	2%	14%	15%	17%	6%	5%	5%	5%	2%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Poor gum health	4.15	3.43	4.56	3.06	3.77	3.80	3.81	3.91	4.16
<i>Confidence Intervals</i>	(4.11 - 4.19)	(3.37 - 3.49)	(4.52 - 4.6)	(3 - 3.12)	(3.73 - 3.81)	(3.76 - 3.84)	(3.77 - 3.85)	(3.85 - 3.97)	(4.1 - 4.22)
<i>% Unsure</i>	2%	14%	4%	17%	6%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH
Serious illness	4.19	3.42	3.60	2.91	3.84	3.88	3.90	4.01	4.23
<i>Confidence Intervals</i>	(4.15 - 4.23)	(3.36 - 3.48)	(3.54 - 3.66)	(2.85 - 2.97)	(3.8 - 3.88)	(3.84 - 3.92)	(3.86 - 3.94)	(3.95 - 4.07)	(4.17 - 4.29)
<i>% Unsure</i>	4%	16%	15%	18%	8%	6%	6%	5%	4%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BCD	BCD	BCD	BCDEFG	BCDEFGH
Other types of cancer	4.12	3.38	3.77	2.97	3.79	3.86	3.83	4.00	4.18
<i>Confidence Intervals</i>	(4.08 - 4.16)	(3.32 - 3.44)	(3.73 - 3.81)	(2.91 - 3.03)	(3.75 - 3.83)	(3.82 - 3.9)	(3.79 - 3.87)	(3.94 - 4.06)	(4.12 - 4.24)
<i>% Unsure</i>	6%	18%	14%	20%	9%	8%	7%	6%	7%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BD	BCDE	BD	BCDEFG	BCDEFGH
Reduced stamina	4.09	3.34	3.43	2.87	3.68	3.75	3.73	3.88	4.12
<i>Confidence Intervals</i>	(4.05 - 4.13)	(3.28 - 3.4)	(3.37 - 3.49)	(2.81 - 2.93)	(3.64 - 3.72)	(3.71 - 3.79)	(3.69 - 3.77)	(3.82 - 3.94)	(4.06 - 4.18)
<i>% Unsure</i>	6%	17%	20%	21%	10%	8%	8%	7%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCDE	BCD	BCDEFG	BCDEFGH
Losing some sense of taste	4.08	3.48	4.18	3.01	3.73	3.79	3.77	3.92	4.09
<i>Confidence Intervals</i>	(4.04 - 4.12)	(3.42 - 3.54)	(4.14 - 4.22)	(2.95 - 3.07)	(3.69 - 3.77)	(3.75 - 3.83)	(3.73 - 3.81)	(3.86 - 3.98)	(4.03 - 4.15)
<i>% Unsure</i>	4%	15%	8%	18%	8%	6%	7%	7%	3%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH
Being physically unfit	4.06	3.34	3.44	2.80	3.69	3.74	3.74	3.82	4.10
<i>Confidence Intervals</i>	(4.02 - 4.1)	(3.28 - 3.4)	(3.38 - 3.5)	(2.74 - 2.86)	(3.65 - 3.73)	(3.7 - 3.78)	(3.7 - 3.78)	(3.76 - 3.88)	(4.04 - 4.16)
<i>% Unsure</i>	3%	13%	13%	17%	8%	7%	6%	5%	4%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BCD	BCD	BCD	BCDE	BCDEFGH
Sores of the mouth or throat	3.77	3.32	4.43	2.87	3.62	3.69	3.65	3.77	3.98
<i>Confidence Intervals</i>	(3.73 - 3.81)	(3.26 - 3.38)	(4.39 - 4.47)	(2.81 - 2.93)	(3.58 - 3.66)	(3.65 - 3.73)	(3.61 - 3.69)	(3.71 - 3.83)	(3.92 - 4.04)
<i>% Unsure</i>	7%	17%	5%	18%	9%	8%	7%	6%	5%
<i>Significantly higher than:</i>	BDEFG	D	ABDEFGHI		BD	BD	BD	BDEG	ABDEFGH

Frequent minor illnesses	3.98	3.35	3.50	2.84	3.71	3.79	3.77	3.92	4.11
<i>Confidence Intervals</i>	(3.94 - 4.02)	(3.29 - 3.41)	(3.46 - 3.54)	(2.78 - 2.9)	(3.67 - 3.75)	(3.75 - 3.83)	(3.73 - 3.81)	(3.86 - 3.98)	(4.05 - 4.17)
<i>% Unsure</i>	4%	14%	13%	19%	7%	6%	7%	6%	4%
<i>Significantly higher than:</i>	BCDEFG	D	BD		BCD	BCDE	BCD	BCDEFG	ABCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

9.2.2 Perceived Risk of General Health Issues – Long-Term Quitters

CCs and Marlboro Gold (Control 2) were associated with the highest risk of developing general health issues and mortality followed by VLN™ (No Messaging – Control 1). Perceived risk of mortality was the highest among Long-Term Quitters (4.51), while VLN™ (No Messaging – Control 1) was rated lower (4.15) than Marlboro Gold (Control 2) (4.44). The mean risk of developing general health issues associated with CCs was higher across all attributes except for “Poor gum health,” “Losing some sense of taste,” and “Sores of the mouth or throat,” for which the risk perception of Moist Snuff was higher. Among Comparator Categories, NRTs had the lowest perceived risk of “An earlier death” (Mortality) (3.04) as well as all other general health attributes (mean range across general health issues 2.81-3.06), followed by E-cigarettes (mean range across general health issues 3.35-3.64) and Moist Snuff (mean range across general health issues 3.27-4.56). VLN™ (No Messaging – Control 1) had higher perceived risk of “An earlier death” (Mortality) (4.15) than VLN™ (Consumption – Test 2) (4.00).

Moist Snuff had the highest perceived risk of “Poor gum health” (4.56), “Losing a sense of taste” (4.19), and “Sores of the mouth or throat” (4.43). See Table 29.

Table 29. Perceived Risk of General Health Issues Associated with Nicotine-Containing Products Among Long-Term Quitters

	Ratings of Comparator Categories Among Long-Term Quitters				Ratings of Test or Control Concepts Among Long-Term Quitters				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
Unweighted Base	1647	1652	1654	1616	2150	1461	1457	743	758
An earlier death	4.51	3.64	4.01	3.04	3.96	4.00	3.99	4.15	4.44
Confidence Intervals	(4.47 - 4.55)	(3.58 - 3.7)	(3.97 - 4.05)	(2.96 - 3.12)	(3.92 - 4)	(3.94 - 4.06)	(3.93 - 4.05)	(4.09 - 4.21)	(4.38 - 4.5)
% Unsure	2%	15%	9%	19%	7%	6%	6%	4%	2%
Significantly higher than:	BCDEFGHI	D	BD		BD	BD	BD	BCDEFG	BCDEFGH
Respiratory infections	4.31	3.63	3.41	2.88	3.93	3.98	3.97	4.17	4.34
Confidence Intervals	(4.27 - 4.35)	(3.57 - 3.69)	(3.35 - 3.47)	(2.8 - 2.96)	(3.89 - 3.97)	(3.92 - 4.04)	(3.93 - 4.01)	(4.11 - 4.23)	(4.28 - 4.4)
% Unsure	2%	11%	13%	18%	5%	5%	4%	4%	2%
Significantly higher than:	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Aging faster	4.24	3.50	3.67	2.88	3.82	3.89	3.88	4.01	4.28
Confidence Intervals	(4.2 - 4.28)	(3.44 - 3.56)	(3.61 - 3.73)	(2.8 - 2.96)	(3.78 - 3.86)	(3.83 - 3.95)	(3.82 - 3.94)	(3.93 - 4.09)	(4.22 - 4.34)
% Unsure	4%	15%	14%	18%	8%	7%	7%	6%	4%
Significantly higher than:	BCDEFGH	D	BD		BCD	BCD	BCD	BCDEFG	BCDEFGH
Occasional wheezing	4.36	3.57	3.27	2.81	3.92	3.96	3.95	4.11	4.33
Confidence Intervals	(4.32 - 4.4)	(3.51 - 3.63)	(3.21 - 3.33)	(2.73 - 2.89)	(3.88 - 3.96)	(3.9 - 4.02)	(3.91 - 3.99)	(4.05 - 4.17)	(4.27 - 4.39)
% Unsure	1%	12%	14%	16%	6%	5%	4%	3%	2%
Significantly higher than:	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
A bad cough that lasts for days	4.30	3.51	3.42	2.81	3.88	3.93	3.91	4.07	4.33
Confidence Intervals	(4.26 - 4.34)	(3.45 - 3.57)	(3.36 - 3.48)	(2.73 - 2.89)	(3.84 - 3.92)	(3.87 - 3.99)	(3.87 - 3.95)	(4.01 - 4.13)	(4.27 - 4.39)
% Unsure	2%	14%	14%	18%	6%	6%	5%	5%	2%
Significantly higher than:	BCDEFGH	D	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Early morning cough	4.38	3.54	3.36	2.81	3.89	3.96	3.94	4.10	4.31
Confidence Intervals	(4.34 - 4.42)	(3.48 - 3.6)	(3.3 - 3.42)	(2.73 - 2.89)	(3.85 - 3.93)	(3.9 - 4.02)	(3.88 - 4)	(4.04 - 4.16)	(4.25 - 4.37)
% Unsure	1%	14%	15%	17%	6%	5%	5%	5%	2%
Significantly higher than:	BCDEFGH	CD	D		BCD	BCD	BCD	BCDEFG	BCDEFGH
Poor gum health	4.16	3.45	4.56	3.06	3.78	3.82	3.83	3.93	4.17
Confidence Intervals	(4.12 - 4.2)	(3.39 - 3.51)	(4.52 - 4.6)	(3 - 3.12)	(3.74 - 3.82)	(3.76 - 3.88)	(3.77 - 3.89)	(3.85 - 4.01)	(4.11 - 4.23)
% Unsure	2%	14%	4%	17%	7%	6%	5%	6%	4%
Significantly higher than:	BDEFGH	D	ABDEFGHI		BD	BD	BD	BDEFG	BDEFGH
Serious illness	4.21	3.45	3.60	2.92	3.86	3.91	3.92	4.04	4.25
Confidence Intervals	(4.17 - 4.25)	(3.39 - 3.51)	(3.54 - 3.66)	(2.86 - 2.98)	(3.82 - 3.9)	(3.85 - 3.97)	(3.86 - 3.98)	(3.98 - 4.1)	(4.19 - 4.31)
% Unsure	4%	16%	14%	19%	8%	6%	6%	5%	4%
Significantly higher than:	BCDEFGH	D	BD		BCD	BCD	BCD	BCDEFG	BCDEFGH

Other types of cancer	4.14	3.41	3.78	2.97	3.81	3.89	3.85	4.03	4.20
Confidence Intervals	(4.1 - 4.18)	(3.35 - 3.47)	(3.72 - 3.84)	(2.89 - 3.05)	(3.77 - 3.85)	(3.83 - 3.95)	(3.79 - 3.91)	(3.95 - 4.11)	(4.14 - 4.26)
% Unsure	6%	19%	14%	21%	9%	8%	7%	6%	7%
Significantly higher than:	BCDEFGH	D	BD		BD	BCD	BD	BCDEFG	BCDEFGH
Reduced stamina	4.11	3.37	3.43	2.87	3.69	3.77	3.75	3.91	4.13
Confidence Intervals	(4.07 - 4.15)	(3.31 - 3.43)	(3.37 - 3.49)	(2.81 - 2.93)	(3.65 - 3.73)	(3.71 - 3.83)	(3.69 - 3.81)	(3.83 - 3.99)	(4.05 - 4.21)
% Unsure	6%	18%	20%	21%	10%	8%	8%	8%	5%
Significantly higher than:	BCDEFGH	D	D		BCD	BCDE	BCD	BCDEFG	BCDEFGH
Losing some sense of taste	4.10	3.51	4.19	3.02	3.74	3.81	3.79	3.94	4.10
Confidence Intervals	(4.06 - 4.14)	(3.45 - 3.57)	(4.15 - 4.23)	(2.96 - 3.08)	(3.7 - 3.78)	(3.75 - 3.87)	(3.73 - 3.85)	(3.86 - 4.02)	(4.04 - 4.16)
% Unsure	4%	16%	8%	18%	8%	6%	7%	7%	3%
Significantly higher than:	BDEFGH	D	ABDEFGH		BD	BD	BD	BDEFG	BDEFGH
Being physically unfit	4.07	3.36	3.45	2.81	3.70	3.76	3.76	3.84	4.12
Confidence Intervals	(4.03 - 4.11)	(3.3 - 3.42)	(3.39 - 3.51)	(2.75 - 2.87)	(3.66 - 3.74)	(3.7 - 3.82)	(3.7 - 3.82)	(3.76 - 3.92)	(4.04 - 4.2)
% Unsure	3%	14%	13%	18%	8%	7%	6%	5%	4%
Significantly higher than:	BCDEFGH	D	D		BCD	BCD	BCD	BCDE	BCDEFGH
Sores of the mouth or throat	3.79	3.35	4.43	2.88	3.63	3.72	3.68	3.80	4.00
Confidence Intervals	(3.73 - 3.85)	(3.29 - 3.41)	(4.39 - 4.47)	(2.82 - 2.94)	(3.59 - 3.67)	(3.66 - 3.78)	(3.62 - 3.74)	(3.72 - 3.88)	(3.92 - 4.08)
% Unsure	7%	17%	5%	19%	9%	8%	7%	6%	5%
Significantly higher than:	BDEG	D	ABDEFGHI		BD	BDE	BD	BDEG	ABDEFGH
Frequent minor illnesses	4.01	3.37	3.50	2.86	3.73	3.82	3.79	3.95	4.12
Confidence Intervals	(3.97 - 4.05)	(3.31 - 3.43)	(3.44 - 3.56)	(2.8 - 2.92)	(3.69 - 3.77)	(3.76 - 3.88)	(3.73 - 3.85)	(3.87 - 4.03)	(4.06 - 4.18)
% Unsure	4%	15%	14%	19%	8%	6%	7%	6%	4%
Significantly higher than:	BCDEFG	D	BD		BCD	BCDE	BCD	BCDEFG	ABCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

9.2.3 Perceived Risk of General Health Issues – Recent Quitters

Among Recent Quitters, CCs and Marlboro Gold (Control 2) had the highest perceived risk for developing general health issues and mortality followed by VLN™ (No Messaging – Control 1). CCs had the highest perceived risk of “An earlier death” (Mortality) (4.25), followed by Marlboro Gold (Control 2) (4.22) and VLN™ (No Messaging – Control 1) (3.79). The perceived risk of general health issues associated with CCs was higher across all attributes except for “Poor gum health,” “Losing some sense of taste,” and “Sores of the mouth or throat,” for which the perceived risk of Moist Snuff was higher.

Among Comparator Categories, NRTs had the lowest perceived risk of “An earlier death” (Mortality)

(2.98) as well as all other general health issues (mean range across general health issues 2.70-3.01), followed by E-cigarettes (mean range across general health issues 3.03- 3.26) and Moist Snuff (mean range across general health issues 3.13-4.54). VLN™ (No Messaging – Control 1) had slightly higher perceived risk of “An earlier death” (Mortality) (3.79) than VLN™ (Consumption – Test 2) (3.72). Moist Snuff had the highest perceived risk of “Poor gum health” (4.54), “Losing a sense of taste” (4.16), and “Sores of the mouth or throat” (4.34).

In addition, Moist Snuff had a slightly higher perceived risk of “Having a serious illness” (3.60) and “Being sick with frequent minor illnesses” (3.51) than VLN™ (Consumption – Test 2) (3.59 and 3.46, respectively). Recent Quitters’ perceived risk of “An earlier death” (Mortality) is also higher for Moist Snuff (3.89) than VLN™ (No Messaging – Control 1) (3.79). See Table 30.

Table 30. Perceived Risk of General Health Issues Associated with Nicotine-Containing Products Among Recent Quitters

	Ratings of Comparator Categories Among Recent Quitters				Ratings of Test or Control Concepts Among Recent Quitters				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	501	497	510	535	392	563	560	265	263
An earlier death	4.25	3.26	3.89	2.98	3.68	3.72	3.76	3.79	4.22
<i>Confidence Intervals</i>	(4.17 - 4.33)	(3.14 - 3.38)	(3.79 - 3.99)	(2.86 - 3.1)	(3.58 - 3.78)	(3.62 - 3.82)	(3.68 - 3.84)	(3.65 - 3.93)	(4.1 - 4.34)
<i>% Unsure</i>	4%	11%	11%	12%	4%	7%	5%	4%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEF		BD	BD	BD	BD	BCDEFGH
Respiratory infections	4.06	3.24	3.30	2.78	3.68	3.65	3.71	3.88	4.18
<i>Confidence Intervals</i>	(3.96 - 4.16)	(3.12 - 3.36)	(3.18 - 3.42)	(2.66 - 2.9)	(3.56 - 3.8)	(3.55 - 3.75)	(3.63 - 3.79)	(3.76 - 4)	(4.06 - 4.3)
<i>% Unsure</i>	3%	8%	13%	10%	4%	5%	4%	3%	3%
<i>Significantly higher than:</i>	BCDEFG	D	D		BCD	BCD	BCD	BCDF	BCDEFGH
Aging faster	4.07	3.07	3.58	2.82	3.62	3.61	3.62	3.68	4.08
<i>Confidence Intervals</i>	(3.99 - 4.15)	(2.95 - 3.19)	(3.46 - 3.7)	(2.7 - 2.94)	(3.52 - 3.72)	(3.51 - 3.71)	(3.52 - 3.72)	(3.54 - 3.82)	(3.96 - 4.2)
<i>% Unsure</i>	4%	11%	12%	9%	5%	8%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BD	BD	BD	BD	BCDEFGH
Occasional wheezing	4.19	3.21	3.14	2.82	3.71	3.70	3.76	3.77	4.13
<i>Confidence Intervals</i>	(4.11 - 4.27)	(3.09 - 3.33)	(3.02 - 3.26)	(2.7 - 2.94)	(3.61 - 3.81)	(3.6 - 3.8)	(3.68 - 3.84)	(3.65 - 3.89)	(4.01 - 4.25)
<i>% Unsure</i>	2%	7%	15%	10%	5%	6%	5%	4%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCD	BCDEFGH

A bad cough that lasts for days	4.08	3.17	3.23	2.81	3.65	3.62	3.66	3.74	4.15
<i>Confidence Intervals</i>	(4 - 4.16)	(3.05 - 3.29)	(3.11 - 3.35)	(2.69 - 2.93)	(3.55 - 3.75)	(3.52 - 3.72)	(3.58 - 3.74)	(3.6 - 3.88)	(4.03 - 4.27)
<i>% Unsure</i>	3%	8%	15%	10%	5%	5%	5%	5%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCD	BCDEFGH
Early morning cough	4.20	3.14	3.13	2.74	3.64	3.67	3.70	3.80	4.16
<i>Confidence Intervals</i>	(4.12 - 4.28)	(3.02 - 3.26)	(3.01 - 3.25)	(2.62 - 2.86)	(3.52 - 3.76)	(3.57 - 3.77)	(3.62 - 3.78)	(3.66 - 3.94)	(4.04 - 4.28)
<i>% Unsure</i>	4%	10%	14%	11%	5%	4%	5%	5%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	D		BCD	BCD	BCD	BCD	BCDEFGH
Poor gum health	4.03	3.24	4.54	3.01	3.61	3.59	3.58	3.67	4.02
<i>Confidence Intervals</i>	(3.93 - 4.13)	(3.12 - 3.36)	(4.46 - 4.62)	(2.89 - 3.13)	(3.51 - 3.71)	(3.49 - 3.69)	(3.48 - 3.68)	(3.53 - 3.81)	(3.9 - 4.14)
<i>% Unsure</i>	4%	10%	5%	9%	4%	7%	5%	4%	2%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		BD	BD	BD	BD	BDEFGH
Serious illness	4.00	3.17	3.60	2.84	3.67	3.58	3.71	3.75	4.11
<i>Confidence Intervals</i>	(3.9 - 4.1)	(3.05 - 3.29)	(3.5 - 3.7)	(2.72 - 2.96)	(3.57 - 3.77)	(3.48 - 3.68)	(3.61 - 3.81)	(3.63 - 3.87)	(3.99 - 4.23)
<i>% Unsure</i>	4%	11%	15%	11%	6%	6%	5%	3%	4%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BD	BD	BD	BD	BCDEFGH
Other types of cancer	3.91	3.11	3.68	2.94	3.55	3.58	3.62	3.64	4.01
<i>Confidence Intervals</i>	(3.81 - 4.01)	(2.99 - 3.23)	(3.58 - 3.78)	(2.82 - 3.06)	(3.43 - 3.67)	(3.48 - 3.68)	(3.52 - 3.72)	(3.5 - 3.78)	(3.87 - 4.15)
<i>% Unsure</i>	6%	12%	14%	14%	6%	7%	7%	3%	6%
<i>Significantly higher than:</i>	BCDEFGH	0%	BD		BD	BD	BD	BD	BCDEFGH
Reduced stamina	3.92	3.07	3.41	2.86	3.56	3.55	3.56	3.65	4.01
<i>Confidence Intervals</i>	(3.82 - 4.02)	(2.95 - 3.19)	(3.29 - 3.53)	(2.74 - 2.98)	(3.44 - 3.68)	(3.45 - 3.65)	(3.46 - 3.66)	(3.51 - 3.79)	(3.89 - 4.13)
<i>% Unsure</i>	6%	12%	19%	15%	6%	7%	7%	5%	6%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BD	BD	BD	BCD	BCDEFGH
Losing some sense of taste	3.88	3.16	4.16	2.92	3.59	3.58	3.55	3.64	3.97
<i>Confidence Intervals</i>	(3.78 - 3.98)	(3.04 - 3.28)	(4.06 - 4.26)	(2.8 - 3.04)	(3.47 - 3.71)	(3.48 - 3.68)	(3.45 - 3.65)	(3.5 - 3.78)	(3.83 - 4.11)
<i>% Unsure</i>	5%	12%	7%	13%	5%	7%	6%	5%	2%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		BD	BD	BD	BD	BDEFGH
Being physically unfit	3.91	3.09	3.37	2.70	3.55	3.49	3.54	3.54	3.89
<i>Confidence Intervals</i>	(3.81 - 4.01)	(2.97 - 3.21)	(3.27 - 3.47)	(2.58 - 2.82)	(3.43 - 3.67)	(3.39 - 3.59)	(3.46 - 3.62)	(3.4 - 3.68)	(3.75 - 4.03)
<i>% Unsure</i>	4%	9%	14%	11%	5%	6%	4%	5%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	BD		BD	BD	BCD	BD	BCDEFGH
Sores of the mouth or throat	3.56	3.03	4.34	2.79	3.44	3.39	3.41	3.42	3.73
<i>Confidence Intervals</i>	(3.46 - 3.66)	(2.91 - 3.15)	(4.26 - 4.42)	(2.67 - 2.91)	(3.32 - 3.56)	(3.29 - 3.49)	(3.31 - 3.51)	(3.28 - 3.56)	(3.59 - 3.87)
<i>% Unsure</i>	7%	11%	5%	11%	5%	9%	6%	6%	5%
<i>Significantly higher than:</i>	BD	D	ABDEFGHI		BD	BD	BD	BD	BDEFGH

