CPSC Staff[1] Statement on Fors Marsh Group's, "Consumer Product Safety Commission (CPSC): Sleep Warnings Final Report"

The attached report, titled, "Consumer Product Safety Commission (CPSC): Sleep Warnings Final Report," presents the findings of research conducted by Fors Marsh Group (FMG), for CPSC, under Contract CPSC-D-16-0002, task orders 61320618F1023 and 61320619F1101.

CPSC staff contracted with FMG to undertake a multifaceted approach (*i.e.,* one-on-one interviews, focus groups, and an online survey[2]) to evaluate caregivers' (parents and grandparents of infants 2–11 months of age) perspectives and understanding of safety warnings related to infant sleep. CPSC undertook the research with the intent to improve caregivers' comprehension of specific warning labels for products that may be used as a sleeping environment for infants and to discern how those labels influence caregivers' behavior. CPSC staff intends to consider the research results to guide future voluntary standard, rulemaking, and information and education work to improve safe infant sleep messaging.

The overall results of the research findings suggest that often, caregivers only look at warning labels once, for a short time, before using a product for the first time. Consequently, it is critical that the content of labels is attention-grabbing and motivates behavior. Survey analysis demonstrated that warning labels that include color in the heading, a clear warning delineation, and some type of symbols or visuals tended to perform well. Labels that included a clear set of actions for caregivers to take were rated highly. Caregivers reported being more motivated to act when the steps were clearly laid out for them. Warnings that explicitly quantified the risk also resonated with participants during all phases of research. Concise warning labels proved to be most effective during testing.

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[1] This statement was prepared by the CPSC staff, and the attached report was prepared by Fors Marsh Group, for CPSC staff. The summary and report have not been reviewed or approved by, and do not necessarily represent the views of, the Commission. In no case does the identification of particular equipment or materials imply a recommendation or endorsement by CPSC staff, nor does it imply that the materials, instruments, or equipment are necessarily the best available for the purpose.

[2] OMB Control number: 3041-0186 approved 07/23/2021

Consumer Product Safety Commission (CPSC): Sleep Warnings Final Report

October 28, 2021
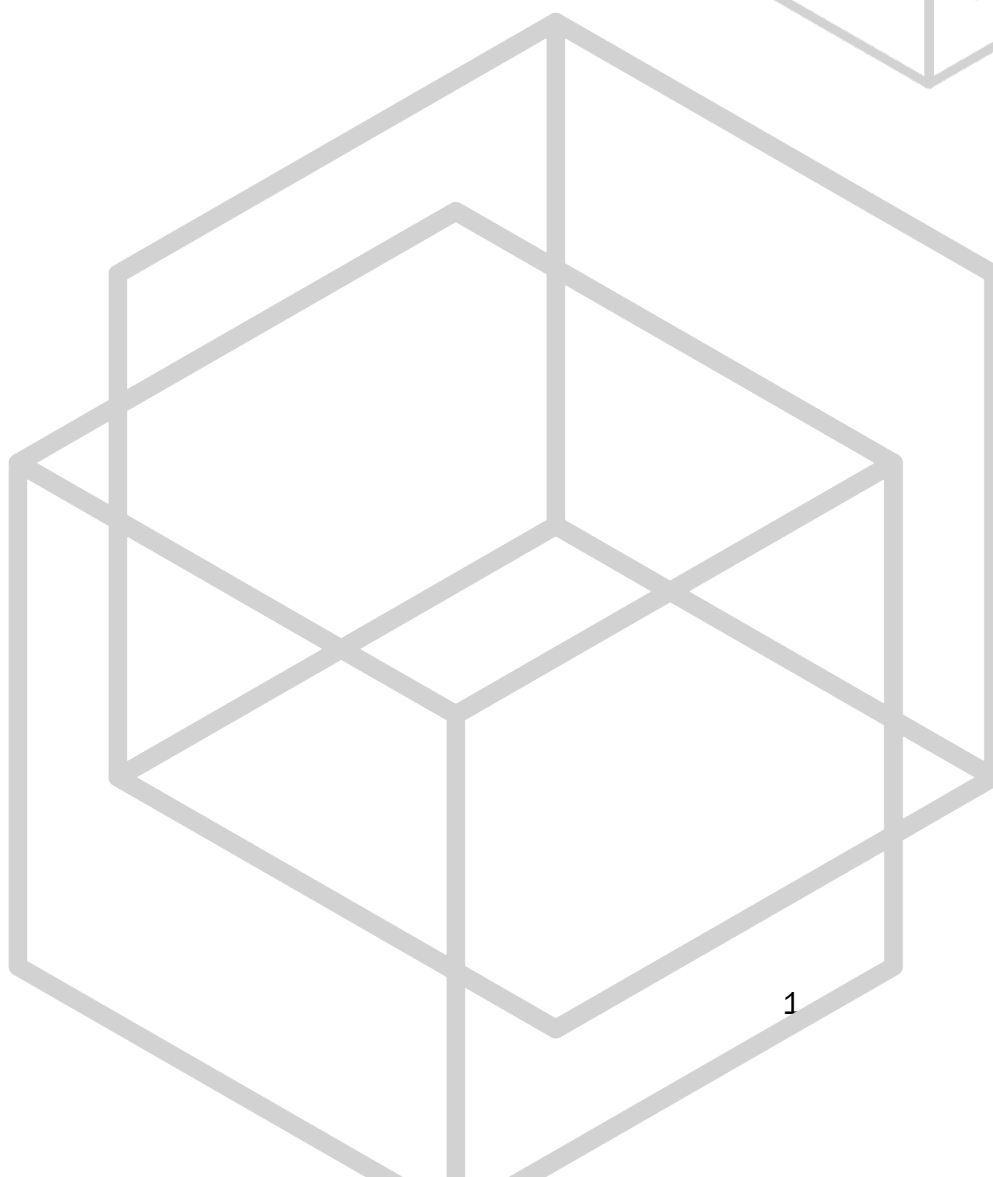
Executive Summary

The Consumer Product Safety Commission's (CPSC's) 2019 Nursery Product Annual Report reported 320 deaths related to nursery products from 2014–2016. Products used for infant sleep were associated with the most deaths: cribs/mattresses (33%), cradles/bassinets (18%), and playpens/playards (20%).[1] As such, CPSC staff concluded that it is critical that consumers understand the warning labels on infant products, as well as the hazards associated with infant sleeping environments, to reduce the incidence of infant sleep-related deaths in the future. Thus, CPSC contracted with Fors Marsh Group (FMG) to conduct research to better understand consumers' comprehension of specific warning labels for products that may be used as a sleeping environment for infants and how those labels influence caregivers' behavior.

FMG first conducted a content analysis of existing infant product warning labels to assess the current warning label environment. FMG worked with CPSC to identify and gather numerous warning labels that pertain to infant safety, particularly infant sleep safety. FMG created an Excel spreadsheet to compile label information and key variables, such as type of product, label content, signal words (e.g., "warning"), and risks (e.g., suffocation), for 28 warning labels to systematically characterize information regarding labels. Elements that varied in the warning labels—which can therefore be compared—were bullet versus paragraph formatting, shorter versus longer lengths of the warning content, and the selective use of capital letters versus the use of entirely all capital letters. The content analysis revealed that the content of the warning labels tended to fall into two categories, namely specifications about the negative consequences of using the products in the non-recommended way, and particular action steps about how to use the products safely. These findings informed the next phase of research: in-depth interviews (IDIs).

Eight remote IDIs were conducted with caregivers to investigate the comprehension of language used in warning labels, what resonated the most with caregivers, as well as behaviors associated with their understanding of the labels. During discussions, participants touched on several ways that warning labels could be enhanced to motivate caregivers to pay more attention. The IDI participants said the loss frame messages (i.e., fear appeals) were more attention getting than the gain frame messages were, but that the risk needed to be quantified. Also, they said they needed visuals to understand some of the risks, as well as specific action steps to avoid placing their children in harm's way. Incorporating the suggested edits to warning labels had the potential to increase adherence to warning labels on infant products and needed to be further tested in the focus groups.

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[1] https://www.cpsc.gov/s3fs-public/Nursery%20Products%20Annual%20Report%20Dec2019_2.pdf

With findings from the content analysis, warning label comparison IDIs, and insights gathered from previous research with CPSC, FMG next developed five message frames (i.e., messaging strategies or messaging approaches) that address specific determinants of behavior that were tested with the target audience in the next phase of research: focus groups. It was key to test message frames about warning labels before refining the labels to have a full understanding of what is working and what is not working.

Based on findings from the qualitative research, FMG refined five infant product warning labels and tested them in a survey to assess infant product warning label language across parents and grandparents of children ages 2–11 months. The survey was designed to better understand the gap in consumer knowledge about product warning labels and consumer adherence to, and behaviors associated with, infant product warning labels. The survey allows these insights to be obtained on a larger scale (N = 650 parents and grandparents).

Results from survey findings highlight that caregivers often only look at warning labels once, for a short time, before using a product for the first time. As a result, ensuring that the content of labels is resonant, attention-grabbing, and motivates behavior is critical. Warning labels that include color in the heading, a clear 'warning' delineation, and some type of symbols or visuals tended to perform strongly in survey analysis. In addition, bulleting, bolding, and other straightforward formatting resonated with participants across phases of research. Labels that included a clear set of actions to take (i.e., a call to action) were rated highly. Caregivers reported being more motivated to act when the steps were clearly laid out for them. Quantification of risk also resonated with participants during all phases of research. During IDIs and focus groups, numbers or statistics providing evidence-based support were attention-grabbing and motivated respondents to follow instructions.

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Introduction

Background

The Consumer Product Safety Commission's (CPSC's) 2019 Nursery Product Annual Report reported 320 deaths related to nursery products from 2014–2016. Products used for infant sleep were associated with the most deaths, specifically, cribs/mattresses (33%), cradles/bassinets (18%), and playpens/playards (20%).[2] As such, CPSC staff concluded that it is critical that consumers understand the warning labels on infant products, as well as the hazards associated with infant sleeping environments, to reduce the incidence of infant sleep-related deaths in the future. Thus, CPSC contracted with Fors Marsh Group (FMG) to conduct research to better understand consumers' comprehension of specific warning labels for products that may be used as a sleeping environment for infants and how those labels influence caregivers' behavior.