Frequent minor illnesses	3.67	3.09	3.51	2.70	3.52	3.46	3.54	3.58	3.93
<i>Confidence Intervals</i>	(3.57 - 3.77)	(2.97 - 3.21)	(3.41 - 3.61)	(2.58 - 2.82)	(3.4 - 3.64)	(3.36 - 3.56)	(3.46 - 3.62)	(3.44 - 3.72)	(3.81 - 4.05)
<i>% Unsure</i>	5%	10%	13%	11%	6%	5%	5%	4%	3%
<i>Significantly higher than:</i>	BDF	D	BD		BD	BD	BD	BD	ABCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

9.3 PERCEIVED RISK OF GENERAL HEALTH ISSUES – CURRENT SMOKERS

9.3.1 Perceived Risk of General Health Issues – Total Current Smokers

In contrast to Never Smokers and Former Smokers, Current Smokers assess the risk of long-term use of Moist Snuff and E-cigarettes to be greater than the risk of long-term use of VLN™ (Consumption – Test 2) on many general health issues.

As described at the beginning of the section, Current Smokers perceptions are consistent with the overall pattern of slightly higher perceived risk of Moist Snuff for “An earlier death” (Mortality) as well as “Poor gum health,” “Losing sense of taste,” and “Sores of the mouth or throat” than was assigned to VLN™ (Consumption – Test 2). Current Smokers also indicated higher perceived risk associated with Moist Snuff than for VLN™ (Consumption – Test 2) on other general health issues. For several general health issues, the perceived risk of E-cigarettes is very slightly higher than or at parity with perceptions of VLN™ (Consumption – Test 2). There is also less variance in mean scores across all products than seen among Former Smokers and Never Smokers, indicating that Current Smokers find more equivalency in the associated risk across all nicotine-containing products than other user groups. See Table 31.

Table 31. Perceived Risk of General Health Issues Associated with Nicotine-Containing Products Among Total Current Smokers

	Ratings of Comparator Categories Among Total Current Smokers				Ratings of Test or Control Concepts Among Total Current Smokers				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	3076	3132	3105	3076	3333	3018	3017	1509	1512
An earlier death	3.99	3.34	3.74	3.06	3.34	3.37	3.33	3.54	3.94
<i>Confidence Intervals</i>	(3.95 - 4.03)	(3.3 - 3.38)	(3.7 - 3.78)	(3 - 3.12)	(3.3 - 3.38)	(3.33 - 3.41)	(3.29 - 3.37)	(3.48 - 3.6)	(3.88 - 4)
<i>% Unsure</i>	4%	13%	11%	11%	7%	7%	7%	8%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFGH		D	D	D	BDEFG	BCDEFGH

Respiratory infections	3.82	3.33	3.24	2.88	3.31	3.30	3.29	3.49	3.87
<i>Confidence Intervals</i>	(3.78 - 3.86)	(3.29 - 3.37)	(3.2 - 3.28)	(2.82 - 2.94)	(3.27 - 3.35)	(3.26 - 3.34)	(3.25 - 3.33)	(3.43 - 3.55)	(3.81 - 3.93)
<i>% Unsure</i>	3%	11%	14%	10%	6%	6%	6%	6%	5%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	D	D	BCDEFG	BCDEFGH
Aging faster	3.75	3.20	3.50	2.91	3.27	3.27	3.24	3.39	3.80
<i>Confidence Intervals</i>	(3.71 - 3.79)	(3.16 - 3.24)	(3.46 - 3.54)	(2.85 - 2.97)	(3.23 - 3.31)	(3.23 - 3.31)	(3.2 - 3.28)	(3.33 - 3.45)	(3.74 - 3.86)
<i>% Unsure</i>	4%	13%	14%	11%	8%	7%	8%	8%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFGH		BD	D	D	BDEFG	BCDEFGH
Occasional wheezing	3.89	3.32	3.16	2.90	3.32	3.31	3.31	3.49	3.92
<i>Confidence Intervals</i>	(3.85 - 3.93)	(3.28 - 3.36)	(3.12 - 3.2)	(2.84 - 2.96)	(3.28 - 3.36)	(3.27 - 3.35)	(3.27 - 3.35)	(3.43 - 3.55)	(3.86 - 3.98)
<i>% Unsure</i>	3%	10%	14%	9%	7%	6%	6%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
A bad cough that lasts for days	3.80	3.26	3.21	2.87	3.24	3.28	3.25	3.45	3.84
<i>Confidence Intervals</i>	(3.76 - 3.84)	(3.22 - 3.3)	(3.17 - 3.25)	(2.81 - 2.93)	(3.2 - 3.28)	(3.24 - 3.32)	(3.21 - 3.29)	(3.39 - 3.51)	(3.78 - 3.9)
<i>% Unsure</i>	3%	12%	13%	9%	7%	6%	7%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	D	D		D	CD	D	BCDEFG	BCDEFGH
Early morning cough	3.88	3.28	3.17	2.87	3.28	3.32	3.30	3.45	3.89
<i>Confidence Intervals</i>	(3.84 - 3.92)	(3.24 - 3.32)	(3.13 - 3.21)	(2.81 - 2.93)	(3.24 - 3.32)	(3.28 - 3.36)	(3.26 - 3.34)	(3.39 - 3.51)	(3.83 - 3.95)
<i>% Unsure</i>	3%	11%	14%	9%	7%	6%	6%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
Poor gum health	3.78	3.26	4.29	3.04	3.23	3.25	3.22	3.39	3.76
<i>Confidence Intervals</i>	(3.74 - 3.82)	(3.22 - 3.3)	(4.25 - 4.33)	(3 - 3.08)	(3.19 - 3.27)	(3.21 - 3.29)	(3.18 - 3.26)	(3.33 - 3.45)	(3.7 - 3.82)
<i>% Unsure</i>	3%	12%	5%	9%	7%	6%	7%	7%	5%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		D	D	D	BDEFG	BDEFGH
Serious illness	3.76	3.24	3.42	2.97	3.27	3.26	3.25	3.44	3.81
<i>Confidence Intervals</i>	(3.72 - 3.8)	(3.2 - 3.28)	(3.38 - 3.46)	(2.93 - 3.01)	(3.23 - 3.31)	(3.22 - 3.3)	(3.21 - 3.29)	(3.38 - 3.5)	(3.75 - 3.87)
<i>% Unsure</i>	5%	13%	15%	11%	7%	7%	7%	8%	6%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	D	BDEFG	BCDEFGH
Other types of cancer	3.77	3.24	3.65	2.97	3.26	3.27	3.24	3.44	3.80
<i>Confidence Intervals</i>	(3.73 - 3.81)	(3.2 - 3.28)	(3.61 - 3.69)	(2.91 - 3.03)	(3.22 - 3.3)	(3.23 - 3.31)	(3.2 - 3.28)	(3.38 - 3.5)	(3.74 - 3.86)
<i>% Unsure</i>	5%	15%	14%	12%	8%	8%	8%	7%	6%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFGH		D	D	D	BDEFG	BCDEFGH
Reduced stamina	3.64	3.14	3.35	2.90	3.16	3.14	3.15	3.33	3.73
<i>Confidence Intervals</i>	(3.6 - 3.68)	(3.1 - 3.18)	(3.31 - 3.39)	(2.86 - 2.94)	(3.12 - 3.2)	(3.1 - 3.18)	(3.11 - 3.19)	(3.27 - 3.39)	(3.67 - 3.79)
<i>% Unsure</i>	7%	14%	17%	13%	9%	8%	9%	9%	8%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	D	BDEFG	ABCDEFGH

Losing some sense of taste	3.61	3.21	3.94	2.99	3.16	3.20	3.14	3.34	3.64
<i>Confidence Intervals</i>	(3.57 - 3.65)	(3.17 - 3.25)	(3.9 - 3.98)	(2.95 - 3.03)	(3.12 - 3.2)	(3.16 - 3.24)	(3.1 - 3.18)	(3.28 - 3.4)	(3.58 - 3.7)
<i>% Unsure</i>	5%	13%	9%	12%	8%	7%	7%	8%	6%
<i>Significantly higher than:</i>	BDEFGH	DG	ABDEFGHI		D	D	D	BDEFG	BDEFGH
Being physically unfit	3.62	3.12	3.31	2.84	3.17	3.18	3.13	3.33	3.69
<i>Confidence Intervals</i>	(3.58 - 3.66)	(3.08 - 3.16)	(3.27 - 3.35)	(2.8 - 2.88)	(3.13 - 3.21)	(3.14 - 3.22)	(3.09 - 3.17)	(3.27 - 3.39)	(3.63 - 3.75)
<i>% Unsure</i>	4%	12%	13%	10%	8%	7%	7%	8%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	D	BDEFG	ABCDEFGH
Sores of the mouth or throat	3.37	3.03	4.09	2.80	3.07	3.07	3.04	3.22	3.50
<i>Confidence Intervals</i>	(3.33 - 3.41)	(2.99 - 3.07)	(4.05 - 4.13)	(2.76 - 2.84)	(3.03 - 3.11)	(3.03 - 3.11)	(3 - 3.08)	(3.16 - 3.28)	(3.44 - 3.56)
<i>% Unsure</i>	7%	14%	7%	12%	9%	8%	8%	9%	6%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		D	D	D	BDEFG	ABDEFGH
Frequent minor illnesses	3.52	3.13	3.34	2.82	3.14	3.18	3.12	3.31	3.67
<i>Confidence Intervals</i>	(3.48 - 3.56)	(3.09 - 3.17)	(3.3 - 3.38)	(2.78 - 2.86)	(3.1 - 3.18)	(3.14 - 3.22)	(3.08 - 3.16)	(3.25 - 3.37)	(3.61 - 3.73)
<i>% Unsure</i>	5%	12%	14%	11%	8%	7%	7%	7%	6%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	D	BDEFG	ABCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

9.3.2 Perceived Risk of General Health Issues – Current Smokers with Intent to Quit (CSIQ)

Among CSIQ, perceived risk of “An earlier death” (Mortality) as well as the risk of other general health issues was lower than the perceived risk seen among NSGP, NSLA, Total Former Smokers, and Recent Quitters. CSIQ perceived risk of some general health issues associated with VLN™ (Consumption – Test 2) are moderately lower than the risks of E-cigarettes (having regular respiratory infections, occasional wheezing, having poor gum health, having reduced stamina, being sick with minor illnesses). On most items, CSIQ risk perception of VLN™ (Consumption – Test 2) is modestly lower than perceived risk of Moist Snuff on some attributes. CSIQ show the same pattern of perception about CCs and Marlboro Gold (Control 2) and VLN™ (No Messaging – Control 1) as other groups (NSGP, NSLA, Long-Term Quitters, and Recent Quitters). VLN™ (Consumption – Test 2) score slightly lower in perceived risk of general health issues and mortality compared to CCs and Marlboro Gold (Control 2). See Table 32.

Table 32. Perceived Risk of General Health Issues Associated with Nicotine-Containing Products Among Current Smokers with Intent to Quit

	Ratings of Comparator Categories Among CSIQ				Ratings of Test or Control Concepts Among CSIQ				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	1581	1621	1648	1622	1882	1542	1513	783	752
An earlier death	4.25	3.46	3.92	3.15	3.47	3.48	3.46	3.67	4.16
<i>Confidence Intervals</i>	(4.21 - 4.29)	(3.4 - 3.52)	(3.86 - 3.98)	(3.07 - 3.23)	(3.41 - 3.53)	(3.42 - 3.54)	(3.4 - 3.52)	(3.59 - 3.75)	(4.08 - 4.24)
<i>% Unsure</i>	3%	12%	9%	9%	6%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGHI	D	BDEFGH		D	D	D	BDEFG	BCDEFGH
Respiratory infections	4.05	3.44	3.39	2.95	3.44	3.41	3.43	3.63	4.10
<i>Confidence Intervals</i>	(4.01 - 4.09)	(3.38 - 3.5)	(3.33 - 3.45)	(2.87 - 3.03)	(3.38 - 3.5)	(3.35 - 3.47)	(3.37 - 3.49)	(3.55 - 3.71)	(4.02 - 4.18)
<i>% Unsure</i>	2%	9%	12%	8%	5%	5%	4%	4%	3%
<i>Significantly higher than:</i>	BCDEFGH	D	D		D	D	D	BCDEFG	BCDEFGH
Aging faster	3.99	3.34	3.69	3.00	3.39	3.37	3.39	3.55	4.06
<i>SD</i>	1.00	1.23	1.13	1.38	1.08	1.10	1.09	1.08	1.00
<i>SE</i>	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.04
<i>Confidence Intervals</i>	(3.93 - 4.05)	(3.28 - 3.4)	(3.63 - 3.75)	(2.92 - 3.08)	(3.33 - 3.45)	(3.31 - 3.43)	(3.33 - 3.45)	(3.47 - 3.63)	(3.98 - 4.14)
<i>% Unsure</i>	4%	11%	13%	8%	6%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFGH		D	D	D	BDEFG	BCDEFGH
Occasional wheezing	4.11	3.43	3.28	2.98	3.45	3.41	3.44	3.63	4.14
<i>Confidence Intervals</i>	(4.07 - 4.15)	(3.37 - 3.49)	(3.22 - 3.34)	(2.9 - 3.06)	(3.41 - 3.49)	(3.35 - 3.47)	(3.38 - 3.5)	(3.55 - 3.71)	(4.06 - 4.22)
<i>% Unsure</i>	2%	9%	12%	7%	5%	4%	4%	4%	2%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
A bad cough that lasts for days	4.03	3.37	3.37	2.97	3.38	3.38	3.39	3.57	4.06
<i>Confidence Intervals</i>	(3.97 - 4.09)	(3.31 - 3.43)	(3.31 - 3.43)	(2.89 - 3.05)	(3.32 - 3.44)	(3.32 - 3.44)	(3.33 - 3.45)	(3.49 - 3.65)	(3.98 - 4.14)
<i>% Unsure</i>	2%	10%	11%	7%	6%	5%	5%	4%	3%
<i>Significantly higher than:</i>	BCDEFGH	D	D		D	D	D	BCDEFG	BCDEFGH
Early morning cough	4.09	3.38	3.33	2.96	3.41	3.41	3.44	3.56	4.11
<i>Confidence Intervals</i>	(4.03 - 4.15)	(3.32 - 3.44)	(3.27 - 3.39)	(2.88 - 3.04)	(3.35 - 3.47)	(3.35 - 3.47)	(3.38 - 3.5)	(3.48 - 3.64)	(4.03 - 4.19)
<i>% Unsure</i>	2%	9%	12%	8%	5%	4%	4%	5%	2%
<i>Significantly higher than:</i>	BCDEFGH	D	D		CD	D	CD	BCDEFG	BCDEFGH
Poor gum health	4.03	3.37	4.41	3.14	3.36	3.37	3.35	3.53	4.01
<i>Confidence Intervals</i>	(3.99 - 4.07)	(3.31 - 3.43)	(4.37 - 4.45)	(3.08 - 3.2)	(3.3 - 3.42)	(3.31 - 3.43)	(3.29 - 3.41)	(3.45 - 3.61)	(3.93 - 4.09)
<i>% Unsure</i>	2%	10%	3%	8%	5%	5%	5%	5%	4%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		D	D	D	BDEFG	BDEFGH

Serious illness	3.99	3.35	3.57	3.06	3.40	3.37	3.39	3.61	4.03
Confidence Intervals	(3.93 - 4.05)	(3.29 - 3.41)	(3.51 - 3.63)	(3 - 3.12)	(3.34 - 3.46)	(3.31 - 3.43)	(3.33 - 3.45)	(3.53 - 3.69)	(3.95 - 4.11)
% Unsure	4%	11%	13%	9%	6%	5%	5%	5%	4%
Significantly higher than:	BCDEFGH	D	BDEFG		D	D	D	BDEFG	BCDEFGH
Other types of cancer	4.01	3.36	3.80	3.07	3.38	3.38	3.38	3.57	4.03
Confidence Intervals	(3.95 - 4.07)	(3.3 - 3.42)	(3.74 - 3.86)	(2.99 - 3.15)	(3.32 - 3.44)	(3.32 - 3.44)	(3.32 - 3.44)	(3.49 - 3.65)	(3.95 - 4.11)
% Unsure	5%	12%	11%	10%	6%	7%	6%	5%	4%
Significantly higher than:	BCDEFGH	D	BDEFGH		D	D	D	BDEFG	BCDEFGH
Reduced stamina	3.88	3.27	3.53	3.00	3.29	3.25	3.29	3.50	3.96
Confidence Intervals	(3.82 - 3.94)	(3.21 - 3.33)	(3.47 - 3.59)	(2.94 - 3.06)	(3.23 - 3.35)	(3.19 - 3.31)	(3.23 - 3.35)	(3.42 - 3.58)	(3.88 - 4.04)
% Unsure	6%	12%	15%	11%	7%	7%	7%	6%	6%
Significantly higher than:	BCDEFGH	D	BDEFG		D	D	D	BDEFG	BCDEFGH
Losing some sense of taste	3.85	3.32	4.12	3.09	3.30	3.30	3.28	3.48	3.86
Confidence Intervals	(3.79 - 3.91)	(3.26 - 3.38)	(4.06 - 4.18)	(3.03 - 3.15)	(3.24 - 3.36)	(3.24 - 3.36)	(3.22 - 3.34)	(3.4 - 3.56)	(3.78 - 3.94)
% Unsure	4%	11%	7%	10%	6%	5%	6%	5%	4%
Significantly higher than:	BDEFGH	D	ABDEFGHI		D	D	D	BDEFG	BDEFGH
Being physically unfit	3.85	3.25	3.50	2.95	3.31	3.30	3.28	3.51	3.94
Confidence Intervals	(3.79 - 3.91)	(3.19 - 3.31)	(3.44 - 3.56)	(2.89 - 3.01)	(3.25 - 3.37)	(3.24 - 3.36)	(3.22 - 3.34)	(3.43 - 3.59)	(3.86 - 4.02)
% Unsure	3%	10%	11%	8%	6%	6%	6%	5%	4%
Significantly higher than:	BCDEFGH	D	BDEFG		D	D	D	BDEFG	BCDEFGH
Sores of the mouth or throat	3.64	3.13	4.22	2.89	3.20	3.19	3.17	3.38	3.74
Confidence Intervals	(3.58 - 3.7)	(3.07 - 3.19)	(4.16 - 4.28)	(2.83 - 2.95)	(3.14 - 3.26)	(3.13 - 3.25)	(3.11 - 3.23)	(3.3 - 3.46)	(3.66 - 3.82)
% Unsure	6%	12%	5%	10%	7%	6%	7%	6%	5%
Significantly higher than:	BDEFGH	D	ABDEFGHI		D	D	D	BDEFG	ABDEFGH
Frequent minor illnesses	3.79	3.28	3.51	2.92	3.27	3.30	3.28	3.46	3.93
Confidence Intervals	(3.73 - 3.85)	(3.22 - 3.34)	(3.45 - 3.57)	(2.86 - 2.98)	(3.21 - 3.33)	(3.24 - 3.36)	(3.22 - 3.34)	(3.38 - 3.54)	(3.85 - 4.01)
% Unsure	4%	10%	12%	9%	6%	5%	6%	5%	4%
Significantly higher than:	BCDEFGH	D	BDEFG		D	D	D	BDEFG	ABCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

9.3.3 Perceived Risk of General Health Issues – Current Smokers with No Intent to Quit (CSNIQ)

CSNIQ pattern of perceived risk is similar to CSIQ. Perceived risk of “An earlier death” (Mortality) and across all other general health issues among CSNIQ tended to be generally lower than other user groups including NSGP, NSLA, Long-Term Quitters, Recent Quitters. Among CSNIQ, E-cigarettes and Moist Snuff both tend to have higher risk ratings than VLN™ (Consumption – Test 2).

CSNIQ perceived risk associated with CCs, Marlboro Gold (Control 2) and VLN™ (No Messaging – Control 1) is similar the other groups (NSGP, NSLA, Long-Term Quitters, Recent Quitters), while perceived risk associated with VLN™ (Consumption – Test 2) is slightly lower for general health issues and mortality compared to CCs and Marlboro Gold (Control 2). See Table 33.

Table 33. Perceived Risk of General Health Issues Associated with Nicotine-Containing Products Among Current Smokers with No Intent to Quit

	Ratings of Comparator Categories Among CSNIQ				Ratings of Test or Control Concepts Among CSNIQ				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
Unweighted Base	1495	1511	1457	1454	1451	1476	1504	726	760
An earlier death	3.60	3.16	3.46	2.92	3.13	3.18	3.13	3.31	3.59
<i>Confidence Intervals</i>	(3.54 - 3.66)	(3.1 - 3.22)	(3.4 - 3.52)	(2.84 - 3)	(3.07 - 3.19)	(3.12 - 3.24)	(3.07 - 3.19)	(3.23 - 3.39)	(3.51 - 3.67)
<i>% Unsure</i>	6%	16%	16%	15%	10%	9%	10%	11%	7%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFGH		D	D	D	BDEFG	BCDEFGH
Respiratory infections	3.46	3.14	3.01	2.76	3.11	3.15	3.07	3.25	3.50
<i>Confidence Intervals</i>	(3.4 - 3.52)	(3.08 - 3.2)	(2.95 - 3.07)	(2.68 - 2.84)	(3.05 - 3.17)	(3.09 - 3.21)	(3.01 - 3.13)	(3.17 - 3.33)	(3.42 - 3.58)
<i>% Unsure</i>	5%	14%	17%	14%	9%	8%	9%	10%	7%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	D	CDEG	BCDEFGH
Aging faster	3.39	2.99	3.21	2.77	3.07	3.10	3.01	3.12	3.39
<i>Confidence Intervals</i>	(3.33 - 3.45)	(2.93 - 3.05)	(3.15 - 3.27)	(2.69 - 2.85)	(3.01 - 3.13)	(3.04 - 3.16)	(2.95 - 3.07)	(3.04 - 3.2)	(3.31 - 3.47)
<i>% Unsure</i>	5%	16%	17%	14%	11%	9%	11%	12%	7%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	BDG	D	BDG	BCDEFGH
Occasional wheezing	3.56	3.14	2.96	2.77	3.11	3.17	3.11	3.28	3.57
<i>Confidence Intervals</i>	(3.5 - 3.62)	(3.08 - 3.2)	(2.9 - 3.02)	(2.69 - 2.85)	(3.05 - 3.17)	(3.11 - 3.23)	(3.05 - 3.17)	(3.2 - 3.36)	(3.49 - 3.65)
<i>% Unsure</i>	4%	13%	17%	12%	9%	8%	8%	10%	7%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CD	CD	BCDEFG	BCDEFGH
A bad cough that lasts for days	3.45	3.09	2.95	2.71	3.02	3.11	3.01	3.24	3.48
<i>Confidence Intervals</i>	(3.39 - 3.51)	(3.03 - 3.15)	(2.89 - 3.01)	(2.63 - 2.79)	(2.96 - 3.08)	(3.05 - 3.17)	(2.95 - 3.07)	(3.16 - 3.32)	(3.4 - 3.56)
<i>% Unsure</i>	4%	14%	16%	12%	10%	9%	9%	11%	7%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		D	CDG	D	BCDEFG	BCDEFGH
Early morning cough	3.58	3.13	2.93	2.74	3.08	3.16	3.08	3.26	3.54

<i>Confidence Intervals</i>	(3.52 - 3.64)	(3.07 - 3.19)	(2.87 - 2.99)	(2.66 - 2.82)	(3.02 - 3.14)	(3.1 - 3.22)	(3.02 - 3.14)	(3.18 - 3.34)	(3.46 - 3.62)
<i>% Unsure</i>	4%	14%	17%	12%	9%	8%	9%	11%	6%
<i>Significantly higher than:</i>	BCDEFGH	CD	D		CD	CDEG	CD	BCDEG	BCDEFGH
Poor gum health	3.42	3.09	4.10	2.88	3.03	3.07	3.02	3.15	3.38
<i>Confidence Intervals</i>	(3.36 - 3.48)	(3.03 - 3.15)	(4.04 - 4.16)	(2.82 - 2.94)	(2.97 - 3.09)	(3.01 - 3.13)	(2.96 - 3.08)	(3.07 - 3.23)	(3.3 - 3.46)
<i>% Unsure</i>	5%	15%	8%	12%	10%	9%	10%	11%	7%
<i>Significantly higher than:</i>	BDEFGH	D	ABDEFGHI		D	D	D	DEG	BDEFGH
Serious illness	3.43	3.07	3.17	2.82	3.05	3.10	3.03	3.18	3.47
<i>Confidence Intervals</i>	(3.37 - 3.49)	(3.01 - 3.13)	(3.11 - 3.23)	(2.76 - 2.88)	(2.99 - 3.11)	(3.04 - 3.16)	(2.97 - 3.09)	(3.1 - 3.26)	(3.39 - 3.55)
<i>% Unsure</i>	6%	16%	19%	15%	10%	9%	10%	11%	8%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEG		D	D	D	DEG	BCDEFGH
Other types of cancer	3.43	3.05	3.39	2.81	3.08	3.10	3.03	3.23	3.45
<i>Confidence Intervals</i>	(3.37 - 3.49)	(2.99 - 3.11)	(3.33 - 3.45)	(2.73 - 2.89)	(3.02 - 3.14)	(3.04 - 3.16)	(2.97 - 3.09)	(3.15 - 3.31)	(3.37 - 3.53)
<i>% Unsure</i>	7%	18%	17%	16%	11%	9%	10%	11%	8%
<i>Significantly higher than:</i>	BDEFGH	D	BDEFGH		D	D	D	BDEFG	BDEFGH
Reduced stamina	3.29	2.93	3.06	2.73	2.94	2.99	2.93	3.07	3.36
<i>Confidence Intervals</i>	(3.23 - 3.35)	(2.87 - 2.99)	(3 - 3.12)	(2.67 - 2.79)	(2.88 - 3)	(2.93 - 3.05)	(2.87 - 2.99)	(2.99 - 3.15)	(3.28 - 3.44)
<i>% Unsure</i>	9%	17%	22%	17%	12%	10%	12%	13%	10%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEG		D	D	D	BDEG	BCDEFGH
Losing some sense of taste	3.24	3.03	3.66	2.83	2.94	3.04	2.92	3.11	3.29
<i>Confidence Intervals</i>	(3.18 - 3.3)	(2.97 - 3.09)	(3.6 - 3.72)	(2.77 - 2.89)	(2.88 - 3)	(2.98 - 3.1)	(2.86 - 2.98)	(3.03 - 3.19)	(3.21 - 3.37)
<i>% Unsure</i>	7%	16%	11%	14%	10%	9%	10%	12%	7%
<i>Significantly higher than:</i>	BDEFGH	DEG	ABDEFGHI		D	DEG		DEG	BDEFGH
Being physically unfit	3.27	2.92	2.99	2.66	2.94	3.01	2.91	3.06	3.30
<i>Confidence Intervals</i>	(3.21 - 3.33)	(2.86 - 2.98)	(2.93 - 3.05)	(2.6 - 2.72)	(2.88 - 3)	(2.95 - 3.07)	(2.85 - 2.97)	(2.98 - 3.14)	(3.22 - 3.38)
<i>% Unsure</i>	4%	14%	17%	13%	10%	9%	10%	12%	8%
<i>Significantly higher than:</i>	BCDEFGH	D	D		D	DG	D	BDEG	BCDEFGH
Sores of the mouth or throat	2.96	2.88	3.87	2.66	2.86	2.89	2.85	2.96	3.13
<i>Confidence Intervals</i>	(2.9 - 3.02)	(2.82 - 2.94)	(3.81 - 3.93)	(2.6 - 2.72)	(2.8 - 2.92)	(2.83 - 2.95)	(2.79 - 2.91)	(2.88 - 3.04)	(3.05 - 3.21)
<i>% Unsure</i>	9%	17%	10%	14%	11%	10%	11%	13%	9%
<i>Significantly higher than:</i>	DEG	D	ABDEFGHI		D	D	D	DG	ABDEFGH
Frequent minor illnesses	3.11	2.90	3.05	2.65	2.93	2.99	2.88	3.08	3.25
<i>Confidence Intervals</i>	(3.05 - 3.17)	(2.84 - 2.96)	(2.99 - 3.11)	(2.59 - 2.71)	(2.87 - 2.99)	(2.93 - 3.05)	(2.82 - 2.94)	(3 - 3.16)	(3.17 - 3.33)
<i>% Unsure</i>	7%	15%	18%	14%	10%	9%	10%	12%	8%
<i>Significantly higher than:</i>	BDEFG	D	BDEG		D	BDG	D	BDEG	ABCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

10.0 Perceived Risk of Addiction Associated with Nicotine-Containing Products

Before exposure to a test or control Concept, respondents rated the addiction risks of one Comparator Category (Conventional Cigarettes (CCs), E-Cigarettes, Moist Snuff, Nicotine Replacement Therapies (NRTs)) using the Perceived Risk Instrument-Personal (PRI-P) scale developed and validated in the Phillip Morris Tobacco Heating System research (Chrea et al., 2016.). Respondents provided ratings on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5). Respondents were also offered a response of “Unsure.” Respondents indicating “Unsure” are not included in mean score calculations presented.

After rating a Comparator Category, respondents viewed the concept assigned to them and were subsequently asked to rate that concept on the same addiction attributes as were presented for the Comparator Category. When rating the addiction risks of the concepts, respondents used the same scale they had previously used to rate the comparator category. The question was posed as:

“Taking into consideration everything you know about [CATEGORY], indicate what you believe is the risk of each of the following long-term or lifetime addiction-related issues because of [CATEGORY] use.”

Across total participants and considering all addiction attributes rated, CCs, Moist Snuff, Marlboro Gold (Control 2) and VLN™ (No Messaging – Control 1) have the highest perceived risk of addiction, while E-cigarettes and NRTs have the lowest perceived risk of addiction. Perceived risk associated with VLN™ (Consumption – Test 2) is generally at parity or slightly lower than that of E-cigarettes. However, participants still associate an above-average risk of addiction with VLN™ (Consumption – Test 2) with all mean scores well above the median (3.00) across all addiction variables. When comparing the risk of addiction of VLN™ (No Messaging – Control 1) to a similar tobacco product Marlboro Gold (Control 2), all three groups (i.e. Never Smokers, Former Users, and Current Smokers) believe that VLN™ (No Messaging – Control 1) poses a lower risk of addiction.

Additionally, there is little observed variance across the perceived addiction risk variables within each nicotine-containing product. Never Smokers and Former Smokers have similar patterns of perceived risk of addiction considering all products and addiction attributes while Current Smokers tend to perceive the risk of addiction lower than both Never Smokers and Former Smokers.

10.1 PERCEIVED RISK OF ADDICTION – NEVER SMOKERS

10.1.1 Perceived Risk of Addiction – Total Never Smokers

The mean perceived risk of addiction across all Comparator Categories and all addiction risk variables is highest among Never Smokers (mean range across all Comparator Categories and addiction attributes 3.33-4.62). However, interestingly, Never Smokers' perceived risk of addiction associated with VLN™ (Consumption – Test 2) (mean range across all addiction attributes 3.71-3.77) is slightly lower than that of E-cigarettes (mean range across all addiction attributes 3.85-3.98) while perceived risk of addiction associated with VLN™ (No Messaging – Control 1) (mean range across all addiction attributes 4.00-4.10) and Marlboro Gold (Control 2) (mean range across all addiction attributes 4.33-4.47) is at parity or slightly higher. See Table 34.

Table 34. Perceived Risk of Addiction Associated with Nicotine-Containing Products Among Total Never Smokers

	Ratings of Comparator Categories Among Total Never Smokers				Ratings of Test or Control Concepts Among Total Never Smokers				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	2071	2026	2026	2095	2056	2034	2047	1038	1043
Being unable to quit [...]	4.50	3.85	4.10	3.33	3.69	3.71	3.76	4.06	4.43
<i>Confidence Intervals</i>	(4.46 - 4.54)	(3.79 - 3.91)	(4.06 - 4.14)	(3.27 - 3.39)	(3.65 - 3.73)	(3.67 - 3.75)	(3.72 - 3.8)	(4 - 4.12)	(4.37 - 4.49)
<i>% Unsure</i>	3%	10%	8%	14%	5%	5%	6%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	DEFG	BDEFG		D	D	D	BDEFG	BCDEFGH
Being addicted to [...]	4.62	3.98	4.20	3.42	3.74	3.77	3.81	4.10	4.47
<i>Confidence Intervals</i>	(4.58 - 4.66)	(3.94 - 4.02)	(4.16 - 4.24)	(3.36 - 3.48)	(3.68 - 3.8)	(3.73 - 3.81)	(3.77 - 3.85)	(4.04 - 4.16)	(4.41 - 4.53)
<i>% Unsure</i>	2%	9%	6%	13%	5%	5%	5%	6%	4%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	D	D	BDEFG	BCDEFGH
Having to use [...] to feel better	4.42	3.85	4.03	3.41	3.70	3.75	3.77	4.00	4.33
<i>Confidence Intervals</i>	(4.38 - 4.46)	(3.79 - 3.91)	(3.99 - 4.07)	(3.37 - 3.45)	(3.66 - 3.74)	(3.71 - 3.79)	(3.73 - 3.81)	(3.94 - 4.06)	(4.27 - 4.39)
<i>% Unsure</i>	4%	12%	9%	14%	6%	6%	7%	9%	5%
<i>Significantly higher than:</i>	BCDEFGHI	DEF	BDEFG		D	D	D	BDEFG	BCDEFGH
Feeling like you have to use [...]	4.49	3.92	4.12	3.42	3.69	3.73	3.77	4.02	4.35
<i>Confidence Intervals</i>	(4.45 - 4.53)	(3.86 - 3.98)	(4.08 - 4.16)	(3.36 - 3.48)	(3.63 - 3.75)	(3.69 - 3.77)	(3.73 - 3.81)	(3.96 - 4.08)	(4.29 - 4.41)
<i>% Unsure</i>	3%	10%	9%	14%	6%	6%	6%	7%	5%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFG		D	D	D	DEFG	BCDEFGH
Feeling like you can't stop using [...] even though you know it is not good for you	4.53	3.93	4.15	3.40	3.71	3.75	3.77	4.05	4.44

<i>Confidence Intervals</i>	(4.49 - 4.57)	(3.87 - 3.99)	(4.11 - 4.19)	(3.34 - 3.46)	(3.67 - 3.75)	(3.71 - 3.79)	(3.73 - 3.81)	(3.99 - 4.11)	(4.38 - 4.5)
<i>% Unsure</i>	2%	10%	7%	14%	6%	5%	5%	7%	5%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	D	D	BDEFG	BCDEFGH
Feeling unable to quit [...]	4.54	3.89	4.14	3.39	3.70	3.71	3.77	4.04	4.43
<i>Confidence Intervals</i>	(4.5 - 4.58)	(3.83 - 3.95)	(4.1 - 4.18)	(3.33 - 3.45)	(3.64 - 3.76)	(3.67 - 3.75)	(3.73 - 3.81)	(3.98 - 4.1)	(4.37 - 4.49)
<i>% Unsure</i>	3%	10%	8%	13%	6%	6%	6%	8%	4%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	D	D	BDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

10.1.2 Perceived Risk of Addiction – Comparing Never Smokers General Population (NSGP) to Never Smokers LA-25 (NSLA)

Never Smokers in each of the two subgroups, NSLA and NSGP, rate CCs as having a higher risk of addiction than Moist Snuff or E-Cigarettes, while NRTs are believed to pose a lower risk of addiction than the other comparator categories.

Both NSGP and NSLA have lower perceived risk of addiction associated with VLN™ (Consumption – Test 2) as posing a lower risk of addiction than CCs, Moist Snuff or E-cigarettes. While NSGP perceive VLN™ (Consumption – Test 2) to have a higher risk of addiction than NRTs, addiction risk ratings of VLN™ (Consumption – Test 2) and NRTs are similar among NSLA. For example, NSLA perceived risk associated with VLN™ (Consumption – Test 2) and NRTs is the same (3.42) on the attribute “Feeling like you can’t stop using [...] even though you know it is not good for you.”

Each of the Never Smoker subgroups rate the addiction risk of VLN™ (Consumption – Test 2) slightly lower than the addiction risk of VLN™ (No Messaging – Control 1), which is in turn is still lower than that of Marlboro Gold (Control 2).

Although NSLA and NSGP perceive there to be some risks of addiction associated with using VLN™ (Consumption – Test 2), it is considered lower in risk than the risks associated with all other tobacco products. These participants seem to understand the reduced risk messaging given the lower mean risk of addiction scores compared with those given to the control concepts. See Table 35 and Table 36.

Table 35. Perceived Risk of Addiction Associated with Nicotine-Containing Products Among Never Smokers General Population

	Ratings of Comparator Categories Among NSGP				Ratings of Test or Control Concepts Among NSGP				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	1070	1027	1022	1093	1056	1034	1045	536	541
Being unable to quit [...]	4.57	3.96	4.17	3.34	3.79	3.81	3.84	4.14	4.49
<i>Confidence Intervals</i>	(4.53 - 4.61)	(3.9 - 4.02)	(4.11 - 4.23)	(3.28 - 3.4)	(3.73 - 3.85)	(3.75 - 3.87)	(3.78 - 3.9)	(4.06 - 4.22)	(4.41 - 4.57)
<i>% Unsure</i>	2%	11%	8%	16%	6%	6%	6%	7%	5%
<i>Significantly higher than:</i>	BCDEFGH	DEFG	BDEFG		D	D	D	BDEFG	BCDEFGH
Being addicted to [...]	4.68	4.06	4.26	3.42	3.83	3.87	3.90	4.17	4.52
<i>Confidence Intervals</i>	(4.64 - 4.72)	(4 - 4.12)	(4.2 - 4.32)	(3.34 - 3.5)	(3.77 - 3.89)	(3.81 - 3.93)	(3.84 - 3.96)	(4.09 - 4.25)	(4.46 - 4.58)
<i>% Unsure</i>	2%	9%	7%	15%	6%	5%	5%	6%	4%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFG		D	D	D	DEFG	BCDEFGH
Having to use [...] to feel better	4.46	3.92	4.10	3.41	3.78	3.83	3.87	4.05	4.38
<i>Confidence Intervals</i>	(4.4 - 4.52)	(3.86 - 3.98)	(4.04 - 4.16)	(3.35 - 3.47)	(3.72 - 3.84)	(3.77 - 3.89)	(3.81 - 3.93)	(3.97 - 4.13)	(4.3 - 4.46)
<i>% Unsure</i>	4%	12%	10%	16%	7%	6%	7%	9%	6%
<i>Significantly higher than:</i>	BCDEFGH	DE	BDEFG		D	D	D	BDEFG	BCDEFGH
Feeling like you have to use [...]	4.56	4.02	4.19	3.44	3.78	3.84	3.87	4.08	4.41
<i>Confidence Intervals</i>	(4.52 - 4.6)	(3.96 - 4.08)	(4.13 - 4.25)	(3.38 - 3.5)	(3.72 - 3.84)	(3.78 - 3.9)	(3.81 - 3.93)	(4 - 4.16)	(4.33 - 4.49)
<i>% Unsure</i>	3%	10%	9%	15%	6%	6%	6%	7%	5%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	D	D	DEFG	BCDEFGH
Feeling like you can't stop using [...] even though you know it is not good for you	4.59	4.02	4.21	3.40	3.80	3.85	3.87	4.10	4.50
<i>Confidence Intervals</i>	(4.55 - 4.63)	(3.96 - 4.08)	(4.15 - 4.27)	(3.34 - 3.46)	(3.74 - 3.86)	(3.79 - 3.91)	(3.81 - 3.93)	(4.02 - 4.18)	(4.44 - 4.56)
<i>% Unsure</i>	3%	10%	8%	15%	6%	5%	6%	7%	5%
<i>Significantly higher than:</i>	BCDEFGH	DEFG	BDEFG		D	D	D	DEFG	BCDEFGH
Feeling unable to quit [...]	4.60	3.99	4.22	3.41	3.79	3.81	3.87	4.12	4.49
<i>Confidence Intervals</i>	(4.56 - 4.64)	(3.93 - 4.05)	(4.16 - 4.28)	(3.35 - 3.47)	(3.73 - 3.85)	(3.75 - 3.87)	(3.81 - 3.93)	(4.04 - 4.2)	(4.41 - 4.57)
<i>% Unsure</i>	3%	11%	9%	15%	6%	6%	6%	8%	4%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFG		D	D	D	BDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