Past research (literature review and focus groups) conducted by FMG for CPSC highlights caregivers' lack of adherence to infant sleep safety messaging *(Caregiver Perceptions and Reactions to Safety Messaging Final Report, August 2019).* Caregivers perceive warning labels as containing repetitive, non-specific information that is often used by manufacturing companies as a tactic to protect themselves from liability. Additionally, caregivers are inundated with constantly changing safety messaging, resulting in ambiguity about which messages are most relevant and current. Caregivers often end up listening to friends and family or relying on past experience to decide what behaviors are safe for their child, rather than following the current guidelines recommended by experts. Product marketing and new products pose a risk for consumers as well. If caregivers are not attuned to the safety messaging on new products, they are more likely to use the products incorrectly. CPSC staff is aware that the purpose of safety warning labels and safety messaging is not clear to the target audience and is becoming a barrier to safe sleep for infants.

As such, CPSC staff sought further research to understand the gap in consumer knowledge about product warning labels and consumer adherence to, and behaviors associated with, warning labels. Ultimately, findings may be used to inform warning label refinements and enhancements with the goal of more effectively conveying critical information about product warnings in the future. Additionally, this work will serve to advance CPSC's overall mission of protecting the public against dangers associated with consumer products.

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[2] https://www.cpsc.gov/s3fs-public/Nursery%20Products%20Annual%20Report%20Dec2019_2.pdf

Chapter 1: Content Analysis

Methodology

FMG first conducted a content analysis of existinginfant product warning labels to assess the current warning label environment. The findings from this review informed subsequent phases of this research effort (in-depth interviews [IDIs], message frame development, focus groups, and a survey).

FMG worked with CPSC to identify and gather numerous warning labels that pertain to infant safety, particularly infant sleep safety. FMG created an Excel spreadsheet to compile label information and key variables, such as type of product, label content, signal words (e.g., "warning"), and risks (e.g., suffocation), for 28 warning labels to systematically characterize information regarding labels. The main sleep products of interest—products that are recommended by CPSC and the American Academy of Pediatrics for sleep—included cribs, bassinets, playards, and bedside sleepers. Other products of interest—products that are not recommended for unsupervised use, but in which infants may sleep—included bouncers, swings, and products CPSC does not recommend for infant sleep, including inclined sleepers, and sleep positioners.

Results

Warning Label Messaging

The most common messages included in the warning labels were informational and instructional messages. Informational messages (which are further discussed in "Risks Mentioned" below) provided consumers with facts about hazards associated with product use. Labels also included instructional messages, which tell consumers to perform or avoid an action in order to reduce the hazards mentioned on the label. Throughout the cataloged warning labels, the terms "never," "always," and "do not" tended to be in all capital letters when preceding key actions caregivers should take to reduce the risks of varying hazards. Instructional messages that frequently appeared in warning labels included:

- Do not add soft bedding (e.g., blankets, pillows, comforters, bumpers, soft toys)
- Do not add mattresses not provided by the manufacturer (if applicable)
- Always supervise/attend to the child and never leave a child unattended
- Discontinue use when the child is too big or is able to stand up
- Place the infant on his/her back to sleep

Other instructional messages, such as those listed below, tended to be more product specific and not as universally relevant:

- Keep sides up
- Remove items that the child can use to climb out

- Use bouncers on the floor only
- Use restraints (if applicable)
- Do not lift or carry the baby in the product

Although the intended audiences are not explicitly stated on the warning labels, the label directions speak directly to those who are interacting with these products. Therefore, it is apparent that these labels are geared toward caregivers. Additionally, not all product warning labels specified the intended age group for the product, although the term "infant" was mentioned on a few labels. A few labels also provided a guideline for an appropriate child height or weight for the use of the product.

Risks Mentioned
Another key purpose of the warning labels was to provide educational information about the risks of using the products. Examples included stating that failure to follow warnings and instructions could result in serious injury or death, as well as detailing specific ways infants could be injured. Most risks could be categorized more generally as related to either breathing obstructions or falls. The most common risks included on the warning labels were:
- Suffocation by soft bedding
- Entrapment
- Strangulation by strings
- Falling/sliding/rolling out of product
- Skull fractures
- Sudden Infant Death Syndrome (SIDS)
- Death

Overall, the words "warning" and "hazard" were consistently in all capital letters on the cataloged warning labels. This formatting is consistent with the American National Standards Institute's (ANSI) recommendation to use signal words and signal word panels in capital letters. A few warning labels had all words in all capital letters—which is discouraged by ANSI due to the increased difficulty of reading.

Location of Label on Product/Packaging
The location and type of warning labels varied across products, but generally, the labels were located on the top, bottom, or side of the product, and they were either tags hanging off the product, or tags or stickers sewn or adhered to the product. In the limited number of available photos that depicted labels on the products, the labels were generally readily visible.

Word Count and Reading Level

The length of the warning labels varied. In general, the labels were either 50 words or less or over 100 words. The apparent intent of the shorter labels was to quickly disseminate information, whereas the more detailed labels intended to provide consumers with detailed instructions. A few of the shorter labels directed readers to refer to other (presumably longer) labels and instructions for further details. The majority of the labels were presented in bullet point format rather than paragraph format, which enhanced readability and separated portions of the message.

Reading level (equivalent to a grade level in school) was assessed for each label to estimate how easily the general public could digest the information in the labels. Readability takes into account the numbers of words, sentences, characters, and syllables in a given excerpt. Readability of the labels ranged from grade levels 6–11, with an average grade level of 8. A readability of grade level 8 means the text should be easily understood by a 13–14-year-old. Generally speaking, the recommended readability of health-related materials is around the 6th-grade level.[3] Therefore, the general public may face difficulty in fully comprehending some of the existing labels that have been written at an 8th-grade level or higher, which is an area we identified for investigation and improvement.

Colors/Symbols

In accordance with ANSI standards, most labels had an orange horizontal strip and used the word

"WARNING" at the top. Directly to the left of the word "WARNING" was typically a triangle symbol with an exclamation point in the center.

Apart from a few visuals on the labels for child restraints and the visual instructions on labels

for how to use a product, the triangle exclamation point was the only primary symbol depicted. Warning labels typically had black text on a white background, with a few labels having the opposite color scheme (black background with white text).
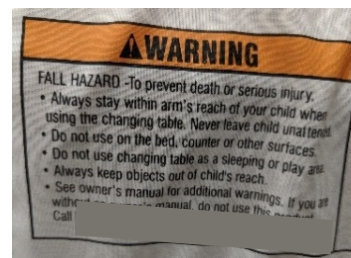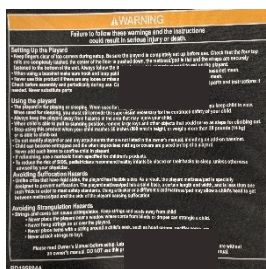
Conclusions and Recommendations

Warning labels on sleep and sleep-related products serve the key purposes of (1) informing caregivers about risks associated with product use and (2) providing actions that caregivers can take to reduce those risks.

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[3] "Assessing Suitability of Written Materials." Columbia University School of Nursing.
http://www.nursing.columbia.edu/informatics/HealthLitRes/assessWrittenMat.html

Because the key categories of risk were (1) suffocation and (2) falls, both risk categories should be included in the warning labels shown to participants in the next step of this project, IDIs. Given that some formatting elements were consistent across different product labels (e.g., orange strip, triangle icon, WARNING, black and white colors), the label stimuli in the IDIs should include these elements as well.

Elements that varied—which can therefore be compared—were bullet versus paragraph formatting, shorter versus longer lengths of the warnings, and the selective use of words in all capital letters versus entire messages in all capital letters. In the next IDI phase of research, we asked participants about their thoughts about the specific wording of warnings and different formatting elements to explore how these variables affect readability, understandability, and the likelihood of adhering to label instructions. Our previous research indicated that caregivers thought warning labels all say the same thing, which reduces their likelihood of reading them, so we explored what factors could increase the odds of caregivers reading a given product label.

Chapter 2: IDIs

Methodology

FMG conducted eight remote IDIs with caregivers to investigate consumers' comprehension of the language used in warning labels, what resonates most with them, as well as behaviors associated with their understanding of the labels. The IDIs lasted approximately 60 minutes each and were fielded from January 13 through January 17, 2020.

To recruit a sufficient sample for this study, FMG partnered with FieldGoals, a market research recruiting firm with more than 50 years of experience in field data collection and consulting with a nationwide reach. Participants were members of the general public who were at least 18 years old. Participants could not currently, nor in the past five years, have practiced in a health care company or organization as a medical professional, childcare provider (e.g., daycare employee, nanny), nor as a children's product manufacturer. In addition, the participants could not have participated in market research within the past three months.

IDI recruitment procedures were designed to ensure a diverse mix of qualified participants (see Table 1.1 for participant demographics). IDIs were segmented by caregiver status (parent vs. grandparent): four participants were parents of an infant that was 2–11 months old and four participants were grandparents who care for an infant that was 2–11 months old at least once a week in their own home.

Table 1.1

IDI Demographics

Category	Frequency	Percentage
Age of Infant		
2–4 months	2	25%
5–7 months	2	25%
8–11 months	4	50%
Relationship to Child		
Parent	4	50%
Grandparent	4	50%
Gender		
Male	4	50%
Female	4	50%
Participant Age		
18–24 years old	2	25%
25–34 years old	2	25%
35–44 years old	1	12.5%
45–54 years old	2	25%
55–64 years old	0	0%
65–74 years old	1	12.5%

75 years or older	0	0%
Race		
American Indian or Alaska Native	0	0%
Asian	1	12.5%
Black or African American	4	50%
Native Hawaiian or Pacific Islander	0	0%
White	2	25%
Some other race	1	12.5%
No answer	0	0%
Hispanic/Latino		
Yes	1	12.5%
No	7	87.5%
No answer	0	0%
Person Who Typically Puts Child to bed		
Participant	7	87.5%
Spouse	0	0%
Other	1	12.5%
Primary Nursery Product Purchaser		
Yes	6	75%
No	1	12.5%
Share responsibility with other	1	12.5%

The IDI discussion guide was designed to assess: (1) Consumer awareness of warnings and public messages about infant sleep environments; (2) Consumer understanding of the differences between warning labels on various infant products; (3) How consumers differentiate warning labels and what differences there are in how consumers comprehend warning labels; (4) Which words or phrases on warning labels resonate well with consumers, and which do not; (5) How the language of the warning labels should be edited to make them more effective; and (6) How caregivers understand the messages on warning labels, and what their reported behavior would be after reading them. Additionally, the guide progressed in specificity: it began with questions that assessed participant perceptions of infant sleeping more generally (i.e., behaviors regarding infant sleep practices and products used), progressed into questions about knowledge, attitudes, and awareness of infant sleep safety, and concluded with reactions to various warning labels (see Appendix A).