Table 36. Perceived Risk of Addiction Associated with Nicotine-Containing Products Among Never Smokers LA-25

	Ratings of Comparator Categories Among NSLA				Ratings of Test or Control Concepts Among NSLA				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
Unweighted Base	1001	999	1004	1002	1000	1000	1002	502	502
Being unable to quit [...]	4.25	3.51	3.86	3.31	3.37	3.36	3.45	3.81	4.22
Confidence Intervals	(4.17 - 4.33)	(3.43 - 3.59)	(3.78 - 3.94)	(3.23 - 3.39)	(3.29 - 3.45)	(3.28 - 3.44)	(3.37 - 3.53)	(3.71 - 3.91)	(4.12 - 4.32)
% Unsure	3%	8%	6%	10%	5%	5%	5%	6%	2%
Significantly higher than:	BCDEFGH	D	BDEFG					BDEFG	BCDEFGH
Being addicted to [...]	4.40	3.73	3.98	3.40	3.42	3.42	3.46	3.87	4.30
Confidence Intervals	(4.34 - 4.46)	(3.65 - 3.81)	(3.9 - 4.06)	(3.32 - 3.48)	(3.34 - 3.5)	(3.34 - 3.5)	(3.38 - 3.54)	(3.77 - 3.97)	(4.2 - 4.4)
% Unsure	2%	7%	6%	8%	5%	5%	6%	6%	3%
Significantly higher than:	BCDEFGH	DEFG	BDEFG					DEFG	BCDEFGH
Having to use [...] to feel better	4.25	3.60	3.81	3.44	3.44	3.46	3.41	3.85	4.16
Confidence Intervals	(4.17 - 4.33)	(3.52 - 3.68)	(3.73 - 3.89)	(3.36 - 3.52)	(3.36 - 3.52)	(3.38 - 3.54)	(3.33 - 3.49)	(3.75 - 3.95)	(4.06 - 4.26)
% Unsure	2%	9%	7%	9%	6%	5%	6%	8%	4%
Significantly higher than:	BCDEFGH	DEG	BDEFG					BDEFG	BCDEFGH
Feeling like you have to use [...]	4.27	3.60	3.87	3.36	3.37	3.38	3.42	3.83	4.16
Confidence Intervals	(4.19 - 4.35)	(3.52 - 3.68)	(3.79 - 3.95)	(3.28 - 3.44)	(3.29 - 3.45)	(3.3 - 3.46)	(3.34 - 3.5)	(3.73 - 3.93)	(4.06 - 4.26)
% Unsure	3%	8%	7%	9%	6%	5%	4%	7%	4%
Significantly higher than:	BCDEFGH	DEFG	BDEFG					BDEFG	BCDEFGH
Feeling like you can't stop using [...] even though you know it is not good for you	4.31	3.65	3.95	3.42	3.39	3.42	3.43	3.87	4.24
Confidence Intervals	(4.23 - 4.39)	(3.57 - 3.73)	(3.87 - 4.03)	(3.34 - 3.5)	(3.31 - 3.47)	(3.34 - 3.5)	(3.35 - 3.51)	(3.77 - 3.97)	(4.14 - 4.34)
% Unsure	2%	9%	6%	8%	5%	5%	5%	7%	4%
Significantly higher than:	BCDEFGH	DEFG	BDEFG					BDEFG	BCDEFGH
Feeling unable to quit [...]	4.30	3.57	3.89	3.33	3.37	3.37	3.42	3.78	4.24
Confidence Intervals	(4.22 - 4.38)	(3.49 - 3.65)	(3.81 - 3.97)	(3.25 - 3.41)	(3.29 - 3.45)	(3.29 - 3.45)	(3.34 - 3.5)	(3.68 - 3.88)	(4.14 - 4.34)
% Unsure	2%	8%	7%	8%	6%	5%	4%	7%	3%
Significantly higher than:	BCDEFGH	DEF	BDEFG					BDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed than mean in column listed

10.2 PERCEIVED RISK OF ADDICTION – FORMER SMOKERS

10.2.1 Perceived Risk of Addiction – Total Former Smokers

Among Total Former Smokers, perceived risk of addiction is higher for CCs than for Moist Snuff and E-Cigarettes, while NRTs perceived risk of addiction is lowest among the comparator categories. Former Smokers view VLN™ (Consumption – Test 2) as posing lower risk of addiction (across all addiction attributes) than they do CCs or Moist Snuff. VLN™ (Consumption – Test 2) perceived risk of addiction is higher than or at parity with E-cigarettes or NRTs across all addiction attributes. Perceived risk of VLN™ (No Messaging – Control 1), Marlboro Gold (Control 2) and CCs are generally at parity on most addiction attributes. See Table 37.

Table 37. Perceived Risk of Addiction Associated with Nicotine-Containing Products Among Total Former Smokers

	Ratings of Comparator Categories Among Total Former Smokers				Ratings of Test or Control Concepts Among Total Former Smokers				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	2148	2149	2164	2151	2542	2024	2017	1008	1021
Being unable to quit [...]	4.37	3.79	4.04	3.21	3.72	3.78	3.82	4.02	4.38
<i>Confidence Intervals</i>	(4.33 - 4.41)	(3.75 - 3.83)	(4 - 4.08)	(3.17 - 3.25)	(3.68 - 3.76)	(3.74 - 3.82)	(3.78 - 3.86)	(3.96 - 4.08)	(4.32 - 4.44)
<i>% Unsure</i>	1%	11%	10%	16%	6%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	DE	BDEFG	BCDEFGH
Being addicted to [...]	4.61	3.94	4.18	3.28	3.83	3.88	3.88	4.10	4.44
<i>Confidence Intervals</i>	(4.57 - 4.65)	(3.9 - 3.98)	(4.14 - 4.22)	(3.22 - 3.34)	(3.79 - 3.87)	(3.84 - 3.92)	(3.84 - 3.92)	(4.04 - 4.16)	(4.38 - 4.5)
<i>% Unsure</i>	1%	9%	8%	15%	5%	5%	4%	4%	3%
<i>Significantly higher than:</i>	BCDEFGHI	DE	BDEFG		D	D	D	BDEFG	BCDEFGH
Having to use [...] to feel better	4.30	3.80	3.95	3.25	3.73	3.79	3.81	3.96	4.26
<i>Confidence Intervals</i>	(4.26 - 4.34)	(3.76 - 3.84)	(3.91 - 3.99)	(3.21 - 3.29)	(3.69 - 3.77)	(3.75 - 3.83)	(3.77 - 3.85)	(3.9 - 4.02)	(4.2 - 4.32)
<i>% Unsure</i>	2%	12%	13%	16%	7%	7%	7%	6%	5%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG		D	D	D	BDEFG	BCDEFGH
Feeling like you have to use [...]	4.43	3.86	4.07	3.31	3.76	3.81	3.82	4.02	4.32
<i>Confidence Intervals</i>	(4.39 - 4.47)	(3.82 - 3.9)	(4.03 - 4.11)	(3.27 - 3.35)	(3.72 - 3.8)	(3.77 - 3.85)	(3.78 - 3.86)	(3.96 - 4.08)	(4.26 - 4.38)
<i>% Unsure</i>	1%	10%	10%	15%	5%	6%	5%	5%	4%
<i>Significantly higher than:</i>	BCDEFGHI	DE	BDEFG		D	D	D	BDEFG	BCDEFGH

Feeling like you can't stop using [...] even though you know it is not good for you	4.48	3.86	4.08	3.30	3.78	3.84	3.86	4.06	4.39
<i>Confidence Intervals</i>	(4.44 - 4.52)	(3.82 - 3.9)	(4.04 - 4.12)	(3.26 - 3.34)	(3.74 - 3.82)	(3.8 - 3.88)	(3.82 - 3.9)	(4 - 4.12)	(4.33 - 4.45)
<i>% Unsure</i>	1%	10%	10%	15%	5%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGHI	DE	BDEFG		D	D	DE	BDEFG	BCDEFGH
Feeling unable to quit [...]	4.47	3.83	4.09	3.27	3.76	3.83	3.83	4.05	4.39
<i>Confidence Intervals</i>	(4.43 - 4.51)	(3.79 - 3.87)	(4.05 - 4.13)	(3.23 - 3.31)	(3.72 - 3.8)	(3.79 - 3.87)	(3.79 - 3.87)	(3.99 - 4.11)	(4.33 - 4.45)
<i>% Unsure</i>	1%	11%	10%	16%	5%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGHI	D	BDEFG		D	D	D	BDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

10.2.2 Perceived Risk of Addiction – Comparing Long-Term Quitters to Recent Quitters

Recent Quitters provide lower mean risk ratings for all concepts and comparator categories than do Long Term Quitters. Among each subgroup, perceived risk of addiction means are higher for CCs than for Moist Snuff and E-Cigarettes, while the perceived risk of NRTs is the lowest among the comparator categories.

Both Former Smoker subgroups perceive the risk of addiction associated with VLN™ (Consumption – Test 2) as lower than that of CCs or Moist Snuff. Long Term Quitters tend to rate the addiction risk of E-cigarettes slightly higher than they do the addiction risk of VLN™ (Consumption – Test 2), with mean risk rating differences of between 0.01 and 0.07 across the six addiction attributes. Recent Quitters rate the addiction risk of E-cigarettes slightly higher on two of the statements (difference in means between 0.02 and 0.04) but rate the addiction risk of VLN™ (Consumption – Test 2) slightly higher (difference in means between 0.02 and 0.10) on the other four statements.

Each subgroup rated the addiction risks of VLN™ (Consumption – Test 2) lower than it rated the addiction risks of VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2). See Table 38 and Table 39.

Table 38. Perceived Risk of Addiction Associated with Nicotine-Containing Products Among Total Long-Term Quitters

	Ratings of Comparator Categories Among Long-Term Quitters				Ratings of Test or Control Concepts Among Long-Term Quitters				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	1647	1652	1654	1616	2150	1461	1457	743	758
Being unable to quit [...]	4.39	3.83	4.04	3.23	3.75	3.81	3.85	4.06	4.41
<i>Confidence Intervals</i>	(4.35 - 4.43)	(3.77 - 3.89)	(4 - 4.08)	(3.17 - 3.29)	(3.71 - 3.79)	(3.75 - 3.87)	(3.79 - 3.91)	(3.98 - 4.14)	(4.35 - 4.47)
<i>% Unsure</i>	1%	11%	9%	16%	6%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGH	DE	BDEFG		D	D	DE	BDEFG	BCDEFGH
Being addicted to [...]	4.62	3.98	4.18	3.29	3.86	3.91	3.90	4.13	4.45
<i>Confidence Intervals</i>	(4.58 - 4.66)	(3.92 - 4.04)	(4.14 - 4.22)	(3.23 - 3.35)	(3.82 - 3.9)	(3.85 - 3.97)	(3.84 - 3.96)	(4.07 - 4.19)	(4.39 - 4.51)
<i>% Unsure</i>	1%	9%	8%	16%	5%	5%	4%	4%	3%
<i>Significantly higher than:</i>	BCDEFGHI	DE	BDEFG		D	D	D	BDEFG	BCDEFGH
Having to use [...] to feel better	4.32	3.85	3.96	3.26	3.77	3.83	3.83	4.00	4.28
<i>Confidence Intervals</i>	(4.28 - 4.36)	(3.79 - 3.91)	(3.9 - 4.02)	(3.2 - 3.32)	(3.73 - 3.81)	(3.77 - 3.89)	(3.77 - 3.89)	(3.92 - 4.08)	(4.22 - 4.34)
<i>% Unsure</i>	2%	12%	12%	16%	7%	8%	7%	6%	5%
<i>Significantly higher than:</i>	BCDEFGH	DE	BDEFG		D	D	D	BDEFG	BCDEFGH
Feeling like you have to use [...]	4.46	3.89	4.08	3.32	3.79	3.85	3.85	4.06	4.33
<i>Confidence Intervals</i>	(4.42 - 4.5)	(3.83 - 3.95)	(4.04 - 4.12)	(3.26 - 3.38)	(3.75 - 3.83)	(3.79 - 3.91)	(3.79 - 3.91)	(4 - 4.12)	(4.27 - 4.39)
<i>% Unsure</i>	1%	11%	10%	16%	6%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGHI	DE	BDEFG		D	D	D	BDEFG	BCDEFGH
Feeling like you can't stop using [...] even though you know it is not good for you	4.50	3.89	4.09	3.32	3.80	3.87	3.89	4.09	4.41
<i>Confidence Intervals</i>	(4.46 - 4.54)	(3.83 - 3.95)	(4.05 - 4.13)	(3.26 - 3.38)	(3.76 - 3.84)	(3.81 - 3.93)	(3.83 - 3.95)	(4.01 - 4.17)	(4.35 - 4.47)
<i>% Unsure</i>	1%	11%	10%	16%	5%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGHI	DE	BDEFG		D	D	DE	BDEFG	BCDEFGH
Feeling unable to quit [...]	4.49	3.87	4.09	3.28	3.79	3.86	3.86	4.08	4.41
<i>Confidence Intervals</i>	(4.45 - 4.53)	(3.81 - 3.93)	(4.05 - 4.13)	(3.22 - 3.34)	(3.75 - 3.83)	(3.8 - 3.92)	(3.8 - 3.92)	(4.02 - 4.14)	(4.35 - 4.47)
<i>% Unsure</i>	1%	11%	9%	16%	6%	6%	5%	5%	3%
<i>Significantly higher than:</i>	BCDEFGHI	DE	BDEFG		D	D	D	BDEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

Table 39. Perceived Risk of Addiction Associated with Nicotine-Containing Products Among Total Recent Quitters

	Ratings of Comparator Categories Among Recent Quitters				Ratings of Test or Control Concepts Among Recent Quitters				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	501	497	510	535	392	563	560	265	263
Being unable to quit [...]	4.09	3.39	3.96	3.01	3.41	3.47	3.48	3.65	4.08
<i>Confidence Intervals</i>	(3.99 - 4.19)	(3.29 - 3.49)	(3.86 - 4.06)	(2.91 - 3.11)	(3.29 - 3.53)	(3.37 - 3.57)	(3.38 - 3.58)	(3.51 - 3.79)	(3.94 - 4.22)
<i>% Unsure</i>	2%	6%	10%	10%	4%	5%	5%	6%	4%
<i>Significantly higher than:</i>	BDEFGH	D	BDEFGH	D	D	D	D	BDE	BDEFGH
Being addicted to [...]	4.47	3.55	4.16	3.18	3.54	3.58	3.62	3.77	4.26
<i>Confidence Intervals</i>	(4.39 - 4.55)	(3.45 - 3.65)	(4.06 - 4.26)	(3.06 - 3.3)	(3.42 - 3.66)	(3.48 - 3.68)	(3.52 - 3.72)	(3.63 - 3.91)	(4.12 - 4.4)
<i>% Unsure</i>	2%	5%	8%	8%	3%	4%	4%	5%	4%
<i>Significantly higher than:</i>	BCDEFGHI	D	BDEFGH	D	D	D	D	BDE	BDEFGH
Having to use [...] to feel better	4.03	3.32	3.84	3.16	3.39	3.42	3.52	3.55	4.04
<i>Confidence Intervals</i>	(3.93 - 4.13)	(3.22 - 3.42)	(3.74 - 3.94)	(3.06 - 3.26)	(3.27 - 3.51)	(3.32 - 3.52)	(3.42 - 3.62)	(3.41 - 3.69)	(3.9 - 4.18)
<i>% Unsure</i>	3%	7%	14%	10%	4%	5%	6%	8%	5%
<i>Significantly higher than:</i>	BCDEFGH		BDEFGH	D	D	D	BD	BD	BDEFGH
Feeling like you have to use [...]	4.16	3.48	3.96	3.18	3.42	3.46	3.51	3.60	4.10
<i>Confidence Intervals</i>	(4.06 - 4.26)	(3.36 - 3.6)	(3.86 - 4.06)	(3.08 - 3.28)	(3.3 - 3.54)	(3.36 - 3.56)	(3.41 - 3.61)	(3.46 - 3.74)	(3.96 - 4.24)
<i>% Unsure</i>	2%	7%	10%	8%	4%	5%	5%	5%	6%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFGH	D	D	D	D	D	BDEFGH
Feeling like you can't stop using [...] even though you know it is not good for you	4.17	3.50	3.97	3.11	3.49	3.46	3.56	3.78	4.15
<i>Confidence Intervals</i>	(4.07 - 4.27)	(3.38 - 3.62)	(3.87 - 4.07)	(3.01 - 3.21)	(3.37 - 3.61)	(3.36 - 3.56)	(3.46 - 3.66)	(3.64 - 3.92)	(4.01 - 4.29)
<i>% Unsure</i>	2%	7%	10%	10%	4%	4%	4%	7%	4%
<i>Significantly higher than:</i>	BCDEFGH	D	BDEFG	D	D	D	D	BDEFG	BDEFGH
Feeling unable to quit [...]	4.16	3.44	4.01	3.13	3.51	3.46	3.51	3.77	4.18
<i>Confidence Intervals</i>	(4.06 - 4.26)	(3.34 - 3.54)	(3.91 - 4.11)	(3.03 - 3.23)	(3.39 - 3.63)	(3.36 - 3.56)	(3.41 - 3.61)	(3.63 - 3.91)	(4.04 - 4.32)
<i>% Unsure</i>	3%	7%	10%	10%	3%	5%	5%	5%	6%
<i>Significantly higher than:</i>	BDEFGH	D	BDEFGH	D	D	D	D	BDEFG	BDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

10.3 PERCEIVED RISK OF ADDICTION – CURRENT SMOKERS

10.3.1 Perceived Risk of Addiction – Total Current Smokers

Total Current Smokers' perceived risk of addiction of CCs is higher than that of Moist Snuff, E-Cigarettes, and NRTs. Of these, NRTs mean risk scores are the lowest (mean range across all addiction attributes, 2.95 – 3.11). While Current Smokers' perceived risk of addiction of VLN™ (Consumption – Test 2) (mean range across all addiction attributes, 3.09 – 3.21) is lower than that of CCs, Moist Snuff, E-Cigarettes, and both VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2), perceived risk is still sufficiently above the median to indicate that Current Smokers still associate the product with considerable risk. Current Smokers believe that the risk of addiction of VLN™ (Consumption – Test 2) is higher than that of NRTs.

These scores suggest VLN™ (Consumption – Test 2) was understood by Current Smoker subgroups to be a lower addiction risk based on the messaging. The test concept, however, is perceived as still posing some risk of addiction. See Table 40.

Table 40. Perceived Risk of Addiction Associated with Nicotine-Containing Products Among Total Current Smokers

	Ratings of Comparator Categories Among Total Current Smokers				Ratings of Test or Control Concepts Among Total Current Smokers				
	CCs A	E-cigs B	Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	3076	3132	3105	3076	3333	3018	3017	1509	1512
Being unable to quit [...]	4.04	3.31	3.76	2.95	3.10	3.09	3.12	3.38	3.90
<i>Confidence Intervals</i>	(4 - 4.08)	(3.27 - 3.35)	(3.72 - 3.8)	(2.91 - 2.99)	(3.06 - 3.14)	(3.05 - 3.13)	(3.08 - 3.16)	(3.32 - 3.44)	(3.84 - 3.96)
<i>% Unsure</i>	3%	11%	13%	13%	8%	6%	9%	8%	4%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	D	D	DEFG	BCDEFGH
Being addicted to [...]	4.23	3.43	3.89	3.03	3.18	3.21	3.21	3.48	4.00
<i>Confidence Intervals</i>	(4.19 - 4.27)	(3.39 - 3.47)	(3.85 - 3.93)	(2.99 - 3.07)	(3.14 - 3.22)	(3.17 - 3.25)	(3.17 - 3.25)	(3.42 - 3.54)	(3.94 - 4.06)
<i>% Unsure</i>	2%	10%	12%	12%	7%	6%	8%	8%	4%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	D	D	DEFG	BCDEFGH
Having to use [...] to feel better	3.85	3.28	3.64	3.02	3.10	3.10	3.11	3.32	3.71
<i>Confidence Intervals</i>	(3.81 - 3.89)	(3.24 - 3.32)	(3.6 - 3.68)	(2.98 - 3.06)	(3.06 - 3.14)	(3.06 - 3.14)	(3.07 - 3.15)	(3.26 - 3.38)	(3.65 - 3.77)
<i>% Unsure</i>	3%	12%	14%	13%	9%	7%	9%	10%	6%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	D	D	DEFG	BDEFGH
Feeling like you have to use [...]	4.04	3.36	3.76	3.11	3.11	3.13	3.15	3.36	3.82
<i>Confidence Intervals</i>	(4 - 4.08)	(3.32 - 3.4)	(3.72 - 3.8)	(3.07 - 3.15)	(3.07 - 3.15)	(3.09 - 3.17)	(3.11 - 3.19)	(3.3 - 3.42)	(3.76 - 3.88)
<i>% Unsure</i>	2%	11%	14%	12%	8%	6%	9%	9%	5%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH					DEFG	BDEFGH

Feeling like you can't stop using [...] even though you know it is not good for you	4.09	3.33	3.78	3.03	3.13	3.15	3.16	3.40	3.95
<i>Confidence Intervals</i>	(4.05 - 4.13)	(3.29 - 3.37)	(3.74 - 3.82)	(2.99 - 3.07)	(3.09 - 3.17)	(3.11 - 3.19)	(3.12 - 3.2)	(3.34 - 3.46)	(3.89 - 4.01)
<i>% Unsure</i>	2%	11%	13%	12%	7%	6%	8%	8%	4%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	D	D	DEFG	BCDEFGH
Feeling unable to quit [...]	4.08	3.32	3.79	3.00	3.10	3.12	3.12	3.36	3.90
<i>Confidence Intervals</i>	(4.04 - 4.12)	(3.28 - 3.36)	(3.75 - 3.83)	(2.96 - 3.04)	(3.06 - 3.14)	(3.08 - 3.16)	(3.08 - 3.16)	(3.3 - 3.42)	(3.84 - 3.96)
<i>% Unsure</i>	3%	11%	13%	12%	8%	6%	9%	8%	5%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	D	D	DEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

10.3.2 Perceived Risk of Addiction – Comparing Current Smokers with Intent to Quit (CSIQ) to Current Smokers with No Intent to Quit (CSNIQ)

CSIQ rate the addiction risks of concepts and comparator concepts higher than do CSNIQ. Both CSIQ and CSNIQ rate the risk of addiction of CCs higher than the risk of addiction of Moist Snuff, E-Cigarettes, and NRTs. Of these, NRTs mean risk scores are the lowest. Both subgroups perceive VLN™ (Consumption – Test 2) as having less risk of addiction than CCs, Moist Snuff, E-Cigarettes, and both VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2).

CSNIQ rate the addiction risks of VLN™ (Consumption – Test 2) higher than they do the addiction risks of NRTs. Among Current Smokers with Intent to Quit, ratings of the risks of addiction of VLN™ (Consumption – Test 2) and NRTs are closer to each other. Their mean rating of the statement “Feeling like you have to use [...]” is slightly higher for NRTs (3.18) than it is for VLN™ (Consumption – Test 2) (3.17).

These scores suggest VLN™ (Consumption – Test 2) was understood by both Current Smoker subgroups and a lower addiction risk was perceived based on the messaging. The test concept, however, is perceived as still posing some risk of addiction. See Table 41 and Table 42.

Table 41. Perceived Risk of Addiction Associated with Nicotine-Containing Products Among Comparing Current Smokers with Intent to Quit (CSIQ)

	Ratings of Comparator Categories Among CSIQ				Ratings of Test or Control Concepts Among CSIQ				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
Unweighted Base	1581	1621	1648	1622	1882	1542	1513	783	752
Being unable to quit [...]	4.22	3.41	3.93	3.00	3.19	3.11	3.20	3.46	4.08
Confidence Intervals	(4.16 - 4.28)	(3.35 - 3.47)	(3.87 - 3.99)	(2.94 - 3.06)	(3.13 - 3.25)	(3.05 - 3.17)	(3.14 - 3.26)	(3.38 - 3.54)	(4 - 4.16)
% Unsure	2%	9%	10%	9%	6%	4%	6%	6%	3%
Significantly higher than:	BCDEFGHI	DEFG	BDEFGH		DF	D	DF	DEFG	BCDEFGH
Being addicted to [...]	4.41	3.54	4.07	3.11	3.27	3.24	3.30	3.56	4.17
Confidence Intervals	(4.37 - 4.45)	(3.48 - 3.6)	(4.01 - 4.13)	(3.05 - 3.17)	(3.21 - 3.33)	(3.18 - 3.3)	(3.24 - 3.36)	(3.48 - 3.64)	(4.09 - 4.25)
% Unsure	2%	8%	9%	9%	5%	4%	6%	6%	2%
Significantly higher than:	BCDEFGHI	DEFG	BDEFGH		D	D	D	DEFG	BCDEFGH
Having to use [...] to feel better	4.04	3.37	3.83	3.09	3.19	3.14	3.19	3.39	3.92
Confidence Intervals	(3.98 - 4.1)	(3.31 - 3.43)	(3.77 - 3.89)	(3.03 - 3.15)	(3.13 - 3.25)	(3.08 - 3.2)	(3.13 - 3.25)	(3.31 - 3.47)	(3.84 - 4)
% Unsure	2%	10%	12%	10%	6%	5%	7%	8%	4%
Significantly higher than:	BCDEFGHI	DEFG	BDEFGH		D		D	DEFG	BDEFGH
Feeling like you have to use [...]	4.23	3.46	3.94	3.18	3.19	3.17	3.23	3.46	4.00
Confidence Intervals	(4.19 - 4.27)	(3.4 - 3.52)	(3.88 - 4)	(3.12 - 3.24)	(3.13 - 3.25)	(3.11 - 3.23)	(3.17 - 3.29)	(3.38 - 3.54)	(3.92 - 4.08)
% Unsure	1%	9%	10%	9%	6%	5%	7%	7%	3%
Significantly higher than:	BCDEFGHI	DEFG	BDEFGH					DEFG	BDEFGH
Feeling like you can't stop using [...] even though you know it is not good for you	4.28	3.41	3.95	3.07	3.21	3.18	3.25	3.47	4.14
Confidence Intervals	(4.24 - 4.32)	(3.35 - 3.47)	(3.89 - 4.01)	(3.01 - 3.13)	(3.15 - 3.27)	(3.12 - 3.24)	(3.19 - 3.31)	(3.39 - 3.55)	(4.06 - 4.22)
% Unsure	1%	9%	10%	9%	5%	4%	6%	6%	3%
Significantly higher than:	BCDEFGHI	DEFG	BDEFGH		D	D	D	DEFG	BCDEFGH
Feeling unable to quit [...]	4.25	3.41	3.96	3.03	3.19	3.17	3.21	3.44	4.08
Confidence Intervals	(4.21 - 4.29)	(3.35 - 3.47)	(3.9 - 4.02)	(2.97 - 3.09)	(3.13 - 3.25)	(3.11 - 3.23)	(3.15 - 3.27)	(3.36 - 3.52)	(4 - 4.16)
% Unsure	2%	9%	10%	9%	5%	4%	7%	6%	3%
Significantly higher than:	BCDEFGHI	DEFG	BDEFGH		D	D	D	DEFG	BCDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

Table 42. Perceived Risk of Addiction Associated with Nicotine-Containing Products Among Comparing Current Smokers with No Intent to Quit (CSNIQ)

	Ratings of Comparator Categories Among CSNIQ				Ratings of Test or Control Concepts Among CSNIQ				
	CCs	E-cigs	Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	1495	1511	1457	1454	1451	1476	1504	726	760
Being unable to quit [...]	3.78	3.15	3.48	2.87	2.95	3.06	3.00	3.26	3.61
<i>Confidence Intervals</i>	(3.72 - 3.84)	(3.09 - 3.21)	(3.4 - 3.56)	(2.81 - 2.93)	(2.89 - 3.01)	(3 - 3.12)	(2.94 - 3.06)	(3.16 - 3.36)	(3.51 - 3.71)
<i>% Unsure</i>	4%	14%	18%	18%	10%	9%	12%	11%	6%
<i>Significantly higher than:</i>	BCDEFGHI	DEG	BDEFGH			DE	D	DEFG	BCDEFGH
Being addicted to [...]	3.98	3.26	3.60	2.91	3.03	3.15	3.09	3.37	3.73
<i>Confidence Intervals</i>	(3.92 - 4.04)	(3.2 - 3.32)	(3.54 - 3.66)	(2.83 - 2.99)	(2.97 - 3.09)	(3.09 - 3.21)	(3.03 - 3.15)	(3.27 - 3.47)	(3.63 - 3.83)
<i>% Unsure</i>	3%	13%	16%	16%	10%	9%	11%	11%	7%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH		D	DE	D	DEFG	BCDEFGH
Having to use [...] to feel better	3.57	3.15	3.34	2.90	2.95	3.02	2.99	3.19	3.38
<i>Confidence Intervals</i>	(3.51 - 3.63)	(3.09 - 3.21)	(3.26 - 3.42)	(2.84 - 2.96)	(2.89 - 3.01)	(2.96 - 3.08)	(2.93 - 3.05)	(3.11 - 3.27)	(3.28 - 3.48)
<i>% Unsure</i>	5%	15%	18%	17%	12%	10%	11%	13%	8%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH			D		DEFG	BDEFGH
Feeling like you have to use [...]	3.76	3.20	3.45	2.98	2.98	3.07	3.02	3.21	3.53
<i>Confidence Intervals</i>	(3.7 - 3.82)	(3.14 - 3.26)	(3.37 - 3.53)	(2.92 - 3.04)	(2.92 - 3.04)	(3.01 - 3.13)	(2.96 - 3.08)	(3.13 - 3.29)	(3.43 - 3.63)
<i>% Unsure</i>	4%	14%	18%	17%	11%	9%	11%	12%	8%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH			E		DEFG	BDEFGH
Feeling like you can't stop using [...] even though you know it is not good for you	3.82	3.20	3.51	2.95	3.00	3.11	3.02	3.29	3.66
<i>Confidence Intervals</i>	(3.76 - 3.88)	(3.14 - 3.26)	(3.45 - 3.57)	(2.89 - 3.01)	(2.94 - 3.06)	(3.05 - 3.17)	(2.96 - 3.08)	(3.19 - 3.39)	(3.56 - 3.76)
<i>% Unsure</i>	4%	14%	18%	18%	10%	9%	11%	11%	7%
<i>Significantly higher than:</i>	BCDEFGHI	DEG	BDEFGH			DE		DEFG	BCDEFGH
Feeling unable to quit [...]	3.82	3.18	3.51	2.94	2.96	3.05	2.99	3.22	3.62
<i>Confidence Intervals</i>	(3.76 - 3.88)	(3.12 - 3.24)	(3.45 - 3.57)	(2.88 - 3)	(2.9 - 3.02)	(2.99 - 3.11)	(2.93 - 3.05)	(3.12 - 3.32)	(3.52 - 3.72)
<i>% Unsure</i>	4%	14%	18%	17%	11%	9%	11%	11%	7%
<i>Significantly higher than:</i>	BCDEFGHI	DEFG	BDEFGH			DE		DEFG	BDEFGH

Rated on a 5-point scale ranging from “No Risk” (1) to “Very High Risk” (5)

Mean ratings excluding “Unsure” responses

95% confidence intervals in parentheses

Proportions of those selecting “Unsure”

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

11.0 Assessment of Intent to Use and Purchase Intent

11.1 INTENT TO USE AND PURCHASE INTENT – TOTAL RESPONDENTS

Participants were asked to indicate a level of Intent to Use Comparator Categories (CCs, E-Cigarettes, Moist Snuff, NRTs) prior to concept exposure. Intent to Use and Purchase Intent for each test or control concept reviewed were asked following exposure to the concept and only for the concept reviewed. A second measure of Intent to Use was asked at the end of the survey.

Intent to Use was asked as:

“Now think about your personal intent to use each of the following. By intent to use, we mean that you personally [IF NEVER / FORMER SMOKER: “, as a non-smoker,”] now intend to use the product on a regular, ongoing basis. Overall, what is your current intent to use each of the following products on a regular, ongoing basis?”

Participants indicated Intent to Use each comparator category and test or control concept using a 6-point scale ranging from “Definitely Would” (6) to “Definitely Would Not” (1) (Q7, QIU1, QIU2 on the survey).

Purchase Intent was asked as:

“How likely would you be to buy [CONCEPT]? Assume it’s priced equivalently to a pack of cigarettes.”

Participants indicated Purchase Intent for the test or control concept using a 5-point scale ranging from “Definitely Would” (5) to “Definitely Would Not” (1) (Q11 on the survey).

Considering the total sample of participants (N=29,219), mean scores of Intent to Use any comparator category (pre-exposure) ranged from 1.32 to 1.84. In total, Intent to Use Moist Snuff was significantly lower (1.32; $p<0.05$) than all other Comparator Categories and significant differences ($p<0.05$) exist across the three other Comparator Categories as well. Mean scores across the test and control concepts (Test 2, Control 1, Control 2) ranged from 1.51 to 1.67 where the mean ratings for VLN™ (Consumption – Test 2) (1.67) and VLN™ (No Messaging – Control 1) was significantly higher ($p<0.05$) than ratings for the Marlboro Control Cell (1.51), but still much lower than the median rating of 3.50. The Post-Exposure 2 (Second Measure) Intent to Use ratings were at parity or lower than prior ratings.

Purchase Intent mean scores for any concept among total respondents ranged from 1.48 to 1.62 (Test 2, Control 1, Control 2). In total, the Purchase Intent mean score for Marlboro Gold (Control 2) was significantly lower ($p<0.05$) than VLN™ (Consumption – Test 2) and VLN™ (No Messaging – Control 1). See Table 43, Table 44, and Table 45.

Table 43. Participant Intent to Use Cigarettes, E-Cigarettes, Moist Snuff, and NRTs (Pre-Exposure to Concept) and Test or Control Concept Reviewed (Post-Exposure 1)

	CCs	E- cigarettes	Moist Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	29219	29219	29219	29219	7931	7076	7081	3555	3576
Intent to Use	1.84	1.76	1.32	1.66	1.71	1.67	1.71	1.62	1.51
<i>Confidence Intervals</i>	(1.82 - 1.86)	(1.74 - 1.78)	(1.31 - 1.33)	(1.64 - 1.68)	(1.68 - 1.74)	(1.64 - 1.7)	(1.68 - 1.74)	(1.58 - 1.66)	(1.47 - 1.55)
<i>Significantly higher than:</i>	BCDEFGHI	CDFHI		CI	CHI	CI	CHI	CI	C

Rated on a 6-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

Table 44. Participant Purchase Intent for Test or Control Concept Reviewed (Post-Exposure 1)

	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E
<i>Unweighted Base</i>	7931	7076	7081	3555	3576
Purchase Intent	1.66	1.62	1.64	1.56	1.48
<i>Confidence Interval</i>	(1.63 - 1.69)	(1.59 - 1.65)	(1.61 - 1.67)	(1.53 - 1.59)	(1.45 - 1.51)
<i>Significantly higher than:</i>	DE	E	DE	E	

Rated on a 5-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (5)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

Table 45. Participant Intent to Use Cigarettes, E-Cigarettes, Moist Snuff, NRTs and Test or Control Concept Reviewed (Post-Exposure 2)

	CCs	E- cigarettes	Moist Snuff	NRTs	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I
<i>Unweighted Base</i>	29219	29219	29219	29219	7931	7076	7081	3555	3576
Intent to Use	1.75	1.66	1.27	1.54	1.80	1.74	1.76	1.72	1.57
<i>Confidence Intervals</i>	(1.73 - 1.77)	(1.65 - 1.67)	(1.26 - 1.28)	(1.53 - 1.55)	(1.77 - 1.83)	(1.71 - 1.77)	(1.73 - 1.79)	(1.68 - 1.76)	(1.53 - 1.61)
<i>Significantly higher than:</i>	BCDI	CDI		C	BCDI	BCDI	BCDI	CDI	C

Rated on a 6-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

11.2 INTENT TO USE AND PURCHASE INTENT – COMPARING CURRENT SMOKERS, NEVER SMOKERS AND FORMER SMOKERS

11.2.1 Intent to Use (Post-Exposure 1)

VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2) both find lower mean ratings, 3.42 and 3.04, respectively, than VLN™ (Consumption – Test 2), 3.67. See Table 46.

Current Smokers' Intent to Use mean for VLN™ (Consumption – Test 2) was 2+ points higher (significant at $p < 0.05$) than the Intent to Use mean for VLN™ (Consumption – Test 2) of both Former Smokers and Never Smokers, indicating that the product communications seem to sufficiently mitigate against the risk of introducing new tobacco users and recidivism among Never Smokers and Former Smokers, respectively, while offering a less-addictive alternative to CCs for which Current Smokers have indicated an interest. See Table 47.

Table 46. Current Smokers Intent to Use Test or Control Concept Reviewed (Post-Exposure 1)

	Current Smokers				
	Urge (Test 1) A	Consumption (Test 2) B	Less (Test 3) C	VLN™ No Messaging (Control 1) D	Marlboro Gold (Control 2) E
<i>Unweighted Base</i>	3333	3018	3017	1509	1512
Intent to Use	3.69	3.67	3.69	3.42	3.04
<i>Confidence Intervals</i>	(3.61 - 3.77)	(3.59 - 3.75)	(3.61 - 3.77)	(3.3 - 3.54)	(2.92 - 3.16)
<i>Significantly higher than:</i>	DE	DE	DE	E	

Rated on a 6-point scale ranging from "Definitely Would Not" (1) to "Definitely Would" (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

Table 47. Participant Intent to Use Test or Control Concept Reviewed (Post-Exposure 1)

	Never Smokers					Former Smokers				
	Urge (Test 1) A	Consumption (Test 2) B	Less (Test 3) C	VLN™ No Messaging (Control 1) D	Marlboro Gold (Control 2) E	Urge (Test 1) F	Consumption (Test 2) G	Less (Test 3) H	VLN™ No Messaging (Control 1) I	Marlboro Gold (Control 2) J
<i>Unweighted Base</i>	2056	2034	2047	1038	1043	2542	2024	2017	1008	1021
Intent to Use	1.31	1.28	1.32	1.27	1.18	1.40	1.34	1.37	1.30	1.31
<i>Confidence Intervals</i>	(1.28 - 1.34)	(1.25 - 1.31)	(1.29 - 1.35)	(1.23 - 1.31)	(1.15 - 1.21)	(1.36 - 1.44)	(1.3 - 1.38)	(1.33 - 1.41)	(1.25 - 1.35)	(1.25 - 1.37)
<i>Significantly higher than:</i>	E	E	E	E		ABCDEI	BE	BDE	E	E

Rated on a 6-point scale ranging from "Definitely Would Not" (1) to "Definitely Would" (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

11.2.2 Purchase Intent (Post-Exposure to Concept)

Purchase Intent data also supports the theory that VLN™ (Consumption – Test 2) offers a less-addictive alternative for Current Smokers while not presenting a significant risk of initiation or recidivism to Never Smokers or Former Smokers.

The Purchase Intent mean score among Current Smokers of 3.38 for VLN™ (Consumption – Test 2) is higher than the Purchase Intent mean for VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2) scores, 3.13 and 2.91, respectively. See Table 48.

Current Smokers' Purchase Intent rating for VLN™ (Consumption – Test 2), similar to Intent to Use mean rating, was 2+ points higher (significant at $p < 0.05$) than the mean ratings for VLN™ (Consumption – Test 2) from both Former Smokers and Never Smokers with patterns similar to those seen in the Intent to Use scores. See Table 49.

Table 48. Current Smokers Purchase Intent for Test or Control Concept Reviewed (Post-Exposure to Concept)

	Current Smokers				
	Urge (Test 1) A	Consumption (Test 2) B	Less (Test 3) C	VLN™ No Messaging (Control 1) D	Marlboro Gold (Control 2) E
<i>Unweighted Base</i>	3333	3018	3017	1509	1512
Purchase Intent	3.38	3.38	3.38	3.13	2.91
<i>Confidence Intervals</i>	(3.31 - 3.45)	(3.31 - 3.45)	(3.31 - 3.45)	(3.03 - 3.23)	(2.81 - 3.01)
<i>Significantly higher than:</i>	DE	DE	DE	E	

Rated on a 5-point scale ranging from "Definitely Would Not" (1) to "Definitely Would" (5)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

Table 49. Never Smokers and Former Smokers Purchase Intent for Test or Control Concept Reviewed (Post-Exposure to Concept)

	Never Smokers					Former Smokers				
	Urge (Test 1) A	Consumption (Test 2) B	Less (Test 3) C	VLN™ No Messaging (Control 1) D	Marlboro Gold (Control 2) E	Urge (Test 1) F	Consumption (Test 2) G	Less (Test 3) H	VLN™ No Messaging (Control 1) I	Marlboro Gold (Control 2) J
<i>Unweighted Base</i>	2056	2034	2047	1038	1043	2542	2024	2017	1008	1021
Purchase Intent	1.32	1.27	1.30	1.26	1.19	1.38	1.35	1.35	1.29	1.27
<i>Confidence Intervals</i>	(1.3 - 1.34)	(1.25 - 1.29)	(1.28 - 1.32)	(1.23 - 1.29)	(1.16 - 1.22)	(1.34 - 1.42)	(1.31 - 1.39)	(1.31 - 1.39)	(1.25 - 1.33)	(1.22 - 1.32)
<i>Significantly higher than:</i>	E	E	E			ABCDEIJ	BDEJ	BDEJ	E	E

Rated on a 5-point scale ranging from "Definitely Would Not" (1) to "Definitely Would" (5)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

11.2.3 Intent to Use (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

The second measure of Intent to Use among Current Smokers finds an interesting shift among Current Smokers – an increase in mean ratings of Intent to Use VLN™ (Consumption – Test 2) with a mean score of 3.90 versus the prior scores of 3.67. This, paired with a decrease of Intent to Use CCs (Post-Exposure) as well as other tobacco products, may indicate Current Smokers more seriously considering a shift from CCs to a less addictive product. See Table 50.