A trained notetaker was always present and listening to each interview, and at least one researcher from CPSC was often present and listening. Once all interviews were completed, trained qualitative analysts reviewed the notes from the IDI discussions and identified key themes. Next, FMG drafted a memo to summarize the main findings from all interviews (see Appendix B). FMG then created an organizational codebook and systematically coded all transcribed interviews using NVIVO software. Findings from the NVIVO coding provided data for the IDI findings in this report.

Results

General Awareness

The conversation began with participants discussing their background as caregivers and their general behaviors associated with putting infants to sleep. Grandparents reported that their typical schedule for watching the infant depends on the parent's work schedule, but they are mainly watching the infant during the day. A few grandparents indicated they watch the infant 1–2 times during the week, while others reported watching the infant five days a week or specifically on the weekends. On the other hand, parents indicated that someone usually watches their infant during the day, but that they personally put their infant to sleep in a crib at night.

When probed by the moderator about behaviors associated with putting an infant to sleep, a few parents noted that they lay their infant down at night in a crib with a stuffed animal, pillow, blanket, and/or a toy. In addition, the majority of parents and grandparents reported laying the infant down in either a playpen or crib for their naps and putting a stuffed animal, blanket, bottle, pacifier, and/or toy in the sleep environment with the infant when laying them down to sleep.

The discussion then shifted to parents' and grandparents' general knowledge, attitudes, and awareness of infant sleep safety recommendations and guidelines. Both parents and grandparents reported awareness of the following sleep safety guidelines:

- Do not include anything in the crib that an infant could choke on (e.g., toys)
- Monitor the infant 24 hours/7 days a week

A few grandparents specifically discussed two infant sleep safety recommendations and guidelines that parents did not discuss. Those guidelines included:

- Ensure the infant cannot fall from the product
- Put the infant down to sleep on their back

Parents and grandparents reported learning sleep safety guidelines from internet articles, family members, friends, previous experience raising children, and doctors and/or nurses. A few parents noted they learned numerous infant guidelines from pregnancy smartphone applications (e.g., Baby Center and Glow). One parent specifically noted not using Facebook groups for sleep safety guidelines, since every infant is different and should be dealt with on an individual basis.

Parents and grandparents noted that infant sleep safety recommendations and guidelines are extremely important for the safety of their infant. Although they agreed that the guidelines were important, they also discussed that guidelines can be contradicting, which makes it difficult to know which to follow. Both parents and grandparents reported questioning which

guideline is truly safer when they are contradictory (e.g., should you put an infant on their back or their stomach)?

When faced with contradicting guidelines, parents and grandparents reported prioritizing the following guidelines over others:

- Minimizing the number of items (e.g., toys) in the product with the infant to prevent choking;
- Placing the infant in a product to prevent the infant from falling or getting hurt while co-sleeping with the caregiver;
- Assessing the appropriate position to lay the infant down to sleep in; and
- Keeping up-to-date on product recalls.

Although aware of infant safety guidelines, a few participants reported not following the suggested recommendations for infant sleep safety. For example, some indicated putting toys in the infants' cribs because they believe the infant is strong enough to push the toy off their face (eg., if it were suffocating them) or laying the infant down on their stomach instead of back since that is the only way the infant will fall asleep.

The discussion then shifted to focus on participants' knowledge, attitudes, and behaviors regarding infant product warning labels. The majority of participants reported that they have seen or read a warning label on an infant product. They noted that by reading the warning label, they can have a better understanding of the benefits and risks associated with the product before putting their infant in it. The most commonly reported reasons for why participants read warning labels included:

- To better understand the product before using it with the infant;
- To know when the infant has surpassed the recommended age and weight limit for the product; and
- To understand the various advantages of using the product (e.g., the many ways to properly use the product).

Alternatively, a few participants noted that they cut the label off after reading it once. These participants mentioned they perceive the label to be a choking hazard for the infant (and hence, want to remove it). Additionally, several participants said they only read a warning label once or twice, typically when it is a new product in the home because the information seems like common sense and they are already aware of most of it. In addition, participants indicated that they rarely, if at all, go back and re-read the warning label. Alternatively, one parent expressed never paying attention to warning labels due to retaining knowledge of lessons learned from previous experience as a parent.

The moderator then asked participants to recall any warnings included in infant product warning labels that they could remember. The most common warnings participants remembered included: (1) Do not leave an infant unattended in a swing; (2) Do not put an

infant on their stomach in the crib; (3) Always use restraints in the swing and car seat; and (4) Do not add a pillow or blanket to the playard or crib. A few participants indicated that the information included in warning labels is very similar across all infant products (e.g., do not leave your child unattended).

When asked what enhancements could be made to warning labels to motivate caregivers to pay more attention, participants suggested numerous formatting updates. Formatting updated included:

- Increase the overall size of the label and the font;
- Use a variety of colors (e.g., red lettering or a color-coded label);
- Emphasize crucial information (e.g., highlight or underline important information);
- Include percentages of infants that have been injured by using the product; and
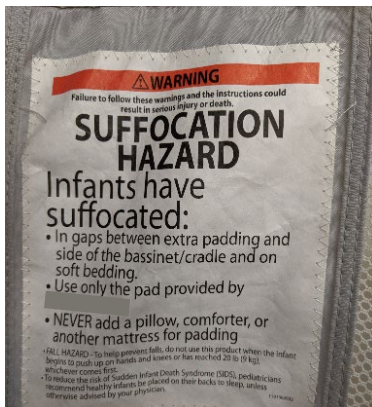- Include illustrations of what to do and not to do with the product.

Beyond formatting suggestions, the participants suggested placing the warning label on the front of the product's box, on the bottom of the product, or on the front of the product.

Warning Label Assessment

Participants next provided feedback on various warning labels for infant products. Each participant completed an in-depth review of one warning label and provided their general feedback on clarity, comprehension, and messaging. Each warning label was reviewed in-depth one time. This exercise sought to understand participants' thoughts about the specific wording of warnings and different formatting elements to explore how these variables affect the likelihood of adhering to label instructions.

Bassinet

This label was reviewed by a grandparent. "SUFFOCATION HAZARD," followed by "infants have

suffocated" caught the participant's attention immediately due to the large font size, the use of bold lettering, and since it implies that an incident has previously occurred using this product. The participant then expressed general confusion on what "in gaps between extra padding and side of the bassinet" was referring to. To make the label more understandable, the participant suggested including percentages of infants that have suffocated and adding a picture to show the "gaps between extra padding." In addition, the participant suggested keeping the bullets for a short and concise message and shortening the "Fall Hazard" section to follow the formatting of the bullets above.

- *"This gets my attention because it says suffocation in big, bold letters. Hazard, infants have suffocated. That gets my attention, too, because it's telling me this has happened." –Grandparent*

- *"Now, in the gap between extra padding in the side of the bassinet/cradle on the soft bedding, I would love to see a picture there. What are you talking about? An arrow or something." –Grandparent*

The participant reported that they thought that the main purpose behind the bassinet warning label is to prevent suffocation from occurring and to educate the reader on the product weight limits. After reading the label, the participant reported they would follow the weight instruction, but not the recommendation to put the baby on their back since their infant is old enough to safely sleep on their stomach.

- *"I would follow all of [the instructions]. Except for [the instruction to have] my child sleep on her back. I guess I wouldn't follow that one because that's just … she sleeps on her stomach, I'm sorry…I just wouldn't follow that because she's of the age where I think she's okay, and we haven't had any problems." –Grandparent*

Playard
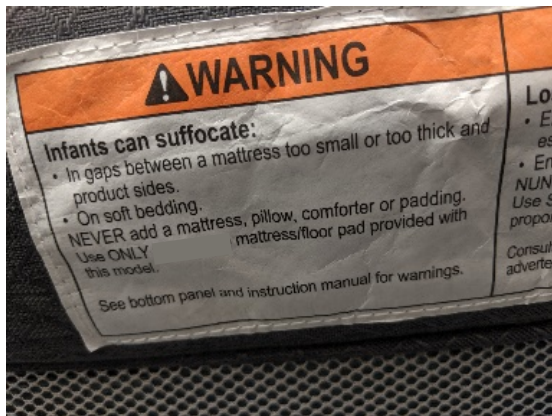
This label was also reviewed by a grandparent. The participant's initial reaction to the playard warning label was that it is very similar to other warning labels they have previously seen and does not present any new information. The participant expressed that "WARNING" and "Infants can suffocate" caught their attention, however, they reported being confused by the terminology used in the bullets throughout the warning label. Similar to the bassinet, the participant reported not fully understanding what "in gaps between a mattress too small or too thick and product sides" meant and where the "bottom panel," referred to in the last line of the warning label would be located. To eliminate confusion, the participant suggested including fewer words and adding images that visualize the content from the bullets.

- *"I don't understand the first one. And gaps between the mattress too small or too thick, I guess there's a space on soft bedding. I don't know what that is except the sheets." –Grandparent*
- *"Now I would have preferred some images, some sort of a clear list wording and more like a diagram or a drawing or something that would have been much more clear." –Grandparent*

The participant reported that they thought that the main message of the label is to ensure the child does not suffocate while using the playard. Even with the participant's previous awareness of this type of messaging, they expressed only partially trusting this message due to a lack of evidence and proof of infants who had suffocated on the label. By including a credible source (e.g., Association of Pediatricians), they indicated they would have greater trust in the instructions on this label. In addition, they reported believing that a warning label

without a credible source is just a label that the manufacturer included to ensure they are not liable for any accidents related to the use of the playard.