Conversely, Never Smokers' and Former Smokers' Intent to Use ratings across all Comparator Categories and VLN™ (Consumption – Test 2) when comparing pre- and post-exposure answers is at parity. There are no meaningful shifts in response data for these groups. See Table 51 and Table 52.

Table 50. Current Smokers Intent to Use Comparator Categories and Test / Control Concepts (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Current Smokers Intent to Use Comparator Categories and Concepts									
	CCs A	E- cigarettes B	Moist Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	12389	12389	12389	12389	3333	3018	3017	1509	1512
Intent to Use (Pre-Exposure)	4.85	3.27	1.83	3.28	-	-	-	-	-
<i>Confidence Intervals</i>	(4.82 - 4.88)	(3.22 - 3.32)	(1.79 - 1.87)	(3.24 - 3.32)	-	-	-	-	-
<i>Significantly higher than:</i>	BCD	C	C	C	-	-	-	-	-
Intent to Use (Post-Exposure 1)	-	-	-	-	3.69	3.67	3.69	3.42	3.04
<i>Confidence Intervals</i>	-	-	-	-	(3.61 - 3.77)	(3.59 - 3.75)	(3.61 - 3.77)	(3.3 - 3.54)	(2.92 - 3.16)
<i>Significantly higher than:</i>	-	-	-	-	HI	HI	HI	I	
Intent to Use (Post-Exposure 2)	4.50	2.95	1.78	2.84	3.91	3.90	3.91	3.61	3.23
<i>Confidence Intervals</i>	(4.46 - 4.54)	(2.9 - 3)	(1.74 - 1.82)	(2.8 - 2.88)	(3.83 - 3.99)	(3.81 - 3.99)	(3.82 - 4)	(3.48 - 3.74)	(3.11 - 3.35)
<i>Significantly higher than:</i>	BCDEFGHI	CD	C	C	BCDHI	BCDHI	BCDHI	BCDI	BCD

Rated on a 6-point scale ranging from "Definitely Would Not" (1) to "Definitely Would" (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

Table 51. Never Smokers Intent to Use Comparator Categories and Test / Control Concepts (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Never Smokers Intent to Use Comparator Categories and Concepts									
	CCs A	E- cigarettes B	Moist Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	8218	8218	8218	8218	2056	2034	2047	1038	1043
Intent to Use (Pre-Exposure)	1.24	1.41	1.22	1.29	-	-	-	-	-
<i>Confidence Intervals</i>	(1.23 - 1.25)	(1.39 - 1.43)	(1.21 - 1.23)	(1.28 - 1.3)	-	-	-	-	-
<i>Significantly higher than:</i>		ACD		AC	-	-	-	-	-
Intent to Use (Post-Exposure 1)	-	-	-	-	1.31	1.28	1.32	1.27	1.18
<i>Confidence Intervals</i>	-	-	-	-	(1.28 - 1.34)	(1.25 - 1.31)	(1.29 - 1.35)	(1.23 - 1.31)	(1.15 - 1.21)
<i>Significantly higher than:</i>	-	-	-	-	I	I	I	I	
Intent to Use (Post-Exposure 2)	1.20	1.35	1.18	1.25	1.38	1.31	1.33	1.36	1.23
<i>Confidence Intervals</i>	(1.19 - 1.21)	(1.34 - 1.36)	(1.17 - 1.19)	(1.24 - 1.26)	(1.35 - 1.41)	(1.28 - 1.34)	(1.3 - 1.36)	(1.32 - 1.4)	(1.2 - 1.26)
<i>Significantly higher than:</i>		ACDI		AC	ACDI	ACD	ACDI	ACDI	

Rated on a 6-point scale ranging from "Definitely Would Not" (1) to "Definitely Would" (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

Table 52. Former Smokers Intent to Use Comparator Categories and Test / Control Concepts (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Former Smokers Intent to Use Comparator Categories and Concepts									
	CCs A	E- cigarettes B	Moist Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	8612	8612	8612	8612	2542	2024	2017	1008	1021
Intent to Use (Pre-Exposure)	1.36	1.64	1.22	1.53	-	-	-	-	-
Confidence Intervals	(1.34 - 1.38)	(1.61 - 1.67)	(1.2 - 1.24)	(1.5 - 1.56)	-	-	-	-	-
Significantly higher than:	C	ACD		AC	-	-	-	-	-
Intent to Use (Post-Exposure 1)	-	-	-	-	1.40	1.34	1.37	1.30	1.31
Confidence Intervals	-	-	-	-	(1.36 - 1.44)	(1.3 - 1.38)	(1.33 - 1.41)	(1.25 - 1.35)	(1.25 - 1.37)
Significantly higher than:	-	-	-	-	H				
Intent to Use (Post-Exposure 2)	1.30	1.57	1.17	1.40	1.44	1.41	1.42	1.39	1.32
Confidence Intervals	(1.28 - 1.32)	(1.54 - 1.6)	(1.15 - 1.19)	(1.38 - 1.42)	(1.4 - 1.48)	(1.36 - 1.46)	(1.37 - 1.47)	(1.33 - 1.45)	(1.26 - 1.38)
Significantly higher than:	C	ACDEFGHI		AC	ACI	ACI	ACI	AC	C

Rated on a 6-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

11.3 INTENT TO USE AND PURCHASE INTENT – NEVER SMOKERS

11.3.1 Intent to Use (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Never Smokers were divided into two subgroups. Never Smokers Gen Pop (NSGP) is representative of the US population in terms of age as well as other demographic data points including ethnicity, gender and Census Region. Never Smokers Legal Age to 25 (NSLA) is an oversample of participants of legal age (LA) to purchase tobacco as defined by each participant’s state of residence up to the age of 25. This oversample group is a proxy for youth smokers who may not be interviewed by law without parental consent. The following analysis provides highlights from these two groups on Intent to Use and Purchase Intent ratings.

Mean ratings of Intent to Use for all products among NSGP in total are very low (1.31 or lower). Among NSGP, pre-exposure ratings for all Comparator Categories range from 1.20 to 1.31 and the first post-exposure ratings for concepts evaluated range from 1.17 to 1.27 and the second post-exposure ratings for concepts evaluated range from 1.23 to 1.32 (Test 1, Control 1, Control 2).

Among the NSLA, pre-exposure Intent to Use ratings of Comparator Categories are slightly higher than the NSGP group with a range from 1.30 to 1.76. The highest mean rating of 1.76 is the E-Cigarette category, indicating a higher intent to use among this group than the NSGP group. Among NSLA, the first post-exposure ratings for each concept range from 1.22 to 1.50 (Test 1, Control 1, Control 2) and the second post-exposure ratings for concepts evaluated range from 1.23 to 1.54 (Test

1, Control 1, Control 2), while Intent to Use comparator products ranged from 1.29 to 1.70 with E-cigarettes still having the highest Intent to Use (1.70).

NSLA ratings across all Comparator Categories and test/control products are at parity with Long-Term Quitters and are significantly lower than Recent Quitters and Current Smokers. But when compared to NSGP, NSLA scores on VLN™ Test concept mean ratings are significantly higher. VLN™ (Consumption – Test 2) also scores higher than both control concepts – significantly higher than Marlboro. However, NSLA Intent to Use E-Cigarettes, both pre- and post-evaluation (1.76 and 1.70) is significantly higher than any other product, including VLN™ (Consumption – Test 2) and VLN™ (No Messaging – Control 1). Given that post-exposure mean ratings for E-cigarettes is equivalent to pre-exposure ratings yet is significantly higher than ratings for VLN™ (Consumption – Test 2), a conclusion may be drawn that introduction of VLN™ (Consumption – Test 2) in the marketplace would not contribute substantially to tobacco use initiation among youth; rather, the introduction of a product more similar to an E-Cigarette would be more likely to influence this group. See Table 53 and Table 54.

Table 53. Never Smokers General Population Intent to Use Comparator Categories and Test / Control Concepts (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Never Smokers General Population Intent to Use Comparator Categories and Concepts									
	CCs A	E- cigarettes B	Moist Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	4212	4212	4212	4212	1056	1034	1045	536	541
Intent to Use (Pre-Exposure)	1.21	1.31	1.20	1.26	-	-	-	-	-
<i>Confidence Intervals</i>	(1.2 - 1.22)	(1.29 - 1.33)	(1.19 - 1.21)	(1.24 - 1.28)	-	-	-	-	-
<i>Significantly higher than:</i>		AC		AC	-	-	-	-	-
Intent to Use (Post-Exposure 1)	-	-	-	-	1.25	1.21	1.27	1.23	1.17
<i>Confidence Intervals</i>	-	-	-	-	(1.22 - 1.28)	(1.19 - 1.23)	(1.24 - 1.3)	(1.19 - 1.27)	(1.14 - 1.2)
<i>Significantly higher than:</i>	-	-	-	-			I		
Intent to Use (Post-Exposure 2)	1.16	1.25	1.15	1.21	1.33	1.24	1.27	1.32	1.23
<i>Confidence Intervals</i>	(1.15 - 1.17)	(1.24 - 1.26)	(1.14 - 1.16)	(1.2 - 1.22)	(1.3 - 1.36)	(1.21 - 1.27)	(1.24 - 1.3)	(1.27 - 1.37)	(1.19 - 1.27)
<i>Significantly higher than:</i>		ACD		AC	ABCDF	AC	AC	ACD	AC

Rated on a 6-point scale ranging from 1 "Definitely Would Not" to 6 "Definitely Would"

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

Table 54. Never Smokers LA to 25 Intent to Use Comparator Categories and Test / Control Concepts (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Never Smokers LA to 25 Intent to Use Comparator Categories and Concepts									
	CCs A	E- cigarettes B	Moist Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	4006	4006	4006	4006	1000	1000	1002	502	502
Intent to Use (Pre-Exposure)	1.33	1.76	1.30	1.37	-	-	-	-	-
<i>Confidence Intervals</i>	(1.3 - 1.36)	(1.72 - 1.8)	(1.27 - 1.33)	(1.34 - 1.4)	-	-	-	-	-
<i>Significantly higher than:</i>		ACD		C	-	-	-	-	-
Intent to Use (Post-Exposure 1)	-	-	-	-	1.53	1.50	1.51	1.41	1.22
<i>Confidence Intervals</i>	-	-	-	-	(1.46 - 1.6)	(1.43 - 1.57)	(1.44 - 1.58)	(1.32 - 1.5)	(1.15 - 1.29)
<i>Significantly higher than:</i>	-	-	-	-	I	I	I	I	
Intent to Use (Post-Exposure 2)	1.32	1.70	1.29	1.36	1.56	1.54	1.53	1.51	1.23
<i>Confidence Intervals</i>	(1.29 - 1.35)	(1.66 - 1.74)	(1.26 - 1.32)	(1.33 - 1.39)	(1.49 - 1.63)	(1.47 - 1.61)	(1.45 - 1.61)	(1.41 - 1.61)	(1.17 - 1.29)
<i>Significantly higher than:</i>		ACDEFGHI		CI	ACDI	ACDI	ACDI	ACDI	

Rated on a 6-point scale ranging from 1 "Definitely Would Not" to 6 "Definitely Would"

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

11.3.2 Purchase Intent (Post-Exposure to Concept)

Purchase Intent data is consistent with the patterns seen in Intent to Use data for both groups of Never Smokers. Overall, NSGP and NSLA Purchase Intent ratings are very similar to the ratings for Intent to Use. See Table 55.

Table 55. Never Smokers Purchase Intent for Test or Control Concept Reviewed (Post-Exposure to Concept)

	Never Smokers General Population					Never Smokers LA to 25				
	Urge (Test 1) A	Consumption (Test 2) B	Less (Test 3) C	VLN™ No Messaging (Control 1) D	Marlboro Gold (Control 2) E	Urge (Test 1) F	Consumption (Test 2) G	Less (Test 3) H	VLN™ No Messaging (Control 1) I	Marlboro Gold (Control 2) J
<i>Unweighted Base</i>	1056	1034	1045	536	541	1000	1000	1002	502	502
Purchase Intent	1.27	1.21	1.25	1.22	1.17	1.52	1.47	1.49	1.41	1.25
<i>Confidence Intervals</i>	(1.25 - 1.29)	(1.19 - 1.23)	(1.23 - 1.27)	(1.19 - 1.25)	(1.14 - 1.2)	(1.46 - 1.58)	(1.41 - 1.53)	(1.43 - 1.55)	(1.33 - 1.49)	(1.18 - 1.32)
<i>Significantly higher than:</i>	E					ABCDEJ	ABCDEJ	ABCDEJ	ABCDEJ	

Rated on a 5-point scale ranging from "Definitely Would Not" (1) to "Definitely Would" (5)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

11.4 INTENT TO USE AND PURCHASE INTENT – FORMER SMOKERS

11.4.1 Comparing Recent Quitters to Long-Term Quitters on Intent to Use and Purchase Intent Ratings

Former Smokers were divided into two subgroups: those who self-identified as having quit in the past year and those who self-identified as having quit more than one year prior to the date of the interview. The following analysis provides highlights from these two groups on Intent to Use ratings.

11.4.2 Intent to Use (Post-Exposure 1)

Among Recent Quitters, VLN™ (Consumption – Test 2) Intent to Use mean score (1.96) is at parity with the mean rating for VLN™ (No Messaging – Control 1), 1.99, suggesting the test concepts have no more appeal to a Recent Quitter than would the introduction of new conventional cigarette. Intent to use scores for VLN™ (Consumption – Test 2) and control concepts are higher than the mean score for Marlboro Gold (Control 2), 1.68. See Table 56.

Long-Term Quitters rated Intent to Use for VLN™ (Consumption – Test 2) lower than did Recent Quitters. The mean score of VLN™ (Consumption – Test 2) 1.29 is just slightly higher than VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2) mean scores of 1.24 and 1.28, respectively, suggesting the test concepts would have little more appeal to individuals who quit smoking at least a year ago than would a new cigarette introduction or an existing cigarette on the market. See Table 56.

Table 56. Former Smokers Intent to Use Test or Control Concept Reviewed (Post-Exposure 1)

	Recent Quitters - Intent to Use					Long-Term Quitters - Intent to Use				
	Urge (Test 1) A	Consumption (Test 2) B	Less (Test 3) C	VLN™ No Messaging (Control 1) D	Marlboro Gold (Control 2) E	Urge (Test 1) F	Consumption (Test 2) G	Less (Test 3) H	VLN™ No Messaging (Control 1) I	Marlboro Gold (Control 2) J
<i>Unweighted Base</i>	392	563	560	265	263	2150	1461	1457	743	758
Intent to Use	2.01	1.96	2.05	1.99	1.68	1.34	1.29	1.31	1.24	1.28
<i>Confidence Intervals</i>	(1.81 - 2.21)	(1.75 - 2.17)	(1.83 - 2.27)	(1.68 - 2.3)	(1.41 - 1.95)	(1.3 - 1.38)	(1.25 - 1.33)	(1.27 - 1.35)	(1.19 - 1.29)	(1.22 - 1.34)
<i>Significantly higher than:</i>	EFGHIJ	EFGHIJ	EFGHIJ	EFGHIJ	FGHIJ	I				

Rated on a 6-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

11.4.3 Intent to Use (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Long-Term Quitters also have lower Intent to Use ratings than Recent Quitters for all Comparator Categories. Highest pre-exposure Intent to Use mean scores are seen among Recent Quitters for E-Cigarettes (2.58) and NRTs (2.35). In other cases, the mean score for both Recent Quitters and Long-Term Quitters is below 2.00, with the lowest scores seen for Moist Snuff (1.39 for Recent Quitters; 1.20 for Long-Term Quitters). For both Recent Quitters and Long-Term Quitters, Intent to Use ratings of all Comparator Categories drop somewhat from the pre-exposure question to the post-exposure question.

For VLN™ (Consumption – Test 2), Intent to Use scores increase slightly from the first post-exposure Intent to Use question to the second such question for both Recent Quitters and Long-Term Quitters. Slight increases are also seen, however, for both Recent and Long-Term Quitters for both VLN™ (No Messaging – Control 1) concept and the Marlboro Gold (Control 2) concept.

At the second Intent to Use question, VLN™ (Consumption – Test 2) ratings are still lower than ratings received by E-cigarettes among both Recent Quitters and Long-Term Quitters. Intent to Use ratings are similar to those for NRTs: Recent Quitters give NRTs a mean score of 2.13 and VLN™ (Consumption – Test 2) a mean of 2.13. Long-Term Quitters give NRTs a mean score of 1.33 and VLN™ (Consumption – Test 2) a mean score of 1.35. This suggests VLN™ (Consumption – Test 2) might be viewed as similar to NRTs. See Table 57 and Table 58.

Table 57. Former Smokers (Recent Quitters) – Intent to Use Comparator Categories and Test / Control Concepts (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Former Smokers (Recent Quitters) Intent to Use Comparator Categories and Concepts									
	CCs A	E- cigarettes B	Moist Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	2043	2043	2043	2043	392	563	560	265	263
Intent to Use (Pre-Exposure)	1.97	2.58	1.39	2.35	-	-	-	-	-
<i>Confidence Intervals</i>	(1.87 - 2.07)	(2.44 - 2.72)	(1.31 - 1.47)	(2.22 - 2.48)	-	-	-	-	-
<i>Significantly higher than:</i>	C	ACD		AC	-	-	-	-	-
Intent to Use (Post-Exposure 1)	-	-	-	-	2.01	1.96	2.05	1.99	1.68
<i>Confidence Intervals</i>	-	-	-	-	(1.81 - 2.21)	(1.75 - 2.17)	(1.83 - 2.27)	(1.68 - 2.3)	(1.41 - 1.95)
<i>Significantly higher than:</i>	-	-	-	-	I	I	I	I	
Intent to Use (Post-Exposure 2)	1.80	2.46	1.38	2.13	2.11	2.13	2.14	2.07	1.74
<i>Confidence Intervals</i>	(1.71 - 1.89)	(2.32 - 2.6)	(1.3 - 1.46)	(2.01 - 2.25)	(1.9 - 2.32)	(1.9 - 2.36)	(1.91 - 2.37)	(1.76 - 2.38)	(1.47 - 2.01)
<i>Significantly higher than:</i>	C	ACDEFGHI		ACI	ACI	ACI	ACI	ACI	C

Rated on a 6-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

Table 58. Former Smokers (Long-Term Quitters) – Intent to Use Comparator Categories and Test / Control Concepts (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Former Smokers (Long-Term Quitters) Intent to Use Comparator Categories and Concepts									
	CCs A	E- cigarettes B	Moist Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	6569	6569	6569	6569	2150	1461	1457	743	758
Intent to Use (Pre-Exposure)	1.30	1.56	1.20	1.45	-	-	-	-	-
<i>Confidence Intervals</i>	(1.28 - 1.32)	(1.53 - 1.59)	(1.18 - 1.22)	(1.42 - 1.48)	-	-	-	-	-
<i>Significantly higher than:</i>	C	ACD	AC	AC	-	-	-	-	-
Intent to Use (Post-Exposure 1)	-	-	-	-	1.34	1.29	1.31	1.24	1.28
<i>Confidence Intervals</i>	-	-	-	-	(1.3 - 1.38)	(1.25 - 1.33)	(1.27 - 1.35)	(1.19 - 1.29)	(1.22 - 1.34)
<i>Significantly higher than:</i>	-	-	-	-	H				
Intent to Use (Post-Exposure 2)	1.26	1.49	1.15	1.33	1.38	1.35	1.36	1.32	1.29
<i>Confidence Intervals</i>	(1.24 - 1.28)	(1.46 - 1.52)	(1.13 - 1.17)	(1.31 - 1.35)	(1.34 - 1.42)	(1.31 - 1.39)	(1.32 - 1.4)	(1.26 - 1.38)	(1.23 - 1.35)
<i>Significantly higher than:</i>	C	ACDEFGHI	AC	AC	ACI	AC	AC	C	C

Rated on a 6-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than mean in column listed

11.5 INTENT TO USE AND PURCHASE INTENT – CURRENT SMOKERS

Current Smokers were divided into two subgroups including those who self-identified as having an intent to quit within the next six months and those who did not. The following analysis provides highlights from the two groups on Intent to Use and Purchase Intent ratings.

11.5.1 Intent to Use (Post-Exposure 1)

Among CSIQ participants, VLN™ (Consumption – Test 2) mean score of 3.84 is higher than both control concepts, VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2) with mean scores of 3.53 and 2.98, respectively. Marlboro Gold (Control 2) Intent to Use is significantly lower ($p < 0.05$) among this group than all other concepts reviewed.

CSNIQ rated Intent to Use for VLN™ (Consumption – Test 2) 3.42, which is lower than that of CSIQ (3.84). In a pattern similar to that of CSIQ, both control concepts VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2) have lower mean scores of 3.25 and 3.12, respectively. See Table 59.