- *"Oh, it was an association of pediatricians that found that this is the best way to do it. Then it would be some sort of a good note with some references to some credible professional organization by making a lot more credible, but otherwise is what they think as a manufacturer." –Grandparent*

Full-Size Crib

A grandparent reviewed the full-size crib label. The participant immediately expressed that they would not purchase this product due to the number of warnings associated with it. The participant reported that the length of the label made it seem like the product must not be safe. In addition, they said that the length of the label felt like a way for the manufacturer to protect themselves from liability. Even with numerous warnings, the participant noted that the warning label is generally believable and was not confusing. However, they said it did look like every other warning label they have seen. They suggested adding emojis to make it more visually appealing and unique.

- *"Well, I wouldn't buy this. That would be my first thought...Warning, warning, warning. I'm getting that it's not a safe product at all." – Grandparent*
- *"Oh, well they all look the same. I mean, I've never seen a warning label look any different. So, I wouldn't change it in any kind of way, because it must be proven to work." –Grandparent*

The participant indicated they thought the most important warnings and recommendations to keep in mind when using this product were following the specific measurements when purchasing a mattress for the crib and keeping all items around the mattress tight to prevent suffocation and entrapment. The participant reported that the instructions to have the appropriate mattress for the crib were helpful and that they would follow the product instructions based on the recommendations in the label.

- *"I would make sure that the mattress is the right size and thickness." –Grandparent*

Rocker

A grandparent reviewed the rocker label. The all-capital and bold headings on the rocker's warning label caught the participant's attention immediately. The content of the label was described by the participant to be direct, salient, and believable, with a clear focus on safety. More specifically, the participant reported the main message of this label to be that injury, death, or suffocation could occur if the instructions are not properly followed.

- *"Kind of like I indicated, just symbols and all caps and bold warning, so that directs your eyes directly to it. I like the differentiation of the bold text, how it stands out and it draws… my eyes and my focus to how important that is." –Grandparent*
- *"This label, it doesn't leave anything out. This is kind of the label that you want to see. It separates, and I said, by capitalizing how important safety precautions are. They stand out again, something that you're not going to miss. Knowing what could happen if you don't follow these standards." –Grandparent*

The participant reported that the "do's" and "don'ts" of the warning label clearly highlighted how to properly use the rocker, which they found to be the most important and helpful part. As heard during other warning label reviews, this participant also mentioned that this label looked like all other warning labels they had seen before. To catch the attention of the intended audience, the participant suggested using more symbols or illustrations to depict the major safety recommendations.

- *"The do's or the don't were extremely helpful. Just for remembrance of what you're already doing, or what you shouldn't be doing." –Grandparent*

Inclined Sleeper

The warning label for the inclined sleeper was reviewed by a parent. They noted that the label

was bland and an exact copy of what can be found on every warning label. The participant indicated that the content of all warning labels is the same, which is why people do not frequently read warning labels. To motivate the target audience to read the warning label, the participant recommended: (1) making the label more colorful (e.g., red background), (2) putting the most serious hazard first on the label (e.g., suffocation hazard first, then fall hazard), (3) double-spacing the label to make it easier to read, and (4) placing the label in multiple places on the product (e.g., on the top, bottom, and both sides of the product) to ensure the user sees the label when using the product.

- *"It's pretty bland, and of course this is the same warning label on practically everything. I would probably have it more colorful you know red background maybe." –Parent*
- *"I think I would have the suffocation hazard before the fall hazard though… Because that's a more of a hazard than actual falling." –Parent*

The participant reported perceiving that the instruction to never use the inclined sleeper on a soft surface was the most important piece of information, particularly since labels do not usually highlight this. The participant also recognized that the label instructs caregivers to put the infant on their back, whereas they typically put their infant on their stomach, leading them to realize they were incorrectly using the product.

- *"I guess I would say never use on a soft surface…Because you know oftentimes if we're just coming in, you know coming in from anywhere, and we bring the actual car seat in, you know anybody will put the whole car seat on the bed or the couch." –Parent*

Swing

The swing warning label was also reviewed by a parent. The participant's initial reaction to the swing's warning label was that they would be more cautious when using this product since it details several situations during which an accident could occur. The participant indicated this label was easy to understand and had just the right amount of content. The participant perceived the purpose of the label as a warning for parents and to protect the manufacturer from liability. When asked what the most important parts of the label were, the participant indicated: (1) always use the restraint system, since there was probably a previous accident where an infant was not using the restraints, and (2) never attach any additional strings or straps to the product, because people tend to do this without thinking about it fully.

- *"Obviously, the more important purpose is that everybody needs to read these things so that they don't do them while the child's in the swing, and so that they use the product correctly so that their child is safe" –Parent*
- *"The never attach any additional strings or straps to the product [is an important part of the warning label]. Because some parents might do that without even thinking because I know that they make little hanging things that you can hang on their car seats. So I mean, why wouldn't you hang it on their swing too?" –Parent*

The participant suggested not using all-uppercase text sporadically throughout the entire label to highlight certain terms, because that makes it harder to read. To better catch the attention of the intended audience, the participant recommended changing the warning symbol,

warning letters, and each hazard (e.g., strangulation, suffocation) to red font instead of black font. Instead of condensing the warning label into one paragraph, the participant said that it would be easier to read if the label was subdivided into sections based on the warning (e.g., fall hazard section, suffocation hazard section).

- *"But maybe if the warning symbol and the warning, the letters were all in red, maybe that would make it a little more pop out to you." –Parent*
- *"Maybe put spaces after, right before fall hazard, put a space so that fall hazard is in one section, and then put another space right before suffocation hazard so that they're all in their own little sections. That could make it easier to read for some people, if they're in little tiny paragraphs." –Parent*

Bouncer Seat

A parent reviewed the bouncer seat label. The participant reported that the subdivided

sections in the bouncer's warning label make it easier to read, yet the information included in each section seemed entirely too much like common sense. The participant still thought that even though it should be common sense, the purpose of this warning label is to direct the users on how to properly use the product and detail the consequences if instructions are not followed. In addition, the participant reported that the content seemed very believable and easy to understand.
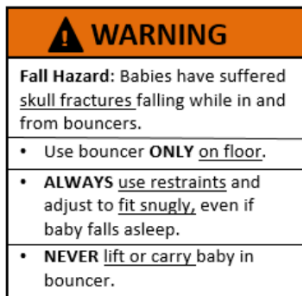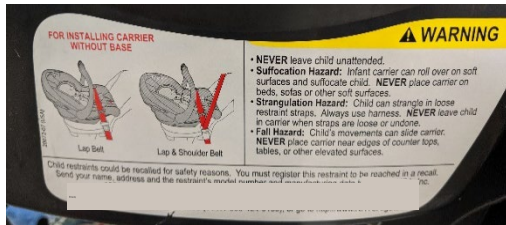
- *"[The purpose of the warning label is] to let people know what not to do with the bouncer. Just to probably inform people how to use the bouncer and how he should probably take care of the baby and the bouncer." –Parent*

The participant indicated that the entire warning label seemed important, but the warning at the top of the label was most important since that is what would catch the eye of the intended audience. To make the label more prominent, the participant recommended underlining a larger portion of each sentence (e.g., babies have suffered skull fractures) to provide the reader more context if they were to just read the underlined words.

- *"I don't think there's one part of it that's really the most important. It's all very important. I guess the most important part would be like the warning part so people actually know to read this label." –Parent*

Handheld Carrier

The parent who reviewed this label described the handheld carrier's warning label as very

informative and containing salient instructions on what to do to keep your child safe. Further, the participant indicated that the overall purpose of this warning label is to inform the user to never leave a child unattended in the handheld carrier and to always tighten the restraints once the infant is in the handheld carrier.

- *"The number one, never leave the child unattended." –Parent*

The handheld carrier warning labels instruct the user to "register the restraints to be reached in a recall," which the participant noted they were not previously aware of. With that in mind, the participant said that all instructions on this label are necessary since a caregiver's awareness of certain topics can vary. More specifically, the participant reported that the instruction, "never leave a child unattended" stood out the most, stating that caregivers generally believe that nothing will happen to their infant since they are always with the infant.
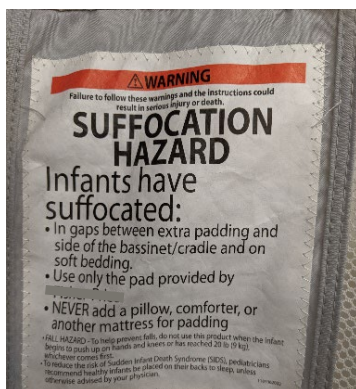
- *"I know everything except the register, you must register the restraints and I don't know about that." – Parent*

Warning Label Comparisons

Next, participants were asked to complete multiple side-by-side comparisons of two unique warning labels designed for the same infant sleep product. Each participant took part in two comparison activities. They each compared a pair of infant sleep product warning labels for one product (e.g., full-sized crib), as well as a pair of warning labels from non-sleep products (e.g., swing). For both sets of comparisons, participants answered questions about their perceptions, understanding, and other thoughts about the warning labels.

Bassinet (Sleep Environment)

<div align="center">Label A   Label B</div>
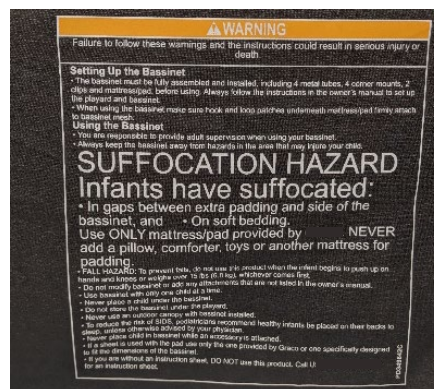
When comparing the two bassinet warning labels, both participants expressed that the black background of Label B caught their attention immediately.However, it is important to note that the product this label is from is actually black as well, thus, the label is not as contrasting as participants may have initially thought. Both participants mentioned that the various font sizes on both labels helped to direct their attention where to read, but the terms "suffocation hazard" and "warning" stood out most on both labels due to the general formatting (i.e., size of terms and bolding of terms).

Although both labels have the same message, participants reported that Label A made it seem like the risks were much more intimidating due to the blunt introduction that mentions that children have suffocated while using the bassinet. Label B has the same introduction, but has multiple lines of information before the blunt introduction that mentions that children have suffocated while using the bassinet.

Both participants reported preferring Label B over Label A, reporting that the general formatting (e.g., black background) and layout of Label B was easier to read due to the color and follow. Although Label A was reported to be easy to understand due to it including fewer words, participants noted that Label B provided more information and context around the risks associated with the bassinet, which made Label B more effective overall.

Playard (Sleep Environment)
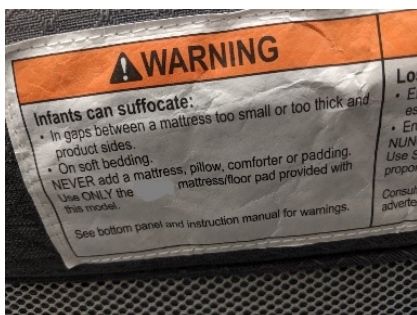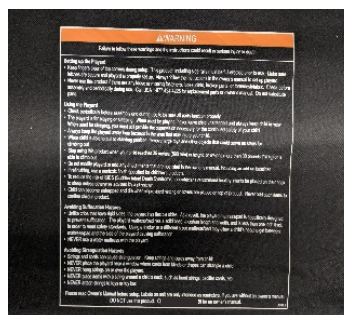
Label A   Label B

Although the orange warning symbol on Label A caught participants' attention first, participants said that the content was very common sense. Participants also said the black background on Label B caught their attention. However, one of the participants said it hurt their eyes and they preferred the white background.

Participants did report liking the instructions about how to set up the playard included in Label B. One participant also commented on the formatting of Label B making it seem more

effective (e.g., bullet points, larger font, and the use of bold lettering for the title of each section).

Both participants reported preferring Label B over Label A. They appreciated how descriptive Label B was (e.g., describes how to set up the playard, includes warnings that caregivers do not typically think about, and lists things to avoid while using the product), while Label A only included basic warnings that they were already aware of. To make Label B even more effective, a participant suggested making the font bigger to catch the reader's eye. Although participants preferred Label B, one participant did say they may be more likely to actually follow the instructions in Label A because the white background made it easier to see.

Other suggestions for increasing adherence included color-coding the label, bolding important words, and adding visuals. Participants also noted that they would like to see the Playard warning label on the side of the playard, on the bag the playard goes in for travel, or anywhere that can easily be seen by the user.

Full-size Crib (Sleep Environment)
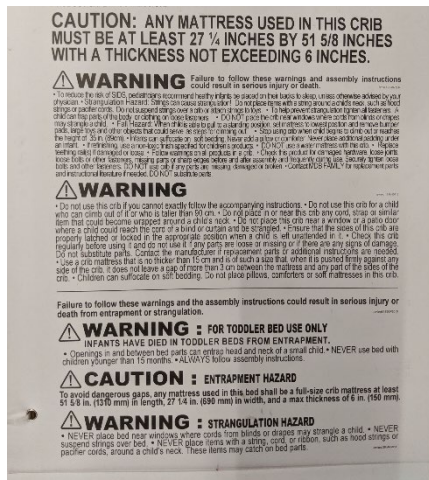
Label A Label B

After reviewing the two labels, both participants immediately responded that Label A contained too much information and that the font was too small to read. Alternatively, Label B was described by participants to be attention-grabbing due to the concise messaging and instructions. One participant also reported that the terms "warning" and "infants can suffocate" caught their attention.

Participants indicated that they would be less likely to read Label A since the information seemed redundant. In addition, the length of the label made it come across as if the company was required to include all of the information to protect itself from liability.

When determining the overall effectiveness of the labels, one participant noted that Label B did not seem to have enough information, while Label A had too much. Further, Label A had too many complicated words (e.g., promulgated, entrapment hazard) and did not appear to be crafted for consumers with a range of reading levels.

Overall, both participants reported that they prefer Label B. To enhance the warning labels, the participants suggested keeping the warning labels concise and using common language. They also recommended using percentages, bolding letters where necessary, and providing a short and long version of the label so the consumer can decide which one they want to read.

Inclined Sleepers (Sleep Environment)
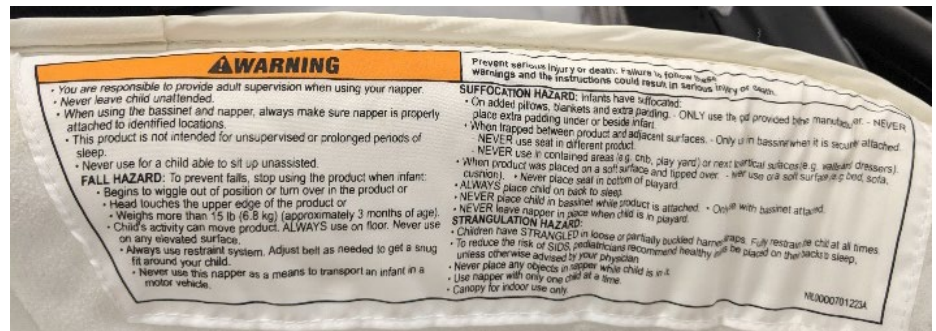
Label A   Label B

There were mixed reactions from participants in response to the inclined sleeper warning labels. One participant indicated preferring Label A, while the other participant indicated preferring Label B. Although they had different preferences, both participants reported that Label B was more informative and included more precise instructions than Label A.

The participant who preferred Label A described liking its use of bold text (e.g., 'stop using the product when...), which they interpreted as putting an emphasis on how important it is to follow the boldedinstructions . They also noted liking that the label was precise and to the point. This made it much easier to read than Label B, which was much denser with text. Alternatively, the participant who preferred Label B noted that they appreciated the extra information that Label B included and expressed that more information made Label B more effective than Label A.

Swings (Non-Sleep Environment)
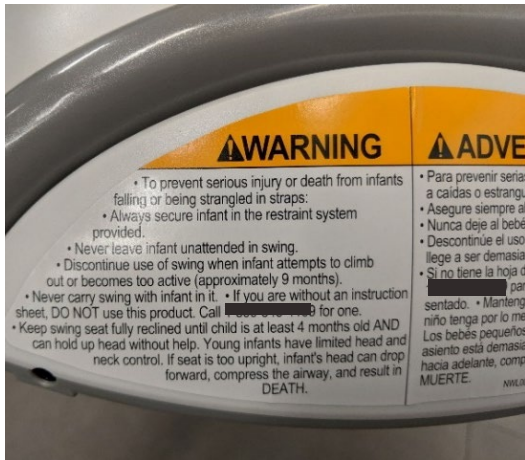
<div align="center">Label A   Label B</div>

Participants reported that Label B seemed much longer than A, making Label A more appealing. In addition, both the bolded orange heading[4] and bullet-point format of Label A made the label more attention-grabbing. One participant indicated that the use of "death" in uppercase letters at the bottom of Label A also their caught attention.

Overall, participants said that they preferred Label A over Label B. Although Label B had more information, the participants noted that Label A provides the reader the proper amount of crucial information which makes it the more effective label. To enhance Label B, the participants suggested following a similar format to Label A, which includes bullet points, separating the information for easy reading, and a larger font. In addition, they recommended placing the label on the side of the swing where it is easy for the user to see.

Bouncer Seat (Non-Sleep Environment)
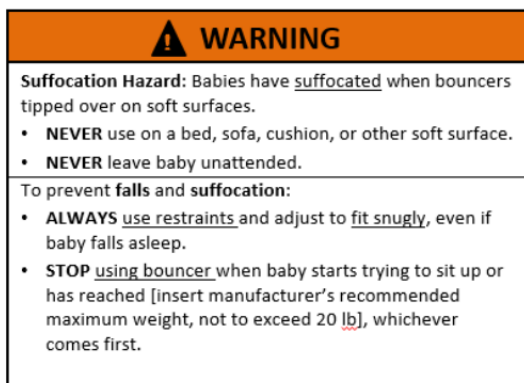
<div align="center">Label A   Label B</div>

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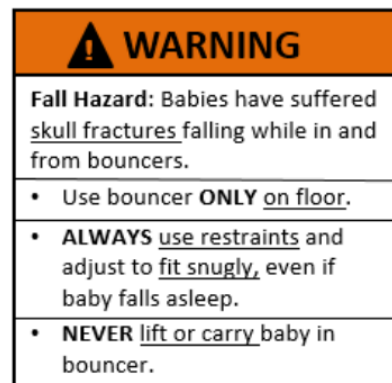
[4] Participants identified this color as yellow during IDIs.

After reviewing the bouncer seat warning labels, participants expressed that both labels are equally easy to understand due to the use of plain language. One participant reported especially liking the similar formatting elements of both labels (e.g., orange heading, bullet points, underlining specific lines, and bolding important words). The participant described that using that these types of formatting emphasize the importance of following those specific instructions on the warning label.

Both participants reported preferring Label B since it included an appropriate amount of information that was easy to understand. However, one participant noted they preferred Label A's formatting, mainly because of the lines that separate suffocation hazards from fall hazards. The large font and overuse of lines in Label B was described by a participant to be distracting. Alternatively, one participant noted that Label B was more attention-grabbing due to the larger font and the concise bullets.

Participants indicated that they would follow the instructions on both of the warning labels. To further catch their attention, participants suggested placing the bouncer seat's warning label on the back of the bouncer or where the infant would be set down on their back.

Handheld Carrier (Non-Sleep Environment)
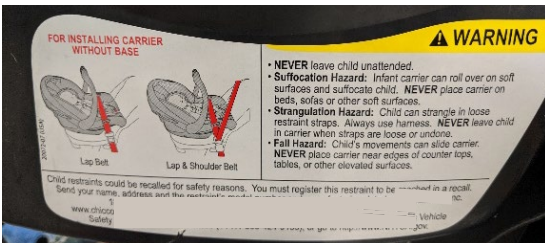
Label A   Label B

Participants commented on Label A's bold print immediately standing out. More specifically, the participants indicated liking how the bolded words emphasized the importance of following the instructions. Label A was determined to be the most informative and the easiest to understand.

The participants noted that illustrations in Label A describe how to use the product, while Label B's illustration shows the user what to do and what not to do. The images were described to be a crucial piece of the warning labels.

Overall, the participants preferred Label A due to the illustration, bold text, and the organization of the information (i.e. bullet points). To enhance Label B, the participants recommended making a larger label and bolding the text in the same format as Label A. Also, they noted that placing the label on the side of the handheld carrier would make it more easily visible for the consumer.