Table 59. Current Smokers Intent to Use Test or Control Concept Reviewed (Post-Exposure 1)

	Current Smokers with Intent to Quit - Intent to Use					Current Smokers with No Intent to Quit - Intent to Use				
	Urge (Test 1) A	Consumption (Test 2) B	Less (Test 3) C	VLN™ No Messaging (Control 1) D	Marlboro Gold (Control 2) E	Urge (Test 1) F	Consumption (Test 2) G	Less (Test 3) H	VLN™ No Messaging (Control 1) I	Marlboro Gold (Control 2) J
<i>Unweighted Base</i>	1882	1542	1513	783	752	1451	1476	1504	726	760
Intent to Use	3.87	3.84	3.88	3.53	2.98	3.43	3.42	3.42	3.25	3.12
<i>Confidence Intervals</i>	(3.77 - 3.97)	(3.73 - 3.95)	(3.77 - 3.99)	(3.38 - 3.68)	(2.83 - 3.13)	(3.31 - 3.55)	(3.29 - 3.55)	(3.28 - 3.56)	(3.06 - 3.44)	(2.93 - 3.31)
<i>Significantly higher than:</i>	DEFGHIJ	DEFGHIJ	DEFGHIJ	EIJ		EIJ	EIJ	EIJ	E	

Rated on a 6-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

11.5.2 Intent to Use (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

As expected, the patterns of Intent to Use ratings across CSIQ and CSNIQ fall in line with the Current Smokers group as a whole. When comparing the two groups independently, CSNIQ generally have lower Intent to Use ratings than CSIQ for all Comparator Categories and concepts, except for CCs where both pre- and post-exposure Intent to Use ratings of CCs are significantly higher among CSNIQ than CSIQ. There are also declines among both CSIQ and CSNIQ Intent to Use for CCs from the first post-exposure question to the second and increases in Intent to Use VLN™ (Consumption – Test 2), although changes in CSIQ ratings are more marked.

CSIQ rate VLN™ (Consumption – Test 2) (3.84) almost a point lower than CCs (4.60) on Intent to Use, but when comparing VLN™ (Consumption – Test 2) to Comparator Categories, Intent to Use ratings for VLN™ (Consumption – Test 2) are more consistent with Comparator Categories that have been marketed as alternatives to smoking (NRTs, E-Cigarettes) than CCs. CSNIQ rate Intent to Use CCs (5.23) almost 2 points higher than VLN™ (Consumption – Test 2) (3.55), followed by VLN™ (No Messaging – Control 1) and NRTs. This indicates that CSNIQ may also view VLN™ (Consumption – Test 2) as comparable to NRTs and E-Cigarettes. While CSNIQ response patterns are similar to those of CSIQ, based on the lower scores for VLN™ (Consumption – Test 2), NRTs, and E-Cigarettes and the much higher Intent to Use ratings for CCs, CSNIQ seem less likely than CSIQ to consider VLN™ (Consumption – Test 2) as an alternative to CCs. See Table 60 and Table 61.

Table 60. Current Smokers with Intent to Quit – Intent to Use Comparator Categories and Test / Control Concepts (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Current Smokers with Intent to Quit Intent to Use Comparator Categories and Concepts									
	CCs A	E- cigarettes B	Moist Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	6472	6472	6472	6472	1882	1542	1513	783	752
Intent to Use (Pre-Exposure)	4.60	3.43	1.92	3.71	-	-	-	-	-
<i>Confidence Intervals</i>	(4.55 - 4.65)	(3.37 - 3.49)	(1.87 - 1.97)	(3.65 - 3.77)	-	-	-	-	-
<i>Significantly higher than:</i>	BCD	C		BC	-	-	-	-	-
Intent to Use (Post-Exposure 1)	-	-	-	-	3.87	3.84	3.88	3.53	2.98
<i>Confidence Intervals</i>	-	-	-	-	(3.77 - 3.97)	(3.73 - 3.95)	(3.77 - 3.99)	(3.38 - 3.68)	(2.83 - 3.13)
<i>Significantly higher than:</i>	-	-	-	-	HI	HI	HI	I	
Intent to Use (Post-Exposure 2)	4.21	3.08	1.86	3.20	4.14	4.14	4.14	3.79	3.26
<i>Confidence Intervals</i>	(4.16 - 4.26)	(3.02 - 3.14)	(1.81 - 1.91)	(3.14 - 3.26)	(4.03 - 4.25)	(4.03 - 4.25)	(4.03 - 4.25)	(3.63 - 3.95)	(3.1 - 3.42)
<i>Significantly higher than:</i>	BCDHI	C		BC	BCDHI	BCDHI	BCDHI	BCDI	BC

Rated on a 6-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

Table 61. Current Smokers with No Intent to Quit – Intent to Use Comparator Categories and Test / Control Concepts (Pre-Exposure, Post-Exposure 1, Post-Exposure 2)

Current Smokers with No Intent to Quit Intent to Use Comparator Categories and Concepts									
	CCs A	E- cigarettes B	Moist Snuff C	NRTs D	Urge (Test 1) E	Consumption (Test 2) F	Less (Test 3) G	VLN™ No Messaging (Control 1) H	Marlboro Gold (Control 2) I
<i>Unweighted Base</i>	5917	5917	5917	5917	1451	1476	1504	726	760
Intent to Use (Pre-Exposure)	5.23	3.02	1.71	2.64	-	-	-	-	-
<i>Confidence Intervals</i>	(5.18 - 5.28)	(2.95 - 3.09)	(1.65 - 1.77)	(2.58 - 2.7)	-	-	-	-	-
<i>Significantly higher than:</i>	BCD	CD		C	-	-	-	-	-
Intent to Use (Post-Exposure 1)	-	-	-	-	3.43	3.42	3.42	3.25	3.12
<i>Confidence Intervals</i>	-	-	-	-	(3.31 - 3.55)	(3.29 - 3.55)	(3.28 - 3.56)	(3.06 - 3.44)	(2.93 - 3.31)
<i>Significantly higher than:</i>	-	-	-	-	HI	HI	HI		
Intent to Use (Post-Exposure 2)	4.95	2.75	1.66	2.31	3.56	3.55	3.56	3.35	3.19
<i>Confidence Intervals</i>	(4.89 - 5.01)	(2.68 - 2.82)	(1.6 - 1.72)	(2.25 - 2.37)	(3.43 - 3.69)	(3.41 - 3.69)	(3.41 - 3.71)	(3.15 - 3.55)	(3 - 3.38)
<i>Significantly higher than:</i>	BCDEFGHI	CD		C	BCDHI	BCDHI	BCDHI	BCD	BCD

Rated on a 6-point scale ranging from “Definitely Would Not” (1) to “Definitely Would” (6)

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than mean in column listed

11.5.3 Product Substitutability

The findings in section 11.5.2. are further supported with two subsequent questions developed to understand substitutability, or likelihood of current smokers to substitute the concept reviewed for tobacco products typically purchased (Q20 on the survey). Current Smokers with a positive Purchase Intent rating (“Definitely Would” or “Probably Would”) were asked if their purchases of the concepts reviewed would be used to replace any products they typically purchase. If participants indicated that they would use the concept as a replacement, they were asked which product(s) typically purchased would be replaced (Q21 on the survey).

Of all participants answering the questions and considering those viewing VLN™ (Consumption – Test 2), 82% of CSIQ and 64% of CSNIQ indicate a likelihood to use the concept to replace current purchases. Of those who would use the concept as a replacement, 92% of CSIQ and 89% of CSNIQ indicated that they would replace purchases of CCs with VLN™ (Consumption – Test 2). See Table 62 and Table 63.

Table 62. Current Smokers with Intent or No Intent to Quit – Comparison of Substitutability

	Current Smokers with Intent to Quit - Intent to Use					Current Smokers with No Intent to Quit - Intent to Use				
	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)	Urge (Test 1)	Consumption (Test 2)	Less (Test 3)	VLN™ No Messaging (Control 1)	Marlboro Gold (Control 2)
	A	B	C	D	E	F	G	H	I	J
<i>Unweighted Base</i>	1520	1253	1244	583	461	1039	1032	1040	483	477
% Indicating “Yes, buying [CONCEPT] would result in fewer purchases of other...products”	81%	82%	80%	75%	58%	68%	64%	66%	63%	42%
<i>Confidence Intervals</i>	(77.87% - 84.13%)	(78.78% - 85.22%)	(76.65% - 83.35%)	(69.64% - 80.36%)	(51.27% - 64.73%)	(63.14% - 72.86%)	(58.64% - 69.36%)	(60.70% - 71.30%)	(55.13% - 70.87%)	(33.91% - 50.09%)
<i>Significantly higher than:</i>	DEFGHIJ	DEFGHIJ	DEFGHIJ	EFGHIJ	J	EJ	EJ	EJ	J	

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher (p<0.05) than proportion in column listed

Table 63. Current Smokers with Intent or No Intent to Quit – Comparison of Replacement Products

	Current Smokers with Intent to Quit - Intent to Use					Current Smokers with No Intent to Quit- Intent to Use				
	Urge (Test 1) A	Consumption (Test 2) B	Less (Test 3) C	VLN™ No Messaging (Control 1) D	Marlboro Gold (Control 2) E	Urge (Test 1) F	Consumption (Test 2) G	Less (Test 3) H	VLN™ No Messaging (Control 1) I	Marlboro Gold (Control 2) J
<i>Unweighted Base</i>	1236	1032	993	439	265	716	665	687	303	193
Proportion of respondents indicating the product would be replaced by purchases of the concept										
Cigarettes <i>Significantly higher than:</i>	92% EJ	92% EJ	91% J	91% J	87% J	89% J	89% J	89% J	88% J	76%
E-Cigarettes <i>Significantly higher than:</i>	15% FGH	17% FGHJ	18% FGHIJ	15% GH	18% FGHJ	11%	10%	10%	13%	10%
Loose / roll your own <i>Significantly higher than:</i>	10% D	10% D	10% D	7%	8%	10% D	9%	9%	10%	10%
Cigars, little cigars, cigarillos <i>Significantly higher than:</i>	6%	9% AH	8%	10% AFGH	10% AFGHI	6%	6%	5%	5%	8%
Moist Snuff <i>Significantly higher than:</i>	5% H	4%	5% H	4%	6% FH	3%	4%	2%	3%	4%
NRTs <i>Significantly higher than:</i>	3% GH	4% FGH	4% FGHJ	4% FGHJ	4% FGH	2%	1%	2%	3%	1%
Loose leaf chewing tobacco <i>Significantly higher than:</i>	3%	2%	4% BFGH	5% BFGH	5% BFGH	2%	2%	2%	3%	2%
Other <i>Significantly higher than:</i>	1%	0%	1% B	1%	0%	1%	1%	1%	1%	1%

95% confidence intervals in parentheses

Column letters indicate mean rating in that cell is significantly higher ($p < 0.05$) than proportion in column listed

12.0 Strengths and Limitations

As with any study of this nature, the research presented herein had both strengths and limitations. The robust sample allows for deep analysis of each cigarette use subgroup, Never Smokers, Former Smokers and Current Smokers, as well as analysis within each of those groups among Never Smokers General Population, Never Smokers LA-25, Long-Term Quitters, Recent Quitters, Current Smokers with the Intention to Quit and Current Smokers with No Intent to Quit. The sample was likewise diverse in terms of age, ethnicity and US Census Region. Quotas were established, and data weighting was employed to ensure US population representation within each cigarette use subgroup but also to ensure representation across total sample by cigarette use subgroup. Further, future analysis of this data offers opportunities to explore the product impact on other special interest populations that could not be covered in the scope of this analysis, such as analysis of independent ethnic groups (Latino or African-American by cigarette use), light or social smokers as compared to heavy smokers and a comparison of menthol smokers and non-menthol smokers.

Other strengths include using FDA feedback from prior MRTP submissions to make additions to the research including 1) exposure to 3D images to supplement exposure to only flat images and offer participants a realistic experience with test packaging via the online medium; 2) a second measure of Intent to Use was added to the questionnaire to understand any change in the original intent responses; 3) a direct comparison of the test concept to one of the four Comparator Categories on Perceived Health Risk was added; and 4) a large oversample of Never Smokers LA-25 was collected to ensure precision in the data of a special population (youth) by proxy.

Limitations also exist. An opt-in online panel was utilized for study sample. While widely regarded as an effective and efficient source of sample and demonstrated to provide results that are reasonably representative of the US population (Farrell, D. and Petersen, J., 2010), online panels may not always be representative of the population because not all of the US population has access to the internet at home, work or via smartphones; further, not all of the US population participates in an online panel. Tracking research conducted by the Pew Research Center finds that, as of 2018, 89% of all Americans have access to internet via one or more devices (Pew Research, 2018). Quality control measures in the programmed survey and data weighting were used to mitigate against the possibility of any sample bias created through use of an online panel.

Prior to initiating the quantitative research, cognitive testing of the survey instrument was utilized to ensure that participants understood all questions and answer choices, that responses were consistent with the intended meaning of the questions and answer choices, and, in particular, that no items on the Risk Perception Scale or the Intent to Use questions were in any way misunderstood by participants as these were critical components in estimating potential impact to the population. Participants reviewed a programmed, online version of the questionnaire to simulate the real survey-taking experience. Throughout the cognitive testing, a majority of participants were confused by the Risk Perception Scale in the context of Cessation (i.e., “what is the long-term or lifetime risk of lung cancer associated with quitting smoking altogether?”) and several indicated

that they would have discontinued the interview because they were unsure about what would constitute an appropriate response, despite being offered an “Unsure” response option. Throughout the 358 qualitative sessions conducted, two risk perception questions were asked for the Comparator Categories as well as Cessation, and the same issue occurred frequently, particularly with low-literacy participants. However, in all qualitative sessions, a moderator was available to guide participants through the questions to ensure responses were consistent with the intended meaning; this would not be the case with a self-administered online survey. As a result of the difficulties experienced in the qualitative sessions combined with this finding in the cognitive testing, the decision was made to eliminate Cessation from the Risk Perception Scale in the quantitative study due to concerns about collecting inaccurate data that would be challenging to validate post-collection.

Additionally, a second measure of Intention to Quit smoking should have been collected among participants identified as Current Smokers with Intent to Quit after exposure to the tested concept. Any subsequent research should include this measure to ensure the product does not cause the unintended consequence of changing the intentions of Current Smokers who have indicated an intent to quit smoking in the near future.

13.0 Summary and Conclusions

In accordance with Sections 911(g)(1)(B), 911(g)(4)(B) and (C), and 911(h)(1) of the Food, Drug, and Cosmetics Act, this research study was conducted to assess the understanding by and perception of consumers about the VLN™ labeling and packages of two products: VLN™ King and VLN™ Menthol King. The primary objective of this study was to evaluate consumer perception and comprehension of proposed modified exposure messages and information, in addition to understanding of the relative significance of such information in the context of total health and in relation to all of the diseases and health-related conditions associated with the use of VLN™ relative to other nicotine-containing products. Comparator Categories (CCs, E-Cigarettes, Moist Snuff and NRTs) and a VLN™ concept (Consumption – Test 2) were evaluated. In addition, two product controls were used in the study: a VLN™ pack with no messaging other than the name “VLN™” and a Marlboro Gold pack. Intent to Use and Purchase Intent were also assessed for all products. Subjects were categorized into Never Smokers, Former Smokers and Current Smokers. Never smokers were broken down further into Legal-Age to 25 years old (LA-25) as a proxy for youth who might initiate smoking. Former Smokers were broken down further into recent quitters (less than one year) and long-term quitters. Current Smokers were subdivided into smokers with an intention to quit and smokers with no intention to quit.

Qualitative and quantitative studies were conducted, where a total of 29,577 (Qualitative n=358; Quantitative n= 29,219) subjects provided informed consent and participated. The study participants ranged in age from 18 to 98 years with subgroup quota implementation to approximate representative proportions of the US population by age, gender (male and female), income, ethnicity

and US Census Region within each of the primary and secondary population groups of interest. Data weighting was applied to the quantitative data to ensure a sample representative of the US population across the defined cigarette usage categories (Never Smokers, Former Smokers and Current Smokers) and by age, gender, ethnicity and Census Region within each of those usage categories.

These studies were conducted by M/A/R/C® Research, a full-service marketing research provider that designed the protocol for the study and reviewed, evaluated, and analyzed the collected data in preparation of this report.

Participants were questioned about different nicotine containing products, including: CCs, E-Cigarettes, Moist Snuff, and Nicotine Replacement Therapies (NRTs) (collectively, Comparator Categories). Participants were exposed to a variety of modified risk (qualitative testing only) and modified exposure messages throughout the qualitative research which were refined to four messages (VLN™ Concepts) that were tested in the final phase of qualitative interviews where participants were asked to evaluate different specific claims: (1) primary claim, “95% Less Nicotine;” and (2) secondary claims, (b) (4) “Helps reduce your nicotine consumption,” (b) (4),” and (b) (4);” (3) Disclaimer; and (4) Back of Pack Statement. The final quantitative study included an evaluation of only three of those messages (“(b) (4)” was eliminated).

The results from this Consumer Perception research address the four key areas required to support an MRTPA. The results of this study specifically address consumer perceptions of VLN™ King and VLN™ Menthol King, which are the subject of this application. The results of this study and the key elements which shall support consumer perception of the MRTPA are summarized herein.

13.1 PARTICIPANT COMPREHENSION OF VLN™ MODIFIED EXPOSURE MESSAGING

A key endpoint of the Comprehension and Perception research was clear consumer understanding of any messages communicated in VLN™ packaging or related materials. As required by the TCA and FDA’s MRTPA Draft Guidance, M/A/R/C® Research conducted four successive phases of qualitative research, in part, to assess message comprehension. To further support findings of the qualitative research, open-ended questions were asked in the Quantitative research to understand participant’s post-exposure, top-of-mind understanding of the reduced exposure message. In the Quantitative study, 29,219 consumers participated (8,218 Never Smokers, 8,612 Former Smokers, and 12,389 Current Smokers) and subgroup analysis was performed to assess participant comprehension of the modified exposure message. Participants were asked open-ended questions requiring typed responses that were reviewed and coded into categorical data for aggregation. Specifically, three open-ended questions were asked immediately after exposure to VLN™ (Consumption – Test 2) or control concepts including questions about how the participant would describe the product, the benefits of the product and the health or addiction risks of the product.

The first of these questions was: **“If you were asked to describe [CONCEPT] to a friend or family member, what would you say?”** Following exposure to the claim, “Helps reduce your nicotine consumption,” 66%, 67%, and 65% of Never Smokers, Former Smokers, and Current Smokers, respectively, reported that lower nicotine (less nicotine than cigarettes, 95% less nicotine) was a key characteristic of VLN™. In addition, 11%, 8%, and 13% attribute fewer health risks (Health and Addiction Risks (less harmful, not/less addictive) to that VLN™ characteristic, while 6%, 5%, and 8% attributed reduced nicotine consumption or smoking reduction claims (helps reduce nicotine consumption, (b) (4)) to VLN™. Moreover, 31%, 32%, and 11% of Never Smokers, Former Smokers, and Current Smokers, respectively, attribute some health (i.e. general harm, cancer, lung/respiratory disease) and addiction risks to VLN™, and 2% reported not to know the answer to that question.

To evaluate perceptions about the modified exposure messaging of VLN™, participants were asked an open-ended question: **“What do you think are the benefits of [CONCEPT]?”** After exposure to the claim, “Helps to reduce your nicotine consumption,” 37%, 33%, and 38% of Never Smokers, Formers Smokers, and Current Smokers, respectively, attributed the key benefit of VLN™ to “low nicotine (95% less nicotine).” Additionally, 29%, 21%, and 29% (Never Smokers, Formers Smokers, and Current Smokers, respectively) perceived reduced health and addiction risk (less addictive, healthier, less harmful, helps with addiction/dependency/cravings) to be key benefits of VLN™, while 13%, 11%, and 15% (Never Smokers, Formers Smokers, and Current Smokers, respectively) attributed the key benefit of VLN™ to be reduction in nicotine consumption. In addition, 11%, 11%, and 19% attributed the key benefit of VLN™ to other smoking reduction benefits for those who want to quit smoking. Meanwhile, 4%, 2%, 4% responded “Don’t know” to the question.

With respect to consumer perceptions related to health or addiction risks, participants were asked the open-ended question: **“What do you think are the health or addiction risks associated with [CONCEPT]?”** After exposure to the claim, “Helps to reduce your nicotine consumption,” 61%, 54%, and 39% of Never Smokers, Formers Smokers and Current Smokers, respectively, perceived that VLN™ may pose health (harm, heart/lung disease, death, illness) and addiction risks. In addition, 26%, 20%, and 14% perceived VLN™ to cause cancer (can still cause cancer), and 35%, 43%, and 37% perceived that VLN™ may pose the same general risks as CCs. Of Never Smokers, Formers Smokers and Current Smokers, 3%, 1%, and 6%, respectively, responded “Don’t know” to the question.