Rockers (Non-Sleep Environment)
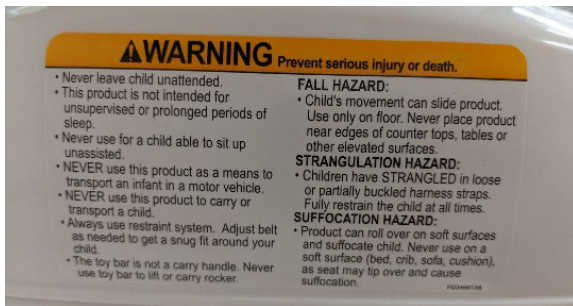
Label A	Label B

After reviewing the rocker's warning labels, participants instantly reported Label A as more attention-grabbing than Label B. Specifically, they noted that the orange header and use of all capital headers in Label A were attention-grabbing, while the organization and formatting (e.g., bullets) of the label motivated them to continue reading the instructions. They said the lack of color in Label B and the condensing of all the information into one paragraph made this label less attention-grabbing.

The participants reported preferring the organization and formatting of Label A over Label B. They indicated that the message is the same in both labels, but Label A breaks it down and makes it easier to digest, whereas Label B is a run-on sentence and difficult to read.

The participants expressed that they would be more likely to read and follow the instructions on Label A because it was eye-catching and easy to understand. To enhance Label A, the participants recommended moving the "suffocation hazard" section above the "strangulation hazard" section since they consider suffocation is more of a hazard than strangulation. In terms of placement recommendations, they thought placing the warning label on the outside or the corner of the rocker would be beneficial.

Recommendations
During discussions, participants touched on several ways that warning labels could be enhanced to motivate caregivers to pay more attention. As such, the following recommendations for warning label enhancement are presented based on findings from IDIs:
- Use various colors (e.g., red lettering and color-coding).
- Use bullets (makes the label concise and easy to read).
- Highlight crucial information.
- Add percentages (e.g., X% of infants have choked on this product).
- Use asterisks, bolding, and all-caps where appropriate throughout the label.
- Include examples of harmful incidents that have occurred with the product.

- Include information about the suggested age and weight of the infant using the product.
- Add images and illustrations when possible (e.g., what not to do and what to do).
- Make warning labels stand out more (e.g., use yellow background instead of white).

Incorporating the suggested edits to warning labels has the potential to increase adherence to warning labels on infant sleep products and should be further tested in the focus groups.

Next Steps

With findings from the content analysis, warning label comparison IDIs, and insights gathered from previous research with CPSC, FMG next developed five message frames (i.e., messaging strategies or messaging approaches) that address specific determinants of behavior to be tested with the target audience in the next phase of research, focus groups. It was key to test message frames about warning labels before refining the labels in order to have a full understanding of what is working and what is not working.

The message frames developed for the next round of testing reflect the target audience's values, stated needs , suggested recommendations from the IDIs, and motivations—the most likely touchpoints for triggering action. During the IDIs, participants reported wanting the inclusion of percentages to indicate how many infants have been injured using the product, and information on how the infant was hurt. In addition, they noted wanting the messages to be concise and salient. FMG prioritized the inclusion of these needs when creating the message frames.

The draft message frames included gain-frame and loss-frame approaches (a gain-frame approach highlights what is gained as a result of a health behavior, whereas a loss-frame highlights a loss as a result of not complying with a health behavior) in order to assess what resonates most with each audience segment. The gain-frame and loss-frame approaches were included because previous research has shown that caregivers are motivated to adhere to warning labels by knowing the negative effects of not following the instructions (i.e., death, injury). On the other hand, caregivers are also motivated to follow instructions when the message includes positive best practices for keeping their child safe.

These message frames had to be tested to further understand what ideas effectively motivate the target audience to make a behavior change, before developing specific messaging that may not apply to them. The message frame findings from the focus groups were used to refine the warning labels for testing and help CPSC strategize the best ways to communicate the risks of using products as sleep environments for children.

Chapter 3: Focus Groups

Message Frame Development

Leveraging the results from the content analysis and IDIs, FMG then developed five communication approaches (message frames) to test with parents and grandparents during focus groups.

Findings from earlier phases of research highlighted that caregivers are more likely to follow instructions when warning labels feature the following characteristics:

1. Negative consequences of not adhering to safety instructions (e.g., death can occur).
2. Statistics that demonstrate infant deaths as a result of non-adherence to safety instructions.
3. Positively framed information on how to best keep infants safe.
4. Ways a caregiver can responsibly contribute to infant well-being (e.g., you can protect your child).
5. Social norms regarding caregiver behaviors (e.g., responsible parents like you).

FMG developed message frames to address these characteristics and presented them to CPSC for review and feedback. The final five message frames that were shown to participants are outlined in the table below. For the purpose of focus groups, these message frames were assigned random letter names (Idea D, Idea S, Idea L, Idea P, and Idea R) to eliminate order effects:

Idea D:	Death (/serious injury/suffocation/strangulation) to your child can occur if you do not follow all of the instructions on the warning label.
Idea S:	X number of children have died (/suffered from serious injury /strangulation/suffocation) as the result of not following all of the instructions on the warning label. highlight
Idea L:	Keep your child safe. Follow all of the instructions on the warning label.
Idea P:	You can protect your child by following all of the instructions on the warning label every time you use the product.
Idea R:	Responsible parents like you follow all of the instructions on the warning label to keep their child safe.

Methodology

FMG conducted nine online focus groups between Monday, June 1, and Friday, June 5, 2020. Focus groups were conducted online using Zoom software, lasted approximately 90 minutes, and were segmented by caregiver status (parent/grandparent) and age of child (2–5 months/6–11 months). A total of 53 caregivers participated.

Parent Demographics

Age of Youngest Child	n	%
2–5 months	14	45%
6–11 months	17	55%
Primary Guardian of Child	n	%
Yes	31	100%
No	0	0%
Gender	n	%
Male	11	35%
Female	20	65%
Participant Age	n	%
18–24 years old	0	0%
25–34 years old	19	61%
35–44 years old	12	39%
45–54 years old	0	0%
55–64 years old	0	0%
65–74 years old	0	0%
75 years or older	0	0%
Race	n	%
American Indian or Alaska Native	0	0%
Asian	2	6%
Black or African American	4	13%
Native Hawaiian or Pacific Islander	0	0%
White	21	68%
Some other race	0	0%
No answer	4	13%
Hispanic/Latino	n	%
Yes	3	10%
No	21	68%
No answer	7	22%
Person who typically puts child to bed	n	%
Participant	30	97%
Spouse	1	3%
Other	0	0%
Primary Nursery Product Purchaser	n	%
Yes	30	97%
No	1	3%

Grandparent Demographics

Age of Youngest Grandchild	n	%
2–5 months	11	50%
6–11 months	11	50%
Gender	n	%
Male	6	27%
Female	16	73%
Participant Age	n	%
18–24 years old	0	0%
25–34 years old	0	0%
35–44 years old	0	0%
45–54 years old	3	14%
55–64 years old	13	59%
65–74 years old	6	27%
75 years or older	0	0%
Race	n	%
American Indian or Alaska Native	0	0%
Asian	0	0%
Black or African American	3	14%
Native Hawaiian or Pacific Islander	0	0%
White	19	86%
Some other race	0	0%
No answer	0	0%
Person who typically puts child to bed (participants were able to select more than one option)	n	%
Participant	19	86%
Spouse	2	9%
Other	4	18%
Primary Nursery Product Purchaser	n	%
Yes	17	77%
No	5	23%

The purpose of the focus groups was to assess:
- Which message frame most effectively communicates potential dangers of a product to consumers;
- Which message frame has the most potential to influence safe product usage;
- Potential unintended consequences of the message frames being tested;
- How clear, resonant, persuasive, believable, and motivating each message frame is to the consumers;
- If the message frames change consumers' perceptions of safety messaging; and
- If the message frames make consumers more likely to adhere to safety messaging and change their behavior as a result.

FMG worked with CPSC to develop and refine a moderator's guide and materials (including recruitment script and email, stimuli, screener, consent form). The moderator's guide was designed to test key message frame concepts (e.g., main message, clarity) and to elicit feedback from participants on specific aspects of the message frames.

At the beginning of the focus group, moderators first asked participants questions to get a sense of their baseline awareness, knowledge, attitudes, and beliefs about infant sleep safety and associated warning labels (see Appendix C). Participants were then shown each of the five message frames and were asked to verbally give the message a grade using a five-point "A" to "F" letter grade (excluding "E"), based on overall appeal (i.e., the more they liked a message frame, the higher the grade they should give it). The discussion probes were designed to test overall comprehension of the frames, engagement with the frames, and any unintended consequences (i.e., unintended interpretations) that arose when participants reacted to the message frames. The viewing sequence of the message frames was randomized so that no group viewed the frames in the same order. At the end of the focus group, participants were asked to pick the message frame that they believed would be the most effective in increasing caregiver adherence to infant product safety warning labels.

Findings

The focus groups began with a general assessment of participants' awareness of infant sleep safety guidelines and recommendations. Common safe sleep guidelines that participants reported being aware of included:
- Not putting any additional items (e.g., toys or blankets) in the crib with the infant;
- Putting the infant on their back to sleep is the safest; and
- Avoiding the risk of sudden infant death syndrome (SIDS).

Sources from which parents and grandparents reported learning about sleep safety guidelines and recommendations included:

- Friends who have babies
- Medical professionals (e.g., pediatricians, nurses)
- Facebook "mommy groups"
- Previous experience raising children
- Baby books
- Baby safety classes at the hospital
- Phone applications (e.g., *The Bump* and *What to Expect*)
- Personal research online

Grandparents frequently reported learning about current safety guidelines from infants' parents (i.e., their children). Grandparents also reported being aware that many of the safety guidelines they followed when they raised their own children are now outdated (e.g., current guidelines state to lay the infant on their back instead of their stomach).

The focus group discussion then shifted toward message frame review. Findings from each of the message frame discussions are detailed below.

Idea D

> Death (/serious injury/suffocation/strangulation) to your child can occur if you do not follow all of the instructions on the warning label.

What's Working:
The use of the word "death" grabbed participants' attention immediately and motivated them to keep reading.

Watch-Outs:
The frame had elements that seemed very similar to other labels parents and grandparents have previously seen with warning labels.

Initial Reactions
Across all focus groups, participants said that leading with "death'" grabbed their attention immediately, noting that it made them very aware of what could happen if they did not

adhere to warning label instructions. Both parents and grandparents reported that using the word "death" would be effective in motivating caregivers to follow instructions.

- *"I think you're leading with every parent's worst nightmare. So, it's highly effective." —Grandparent, Focus Group 1*
- *"Very relevant. This one really does, it'll get your attention and not in a bad way. It really does need to, it brings you down a little bit and makes you realize, wow. You really have to be careful and really pay attention to that warning label. Don't just skim it. I skim things sometimes when I read, but something like a warning label on my grandbabies item, I'm really going to be careful with it." —Grandparent, Focus Group 2*
- *"I think so. I think I'd be more inclined to follow it more." —Parent, Focus Group 4*
- *"Yeah. I'd say I definitely look over them and it would draw my attention to see what comes after this?" —Parent, Focus Group 4*

A few grandparents mentioned that they would like the idea to be more explicit in explaining how death had occurred (e.g., infant dying from strangulation or suffocation). Additionally, a few participants said they would not want to purchase the product if infants had actually died during use. A few participants also reported that the main message of this frame was generally too similar to existing warning labels they had previously seen.

- *"I also think it's relative to… Again, my curiosity is, what particular thing is this on that it's death? I mean, suffocation, you die from suffocation, strangulation. I mean, death, it's a very strong word. Personally speaking, I would rather see, "Serious injury, suffocation, strangulation." For a mother of an infant, the word death is… It's a very powerful word." —Grandparent, Focus Group 7*
- *"… But if they do read the warning label, I think it will, like I said before, it really catches your attention and say, "Whoa, do I really want to buy this?" And it makes you think about the circumstances that your child will be in. Like, "Could this happen? Am I going to put my kid in this situation?" — Grandparent, Focus Group 7*
- *"… But I would want my daughters to look at this and say, "Is this a product that is safe for my home and for all of us to use together?" After this, I'd have to ask them. I'd have to ask their opinion and say, "This was on there today. Have you ever looked at the labels?" Because I've never asked them any of this." —Grandparent, Focus Group 7*
- *"I agree. I think it looks really similar to what we see on all of our products." —Parent, Focus Group 3*

Main Message
Participants understood the main message of Idea D to be that consumers should use the product as directed to avoid the risk of infant death. Many participants indicated that the message was both compelling and believable, noting that they would read the rest of a label like this to ensure they fully understood the safety guidelines.

- *"If you don't use the product properly, you could cause your child's death" —Grandparent, Focus Group 1*
- *"I think it's very believable. I think if you see this terminology on something, I think that any of us would stop. And I would probably read it and reread it, if I saw this, just to make sure I had a clear*

understanding of what the product was and whether I felt like it was something it would be worth taking a risk for me or my grandchild based on this warning.” —Grandparent, Focus Group 7

- *“It does exactly what it's supposed to be doing. And it's warning me of the danger if I don't take the necessary precautions.” —Parent, Focus Group 3*
- *“I think I'm paranoid by it, especially infant sleep and if it relates to that, you've heard so many things about it that I, as a mother I'd take it so serious.” —Parent, Focus Group 4*

Stand Outs

Some participants mentioned thinking that Idea D was very serious and a little scary, which would motivate them to share this message with friends and family. A few participants expressed that the use of the word “death” made the idea stick in their minds more than the typical warning labels.

- *“And it's… It was more than the other ones. This was a lot… Seems a lot more serious and it could scare you a little bit. So I would definitely share it, especially with this one.” —Grandparent, Focus Group 1*
- *“Yeah. It's still super, super scary. And I still hate that word and hate that that has to even be on a sleep label. I understand for liability reasons that it does, but I really do hate that that word has to be on any of the labels.” —Parent, Focus Group 3*
- *“Morbid but effective, maybe that's what comes to mind. It expresses the seriousness of the situation.” —Parent, Focus Group 4*
- *“I think it's been said they're trying to let you know how serious it is, but I don't know if there's a better way to phrase that, that would stick with you more and not be as morbid.” —Parent, Focus Group 4*

Purpose of Warning Label

Although both parents and grandparents reported thinking this was an effective message, participants often brought up that they think warning labels are only created to protect the manufacturer from liability. They said they thought the information included in a warning label is just boilerplate language that is put on every product for liability purposes.

- *“I think I'm kind of neutral to it just because most products have these labels, these warnings on them. I feel it's more to protect themselves for liability like they mentioned earlier. And also just like a friendly reminder that the product is intended for one purpose. If we don't follow these instructions, it's on you. So I'm a little bit neutral at this point where like I'll read it the first time I buy the product and then just glance over it or just ignore it after the first opening of it.” —Parent, Focus Group 4*
- *“But I'm educated. And I'm just saying I know that the reason we have to do all this is, yes, first and foremost for the safety of the child and so forth. But it's also to help a company avoid the litigation of being sued for the things that are wrong. And again, there's a certain amount of leeway that one has to use to interpret what the intended purpose of it is.” —Grandparent, Focus Group 7*
- *“I hate to say this in these times, but it also opens up litigation. Like, "Oh, my God." The vendor now saying, "Well, you put it on top of the previous one. Do not put it on top of a pad or under a pad." You know what? It really brings a lot of… It's a great warning, but it opens up a very litigious opportunity.” —Grandparent, Focus Group 7*

Idea S

X number of children have died (/suffered from serious injury/strangulation/suffocation) as the result of not following all of the instructions on the warning label.

What's Working:
The percentage motivated parents to share this idea with other caregivers to emphasize that the product should be used properly to prevent death.

Watch Outs:
The percentage grabbed caregivers' attention but motivated them to not purchase the product due to the mortality rate associated with using the product.

Main Message

Although some participants indicated that Idea S felt intimidating, they did recognize the importance of emphasizing the seriousness of not properly following instructions on warning labels. Both parents and grandparents identified the main message of the idea to be that caregivers should be careful when using the product; that if they do not take the warning label seriously, there could be permanent consequences (i.e., death).

- *"It's first kind of scary to see right away. If it said 112 children have died as a result of not following all the instructions, it comes off as scary, but I also think immediately it's a good warning. It's a strong warning. It's like, you should take these instructions seriously because children have died. I think it's abrasive, but I think it's, I don't know, I think it's a good way to really let people know that if you don't follow the instructions, sadly, children have died from misuse." —Parent, Focus Group 5*
- *"Same on my side. It just makes it a real event versus all these possible scenarios that could happen...just having the number in there. It makes it hit home a little bit more." —Grandparent, Focus Group 1*
- *"... it's kind of scary and intense, right? But I think that goes for this too. But for me reading that, knowing okay, this has actually happened to this many people. That's helpful to bring a little bit of reality to it, of this is why it's important to use all, to read all of the instructions and actually follow all of the instructions. So having quantitative data, rather than just a statement to say, "Follow these instructions" is helpful." —Parent, Focus Group 9*
- *"I think it's trying to get the reader or the user of the product to take... It's taking instruction seriously. The previous idea, it was too generalized so that you can just be like, yeah, I'll follow the ones that are easy to follow. But this one sort of implies that, "No kids have died. This number of kids have died. So you should be following the instructions that we're providing you because your kid could die." —Parent, Focus Group 9*

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Use of a Number

The intent of this frame was to introduce the idea of including a number (X) to help provide evidence regarding the danger of not adhering to instructions. The overall reaction to the X in this idea highlighted the fear parents and grandparents have toward using a product that had death associated with it. Numerous grandparents and a few parents reported that the number would deter them from purchasing the product due to the high risk of infant death. Further, even though there was a warning label on the product, several participants said they expected the product would be removed from the market (or, at least agreed that it should be removed) to prevent future infant deaths.

- *"I would think that was a dangerous product and I would be afraid to buy it, even though there's a warning label that says things you're going follow. If someone used it that didn't read the warning label, I would be afraid to buy that product." —Grandparent, Focus Group 2*
- *"[The percentage] compels me not to use it." —Parent, Focus Group 3*
- *"…If I saw this on a product, the other one is definitely more favorable than X number of children. Because that this product should have already probably been removed from the market." —Grandparent, Focus Group 7*
- *"I'm appalled. If I saw this… Well, that's nice. You've done the research, this product. I don't care if the parent didn't follow directions, abused the product, but if you have X number of children died from it, it's off the market." —Grandparent, Focus Group 7*

A few grandparents and parents expressed that they did not think including a number was necessary. They stated that if the sole purpose of the number was just to inform caregivers of the repercussions of misusing the product, then it should not be included in the label. Some participants proposed the alternative phrase "children have died" instead of the number. These participants reported feeling this phrase would be less daunting or anxiety-provoking, and therefore, more likely to be effective. One parent suggested that the number would be more effective on a manufacturer's website or somewhere the consumer might go to find out more information.

- *"I don't know that I need a number. I just need to know that if you don't use it right, it's dangerous." —Grandparent, Focus Group 2*
- *"I think the word died kind of makes it more serious than the others, even though all the others are really serious and have the same meaning. But I feel like the word "died" just kind of resonates with everybody more than the others." —Parent, Focus Group 9*
- *"I would prefer if it just said, "Children have died" or "Children have suffered as a result of not following this". Because again, these labels are very permanent in places. So every time I put my kids to bed, I'm going to read a hundred people, a hundred children have died. I'd be like, oh my God. And that will be even more anxious as a parent that I am already." —Parent, Focus Group 9*

- *"It feels it belongs on like the manufacturer's website, not on my product. Like if I'm going to do some additional research and this information is available to me on the manufacturer's website, I'm like, "Oh, this is great. This is additional information." But I don't want to be pulling this out every day, setting my kid in there and seeing this it's just like, you know what, I'm going to just go to sleep with him in my arms today." —Parent, Focus Group 3*

Stand Outs and Believability

Even though participants had mixed reactions to this message and the number, the number was often the element that participants cited caught their attention. They did generally find this idea to be believable but wanted information on how infants had died from this product.