The results of the quantitative study when reviewed in tandem with qualitative comprehension testing suggest that, even among low-literacy participants, the modified exposure message was clear and resulted in perceptions that VLN™ poses some health and addiction risks. Furthermore, the results demonstrate that the VLN™ modified exposure message did not mislead participants into believing that VLN™ is less harmful or that VLN™ poses less health risk as compared to other nicotine containing products.

13.2 PERCEIVED RISK OF CRITICAL DISEASES

Overall, the findings from this study demonstrate that VLN™ (Consumption – Test 2) was perceived to pose some level of health risk compared to other tobacco products across all consumer subgroups. When comparing VLN™ (Consumption – Test 2) to VLN™ (No Messaging – Control 1), the mean risk ratings for addiction scored lower, as Youth perceived VLN™ (Consumption – Test 2) with the modified exposure message to pose a lower risk of developing critical diseases. It is clear from this study that the modified exposure message did not mislead participants into believing VLN™ (Consumption – Test 2) to be less harmful or that VLN™ (Consumption – Test 2) presented a meaningfully lower risk of disease than other nicotine-containing products in the market. All of the tobacco products were rated moderate to high risk.

13.2.1 Perceived Risk of Critical Diseases – Current Smokers

In the Quantitative study, when Current Smokers were asked about the perception of health risks associated with VLN™ (Consumption – Test 2), use of VLN™ is perceived as being lower in risk for lung cancer, emphysema, mouth or throat cancer and heart disease than CCs, generally, and Marlboro Gold, specifically (which scored a higher mean risk for all critical diseases). In comparing VLN™ (Consumption – Test 2) to other tobacco products, VLN™ scored higher mean risk ratings as compared to both E-cigarettes and Moist Snuff (with the exception of mouth/throat cancer where the risk perception of Moist Snuff tested highest among all nicotine-containing products). A comparison between VLN™ (Consumption – Test 2) and VLN™ (No Messaging – Control 1), described in the concept exposure as a conventional cigarette, and Marlboro Gold, as is currently marketed, shows VLN™ (No Messaging – Control 1) scored lower in mean risk ratings for developing lung cancer, emphysema, mouth or throat cancer, and heart disease. At the same time, NRTs scored the lowest mean risk ratings for developing lung cancer, emphysema, mouth or throat cancer, and heart disease.

The findings from this study demonstrate that the modified exposure message was perceived by Current Smokers to pose some level of risk for critical diseases (lung cancer, emphysema, mouth/throat cancer, and heart disease) compared to other tobacco products. However, VLN™ was believed to pose a lower risk of critical diseases when compared to CCs. It is clear from this study that the modified exposure message did not mislead consumers to believe VLN™ to be less harmful nor mislead consumers to believe VLN™ presented less of a risk of disease than other tobacco products on the market. Qualitative results further support this conclusion as many who indicated a lower risk perception of VLN™ compared to other tobacco products most often supported that evaluation with the belief that the reduced nicotine content would make long-term addiction and use less likely, but not because the product itself was healthy or safe.

13.2.2 Perceived Risk of Critical Diseases – Never Smokers

In the Quantitative study, when Never Smokers were asked about their perception of risk for developing critical diseases associated with smoking, VLN™ (Consumption – Test 2) was perceived to pose lower risk rating for developing lung cancer, emphysema, mouth or throat cancer, and heart disease when compared to CCs, and compared to Marlboro Gold, specifically. When comparing VLN™

(Consumption – Test 2) to other tobacco products, VLN™ scored higher mean risk ratings compared to E-cigarettes and Moist Snuff (with the exception of mouth/throat cancer where Moist Snuff ranked highest in risk among the Comparator Categories and test products). At the same time, NRTs scored the lowest mean risk ratings among all products for developing lung cancer, emphysema, mouth or throat cancer, and heart disease.

A comparison between VLN™ (Consumption – Test 2), and VLN™ (No Messaging – Control 1), demonstrates that VLN™ (Consumption – Test 2) scored lower mean risk ratings compared to VLN™ (No Messaging – Control 1) on risk of lung cancer, emphysema, mouth or throat cancer, and heart disease. The findings from this study demonstrate that VLN™ with modified exposure messaging is perceived among Never Smokers to pose some level of risk of critical diseases (lung cancer, emphysema, mouth/throat cancer, and heart disease) compared to other tobacco products. Given that the presentation of the product was exactly the same as Marlboro Gold (Control 2) except for the pack image, without the reduced exposure messaging seen on the test packaging, the data seems to indicate that the product is perceived as similar to CCs. When comparing VLN™ with and without the message, the mean risk ratings of developing critical diseases scored lower as participants perceived VLN™ (Consumption – Test 2) to pose a lower risk of critical diseases. VLN™ (No Messaging – Control 1) is rated similarly to Marlboro Gold (Control 2). It is clear from this study that the modified exposure message did not mislead Never Smokers into believing VLN™ to be less harmful or believing that VLN™ presented a meaningfully lower risk of disease than other tobacco products in the market.

13.2.3 Perceived Risk of Critical Diseases – Never Smokers LA-25

When asked about the perception of health or addiction risks associated with VLN™, Never Smokers LA-25) perceive long-term use of VLN™ (Consumption – Test 2) as being lower in risk for lung cancer, emphysema, mouth or throat cancer, and heart disease compared to CCs in general, and Marlboro Gold, specifically. When comparing VLN™ to other tobacco products, VLN™ also scored higher mean risk ratings compared to E-cigarettes on risk of lung cancer, emphysema, mouth or throat cancer, and heart disease, and Moist Snuff (with the exception of mouth/throat cancer where Moist Snuff ranked highest among all tobacco products). NRTs scored the lowest mean risk ratings of developing lung cancer, emphysema, mouth or throat cancer, and heart disease.

A comparison between VLN™ (Consumption – Test 2) and VLN™ (No Messaging – Control 1) demonstrates that VLN™ (Consumption – Test 2) scored lower in health risk associated with smoking (lung cancer, emphysema, mouth or throat cancer, and heart disease) compared to VLN™ (No Messaging – Control 1), had a higher perceived risk. The results of the study demonstrate that participants believed that VLN™ poses some level risk of developing critical diseases associated with smoking. However, the risk was lower than that associated with cigarettes, which was believed to pose the highest risk of developing critical diseases. On the other hand, VLN™ (Consumption – Test 2) was perceived to pose a higher risk of disease compared to E-cigarettes, Moist Snuff, and NRTs, with the exception of Moist Snuff which scored the highest mean risk rating for mouth/throat cancer. The results of the study indicate across all subgroups that the modified exposure message of VLN™

(Consumption – Test 2) have shown a consistent pattern of higher risk perception for developing critical diseases compared to other nicotine-containing products in the market.

13.3 PERCEIVED RISK OF GENERAL HEALTH ISSUES AND MORTALITY ASSOCIATED WITH NICOTINE-CONTAINING PRODUCTS

Similar to the study of perception of the risk of critical diseases participants perceived that CCs pose the highest of risk of general health issues and mortality among other nicotine-containing products, while NRTs scored the lowest of risk of health and mortality. Findings from the study suggest that VLN™ (Consumption – Test 2) was perceived to pose some level of risk of general health issues compared to other nicotine-containing products, though a lower mean risk than VLN™ (No Messaging – Control 1). Therefore, it is clear from this study that VLN™ (Consumption – Test 2) was understood by Never Smokers to have a moderate to high risk of heal-related issues, and, at the same time, the message did not mislead consumers into believing that VLN™ is less harmful or that VLN™ presents less risk of disease than other tobacco products in the market.

13.3.1 Perception of Risk of General Health Issues and Mortality Among Current Smokers

13.3.1.1 Perception of Risk of General Health Issues and Mortality Among Current Smokers with Intent to Quit

Perception about the risk of “An earlier death” (Mortality), as well as the risk of general health issues, among Current Smokers with Intent to Quit was rated the highest for cigarettes, in general, and Marlboro Gold (Control 2), in particular. VLN™ (Consumption – Test 2), consistently scored lower in mean risk rating of mortality, as well as general health issues, compared to VLN™ (No Messaging – Control 1). All of the tobacco products were rated moderate to high risk. Among other nicotine-containing products, NRTs scored the lowest mean risk ratings of mortality and general health issues. However, Moist Snuff scored the highest mean risk rating for poor gum health, losing some sense of taste, and sores of the mouth or throat.

13.3.1.2 Perception of Risk of General Health Issues and Mortality Among Current Smokers with No Intent to Quit

Similar to Current Smokers with Intent to Quit, perception about the risk of “An earlier death” (Mortality), as well as the risk of general health issues, among Current Smokers with No Intent to Quit was rated the highest for cigarettes, in general, and Marlboro Gold (Control 2), in particular. VLN™ (Consumption – Test 2), consistently scored lower in mean risk rating of mortality, as well as general health issues, compared to VLN™ (No Messaging – Control 1). Among other nicotine-containing products, NRTs scored the lowest mean risk ratings of mortality and general health issues. However, Moist Snuff scored the highest mean risk rating for poor gum health, losing some sense of taste, and sores of the mouth or throat.

13.3.2 Perception of Risk of General Health Issues and Mortality Among Never Smokers

CCs and Marlboro Gold (Control 2) scored higher mean risk ratings for general health issues and mortality among Never Smokers. CCs scored the highest mean risk rating for mortality, followed by

Marlboro Gold (Control 2). Never Smokers believe that VLN™ (Consumption – Test 2) has a lower risk for mortality compared to VLN™ (No Messaging – Control 1), while Moist Snuff scored a higher mean risk rating for mortality than VLN™ (Consumption – Test 2). NRTs scored the lowest compared to other Comparator Categories.

Overall, VLN™ (Consumption – Test 2) scored lower mean risk ratings in all general health issues compared to VLN™ (No Messaging – Control 1). NRTs scored the lowest in all general health issues compared to other Comparator Categories. Moist Snuff was perceived to cause the highest mean risk rating of poor gum health, losing a sense of taste, and causing sores of the mouth or throat.

13.3.3 Perception of Risk of General Health Issues and Mortality Among Never Smokers LA-25

As in the Never Smokers group, CCs and the Marlboro Gold (Control 2) concept were rated the highest mean risk ratings of general health issues and mortality among Never Smokers LA-25. CCs score the highest mean risk rating of mortality compared to all other Comparator Categories, followed by Marlboro Gold (Control 2). VLN™ (Consumption – Test 2), scored lower mean risk rating for all attributes of general health issues and mortality compared to VLN™ (No Messaging – Control 1). NRTs scored the lowest mean risk rating for general health issues and mortality. E-cigarettes scored an intermediate mean risk rating, as did Moist Snuff. However, Moist Snuff was perceived to cause the highest risk of poor gum health and sores of the mouth or throat.

13.4 PERCEIVED RISK OF ADDICTION ASSOCIATED WITH NICOTINE-CONTAINING PRODUCTS

13.4.1 Perceived Risk of Addiction Among Current Smokers

When VLN™ (Consumption – Test 2) was compared to VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2), the mean risk rating was lower than VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2). Participants believed that VLN™ has a lower risk of addiction compared to cigarettes, Moist Snuff, and E-Cigarettes, whereas NRTs had the lowest perceived risk of addiction.

Consistent with perception of health risk, CCs were assigned the highest mean risk ratings of addiction among other tobacco products, while NRTs scored the lowest mean risk rating of addiction. The findings from this study demonstrate that VLN™ (Consumption – Test 2) is perceived to pose some level of risk of addiction compared to other tobacco products. Although, when comparing VLN™ (Consumption – Test 2) to VLN™ (No Messaging – Control 1), the mean risk rating of addiction scored lower as participants perceived VLN™ (Consumption – Test 2) to pose a lower risk when exposed to the message. The results also suggest that Current Smokers associate reduced consumption of nicotine with lower health risk. In addition, VLN™ was perceived to pose some level of health risk associated with smoking. Findings from this study show that the modified exposure message does not mislead consumers into believing that VLN™ is less harmful or that VLN™ presents less of a risk of disease than other tobacco products in the market.

13.4.2 Perceived Risk of Addiction Among Never Smokers General Population

In the study of perception of risk of addiction among Never Smokers General Population, VLN™ (Consumption – Test 2) was compared to VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2). The results show that VLN™ (Consumption – Test 2) mean risk ratings of addiction scored lower compared to VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2) and lower than cigarettes, Moist Snuff, and E-Cigarettes, whereas NRTs scored the lowest mean risk rating of addiction.

13.4.3 Perceived Risk of Addiction Among Never Smokers LA-25

With respect to perception of addiction risk among Never Smokers LA-25, VLN™ (Consumption – Test 2) mean risk ratings were lower compared to VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2). When exposed to VLN™ (Consumption – Test 2), Never Smokers LA-25 believed that VLN™ has a lower risk of addiction compared to cigarettes, Moist Snuff, and E-Cigarettes, whereas NRTs scored the lowest risk of addiction.

Similar to the perception of addiction risk among Never Smokers General Population, Never Smokers LA-25 perceived that CCs pose the highest risk of addiction among the other nicotine-containing products, while NRTs scored the lowest risk of addiction. The findings from this study demonstrate that VLN™ (Consumption – Test 2) was perceived to pose some level of addiction risk compared to other nicotine-containing products. Moreover, when comparing VLN™ (Consumption – Test 2) and VLN™ (No Messaging – Control 1), VLN™ (Consumption – Test 2) scored a lower mean risk rating as participants perceived the message to convey lower risk of addiction. It is clear from this study that the modified exposure message did not mislead Never Smokers LA-25 into believing VLN™ (Consumption – Test 2) to be less harmful or that VLN™ (Consumption – Test 2) presented less of a risk of addiction than other tobacco products in the market.

13.5 INTENT TO USE AND PURCHASE INTENT

13.5.1 Intent to Use

Prior to exposure to VLN™ (Consumption – Test 2), participants were asked to rate, on a 6-point scale ranging from “Definitely Would” to “Definitely Would Not,” the intent to use other nicotine containing products. In the same study, participants were asked to rate, using a 5-point scale ranging from “Definitely Would” (5) to “Definitely Would Not” (1), the intent to purchase the same Comparator Categories (CCs, E-Cigarettes, Moist Snuff, NRTs). A second measure of Intent to Use all products was asked at the end of the survey.

13.5.1.1 Intent to Use Comparison of All Cigarette Usage Groups (Current Smokers, Former Smokers, and Never Smokers)

Current Smokers’ Intent to Use ratings for all VLN™ (Consumption – Test 2) were higher than the mean ratings for VLN™ (Consumption – Test 2) from both Former Smokers and Never Smokers, indicating that the product communications seem to sufficiently mitigate against the risk of introducing new tobacco users and recidivism among Never Smokers and Former Smokers, respectively, while offering a lower nicotine alternative to CCs for which Current Smokers have indicated an interest.

The second measure of Intent to Use among Current Smokers finds an interesting shift among Current Smokers – an increase in mean ratings of Intent to Use VLN™ (Consumption – Test 2) with a mean score of 3.90 versus the Post-Exposure 1 scores of 3.67. This, paired with a decrease of Intent to Use CCs (Post-Exposure) as well as other tobacco products in Post-Exposure 2 scores, may indicate Current Smokers more seriously considering a shift from CCs to a lower nicotine product.

13.5.1.2 Intent to Use Comparison of Current Smokers Subgroups

Further, the data supports the conclusion that CSIQ may view VLN™ (Consumption – Test 2) as an alternative lower-nicotine product in line with NRTs and E-Cigarettes. While CSNIQ likewise rate VLN™ (Consumption – Test 2) in line with other lower nicotine products, based on the slightly lower scores for these types of products and the much higher Intent to Use ratings for CCs, CSNIQ seem less likely than CSIQ to consider VLN™ (Consumption – Test 2) as a lower nicotine alternative to CCs.

In subsequent questions asking about participants’ likelihood to use replace or substitute current purchase with VLN™ (Consumption – Test 2), of those answering the questions and considering those viewing VLN™ (Consumption – Test 2), 82% of CSIQ and 64% of CSNIQ indicate a likelihood to use the concept to replace current purchases with 89% of CSNIQ and 92% of CSIQ indicating that VLN™ (Consumption – Test 2) would replace CCs.

13.5.1.3 Intent to Use Comparison of Never Smokers Subgroups

Never Smokers LA-25 (NSLA) ratings across all Comparator Categories and test or control products are at parity with Long-Term Quitters and are significantly lower than Recent Quitters and Current

Smokers. But when compared to Never Smokers General Population (NSGP), NSLA mean ratings scores on VLN™ (Consumption – Test 2) are significantly higher although are still closest to “Definitely Would Not Use”. VLN™ (Consumption – Test 2) also scores higher than both control concepts – significantly higher than Marlboro Gold (Control 2). However, NSLA Intent to Use E-Cigarettes, both pre- and post-evaluation is significantly higher than any other product, including VLN™ (Consumption – Test 2) and control concepts.

Given that post-exposure mean ratings for E-cigarettes are equivalent to pre-exposure ratings yet are significantly higher than ratings for VLN™ (Consumption – Test 2), a conclusion may be drawn that introduction of VLN™ (Consumption – Test 2) into the marketplace would not contribute substantially to tobacco use initiation among youth; rather, the introduction of a product more similar to an E-Cigarette would be more likely to influence this group.

13.5.1.4 Intent to Use Comparison of Former Smokers Subgroups

Results among both subgroups of Former Smokers indicate that VLN™ (Consumption – Test 2) poses little threat of recidivism. Among Recent Quitters, VLN™ (Consumption – Test 2) is at parity with the mean rating for VLN™ (No Messaging – Control 1), suggesting the test concepts have no more appeal to a Recent Quitter than would a new cigarette introduction. Long-Term Quitters rated Intent to Use for VLN™ (Consumption – Test 2) lower than did Recent Quitters. The mean score of VLN™ (Consumption – Test 2) is just slightly higher than VLN™ (No Messaging – Control 1) and Marlboro Gold (Control 2) mean scores of 1.24 and 1.28 (closest to “Definitely Would Not Use”), suggesting the test concepts would have little more appeal to individuals who quit smoking at least a year ago than would a new cigarette introduction or an existing cigarette on the market.

13.5.2 Purchase Intent

13.5.2.1 Purchase Intent Comparison of All Cigarette Usage Groups (Current Smokers, Former Smokers, and Never Smokers)

Purchase Intent data also supports the theory that VLN™ (Consumption – Test 2) offers a lower-nicotine alternative for Current Smokers while not presenting a significant risk of initiation or recidivism to Never Smokers or Former Smokers. Current Smokers’ Purchase Intent rating for VLN™ (Consumption – Test 2), similar to Intent to Use ratings, was 2+ points higher than the mean ratings for VLN™ (Consumption – Test 2) assigned by both Former Smokers and Never Smokers with patterns similar to those seen in the Intent to Use scores.

13.5.2.2 Purchase Intent Comparison of Never Smokers Subgroups

Purchase Intent data is consistent with the patterns seen in Intent to Use data for both groups of Never Smokers. Overall, NSGP and NSLA Purchase Intent ratings are very similar to the ratings for Intent to Use (closest to “Definitely Would Not Purchase”).

14.0 Conclusions

The results of the Consumer Perception Study demonstrate that the proposed modified exposure claim is clear, relevant, and understandable among Current Smokers, Former Smokers, and Never Smokers. In this study, sufficient evidence was presented to show that the modified exposure message enables the participants to comprehend the information concerning the modified exposure and to understand the relative significance of such information in the context of total health and in relation to all of the diseases and health-related conditions associated with use of tobacco products (Section 911(h)(1) of FD&C Act).

The findings from the study show little or no interest in buying or using the product by Never Smokers or Former Smokers. Current Smokers, especially CSIQ showed a higher intent to purchase and use VLN™ (Consumption – Test 2) cigarettes. Among all groups and subgroups, cigarettes, in general, and Marlboro Gold, in particular, are perceived to cause higher risks of addiction, risks of developing disease, and risks of exposure compared to other tobacco products. The pattern of intent to purchase and use VLN™ suggests that participants of this study show an interest in shifting away from CCs to find other alternatives that offer lower exposure to nicotine.

Pre- and post-exposure to the modified exposure message did not alter (increasing or decreasing) the risk perception about nicotine containing products. Throughout the study, participants were asked questions to assess their perception and understanding of modified exposure message. None of the results suggest that consumers were misled to believe that VLN™ is less harmful or absent of health and addiction risks. On the contrary, based on the comparison between VLN™ and other tobacco products, participants believed that VLN™ poses some level of health and addiction risks associated with its use.

The overall results of the Qualitative and Quantitative studies demonstrate that the proposed modified exposure message for the concept product has not adversely affected the consumers' perception and understanding about the risks associated with the concept product, nor has the message misled consumers to believe that VLN™ poses less harm than other tobacco products.

APPENDIX

Study Name: Quantitative Study to Develop VLN™ Hypothetical Product Messages Among U.S. Adult Cigarette Smokers, Adult Former Cigarette Smokers and Adult Never Cigarette Users

Protocol Number: 5180080-VLN™-B2

Sponsor: 22nd Century Group, Inc.
8560 Main Street
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For all appendices, please refer to Appendices: 5180080-VLN™-B2 – Quantitative Study to Develop VLN™ Hypothetical Product Messages Among U.S. Adult Cigarette Smokers, Adult Former Cigarette Smokers and Adult Never Cigarette Users