- *"So there's so much in a number that it's ... I mean, it draws my attention because it is a number, but then my mind would trail elsewhere when reading it, because I'm like, "Well, I wonder what happened, I wonder who did ... " You know? And all this kind of stuff. And so it would just be this long tangent I would go on, and then maybe end up forgetting to read the instructions altogether." —Parent, Focus Group 6*
- *"...but putting a number or saying that a greater than this number, it gets your attention more than just saying children have died." —Grandparent, Focus Group 8*
- *"So I think if it just said "Children have died" and then everything else, that's okay, but the number makes it even more believable for me. So it's believable just as a statement, but if you have the number, then it makes it more believable in my mind." —Parent, Focus Group 9*
- *"I think it's believable...when I see these tags, I almost immediately think, what was the situation? Because just sitting the baby in a product, doesn't automatically mean it's going to die. Did the parent have blankets in there? Did the baby have some kind of respiratory... Not to be a skeptic, but I don't think it's just black and white. If you put your baby in this, they might die if you don't watch them the whole time. So I think that if I saw a number, or anytime I actually see this tag without a number, I don't necessarily believe it all the time." —Parent, Focus Group 3*

Shareability

A few participants expressed that they would share this idea with others (e.g., friends and grandparents who tend to not always follow the most recent guidelines) and highlight that there are risks associated with the product. On the other hand, a few parents indicated that they would be ashamed or unlikely to share this idea with others because of the percentage of deaths associated with the infant product.

- *"I think that I would be more inclined to share this idea and the previous one with other people just thinking of grandparents. So we keep going back to the Rock 'n Play, but I think it's a good example. We've let our kids sleep in it before, but with everything that's come out over the last 18 months when we had this infant, we definitely gave different instructions to grandparents if they were the ones right there with her. So knowing when they, Okay X number of children, whether it's one or 10 or 50, gave us the ability to say like, okay, look, this is really important and you need to know this." —Parent, Focus Group 9*

- *"And grandparents tend to not follow instructions, even if you tell them. So saying that statement, it kind of puts it into a little bit more serious note." —Parent, Focus Group 9*
- *"I'd be ashamed to show them that I bought a product that had that number on there." —Parent, Focus Group 3*
- *"I definitely wouldn't want to share it, especially for a first-time parent. You don't want to have them like scarred, traumatized because of that X number of children that have died." —Parent, Focus Group 3*

Adherence to Instructions

Although several participants said they would not purchase a product with a label framed this way, parents did indicate they would follow the instructions if they already had this product in their homes. Similarly, a few grandparents also reported that they would follow the instructions to ensure that they would not be held responsible for the death of an infant.

- *"I think depending on what the product is, I think a bunch of us had said we wouldn't even get the product if that was on there. But if I had that product, I'd probably be more likely to follow the instructions." —Parent, Focus Group 3*
- *"Oh, absolutely. I'll follow the instructions." —Grandparent, Focus Group 7*
- *"Yeah. Especially because I know when I cared for my child, my grandchild, and if he's taking a nap and he's been sleeping a long time, you just like all of a sudden, you're like, Oh my gosh, she's been asleep for an hour and a half. And I haven't heard from his monitors. Is he okay? And you go running in there, and I'm like, please don't let this happen on my watch. So I'm more likely to you read, I don't want to be responsible..." —Grandparent, Focus Group 8*

Idea L

Keep your child safe. Follow all of the instructions on the warning label.

What's Working: The idea is concise, straightforward not confusing.	**Watch-Outs:** The idea is too simple, not attention grabbing and came across as common sense to the majority of participants.

Initial Reactions

Idea L left both parents and grandparents wanting more information. Participants reported that the idea was clear and straightforward but lacked detail about the consequences of not following the instructions.

- *"My initial reaction is it's just very direct, and it's right there for you." —Parent, Focus Group 3*
- *"Seems straight forward." —Grandparent, Focus Group 2*

- *"Maybe a hybrid of this and the other one would be more effective. Keep your child safe, failure to follow the instructions could result in blah, blah, blah, blah, blah." —Grandparent, Focus Group 1*
- *"I would say it's not very informative. Doesn't tell you much except to refer to the warning label. It's a little broad of the concept of safe." —Parent, Focus Group 3*

Both parents and grandparents reported that the initial phrase, "keep your child safe," is common sense and does not contain any new information. Additionally, one parent specifically pointed out that the first phrase comes across as threatening and making it seem like the product is dangerous. A few participants indicated that the only reason a company would put an idea like this out would be to protect themselves from liability.

- *"And my thought was that everyone wants to keep the child safe anyway. So why do they have to tell us that?" —Grandparent, Focus Group 2*
- *"It's just common sense. It's a common sense statement." —Grandparent, Focus Group 8*
- *"That first sentence feels really threatening. Just the, I don't know, like this "Keep your child safe" implies that what I'm about to use as potentially dangerous and as though it just makes it sound more dangerous than it could potentially be." —Parent, Focus Group 9*
- *"So to me, it seems more of like something the company has to say to kind of make sure that they're not going to be held liable for something like that versus something that you absolutely must do every time." —Parent, Focus Group 9*

Main Message

Generally, participants understood the main message to be to read the instructions to keep your child safe. For many, this idea seemed relevant since all caregivers have the same goal of keeping their infants safe.

- *"Instructions are important and you need to follow them in order to keep your child safe." —Grandparent, Focus Group 2*
- *"Read the warning label. Follow the instructions and read the warning label." —Grandparent, Focus Group 7*
- *"What I take away when I read it is that it's basically in your hands, right? Like that first sentence, "Keep your child safe." This is up to you to keep your child safe and we're telling you to do it by following all the instructions. So I agree with everything else that's been said, but I think that's the takeaway for me." —Parent, Focus Group 9*
- *"... Typically, I feel it's true because we would always follow the instructions in the purpose of that is so we can keep them safe." —Grandparent, Focus Group 8*

Believability

Grandparents reported that they thought this idea was very believable and commonsense, while a few parents expressed that there was not enough information to decide whether this idea was believable or not. More specifically, a few parents stated that they could still be keeping their child safe even if they are not following every single instruction.

- *"[This idea is believable] because they're telling you that there are instructions or that you might not be aware of and you need to follow them in order to keep the child safe. So it's telling you, I think it's telling you, not only do we have the directions, but you better read them and follow them." —Grandparent, Focus Group 2*
- *"There's not a ton of context to make it believable or unbelievable. It's just kind of a generalized statement about that could really be on any product, regardless of the purpose of the baby product. It's just a super general statement" —Parent, Focus Group 9*
- *"I think the idea, the whole, "all of the instructions," we've been talking about to me, I don't necessarily think that by not following all the instructions on a warning label, I'm not keeping my child safe. So, my child can still be safe even if maybe, in my mind I guess, if I don't follow every single one of those instructions or the warnings. And like [participant] said before, some of those, I think, they're a liability so, they have to put them on there. But, that doesn't necessarily mean my child's going to be in danger if I don't follow every single thing it says." —Parent, Focus Group 3*

Stand Outs

Although a couple of participants noted that "keep your child safe" grabbed their attention immediately and motivated them to read the instructions, the majority of participants said that they did not find this idea attention-grabbing. They reported that this message would just blend in with the message of any other warning label they had previously seen. To make this idea more attention-grabbing, participants suggested including bold, alarming words (e.g., suffocation, death, choking hazard).

- *It would grab my attention, especially if it says, keep your child safe. I would think there's a reason why they would say that. And what could happen that would not make your child safe. So read on." —Grandparent, Focus Group 2*
- *"It's bland. It really doesn't make you pay attention." —Grandparent, Focus Group 1*
- *"It doesn't really grab my attention. But like [participant] said, it makes you want to just, "Okay, give me the instructions then." —Parent, Focus Group 4*
- *"I think something along the lines of what would happen if you didn't follow the instructions." —Grandparent, Focus Group 1*

Shareability

Although parents reported that this idea had no new information, they did note that they would share this information with grandparents and babysitters to ensure that they are up to date on the most current safety protocols. However, there were a couple of grandparents who indicated they would not share the information in this idea if it were on a label—they reported they thought it was common sense.

- *"I would definitely remind the grandparents because sometimes the grandparents have different ideas on how, especially new items come and then how they should be used. So I'm like, "Here is the warning label and this is what it says that we do. So please just keep that in mind," especially if it's the first time that they're using it." —Parent, Focus Group 9*
- *"I would share it with babysitters. I would, for sure, make sure they know. Because I think about when I was a babysitter, before I was a parent, and the way I used to babysit. Oh my God! I was a great*

babysitter. They loved me, and I was great. I was kind and fun, but I wasn't half as careful, as I am now." —Grandparent, Focus Group 2

- *"It also depends on the severity of the event. If something really bad could happen, you definitely pass along to my wife, my daughter." —Grandparent, Focus Group 1*
- *"Yeah, if it was something new, certainly we'd share it. But most of these are reiterating stuff that is already well-known, oftentimes well-known." —Grandparent, Focus Group 2*

Idea P

You can protect your child by following all of the instructions on the warning label every time you use the product.

What's Working:
Participants agreed that all caregivers have the innate desire to protect their child and immediately connect with that.

Watch-Outs:
This idea came across as too "vague" and "basic," which did not capture participants' attention nor did it motivate them to share it with others.

Initial Reactions

Participants described this idea as "flowery," "cushy," and "positive." Because this idea did not include any negative consequences, participants reported believing the product a label with this message would not be dangerous. A few parents had positive reactions to this message, describing the idea as "less judgy" and liking that it focused on protecting the child.

- *"That makes it, I don't know. That seems more flowery than the last one if that makes sense." — Grandparent, Focus Group 2*
- *"Yeah. A fuzzy feeling that it's not, Oh my God. Like I said, there are parents that will see death or suffocate. So they're making it more cushy." —Grandparent, Focus Group 7*
- *"This one wasn't judgy to me. I see it's positive, compared to all of the other ones." —Parent, Focus Group 3*
- *"Yeah. It doesn't seem like it would be too dangerous, nothing that dangerous is going to happen to the baby.." —Grandparent, Focus Group 2*

A few grandparents indicated that they preferred ideas that highlighted the consequences of not following the instructions. Without the negative consequences, a few grandparents suggested that the warning label appears "open-ended" and is not as motivating to read.

- *"Well, you have to know what problems you might run into, or you might be less likely to really read everything." —Grandparent, Focus Group 2*

- *"I'd prefer to see how dangerous it is. This is not telling me much. It's telling me to read the instructions and stuff, which I will, but I would like to know more." —Grandparent, Focus Group 2*
- *"Well, I think it makes you feel a little bit more safe than the other ones. However, I don't think it offers the complete instructions. So it kind of leaves it open-ended." —Grandparent, Focus Group 7*

Main Message

Both parents and grandparents understood the main message of Idea P to be (1) read and follow all of the instructions, (2) promote safety, rather than highlighting the negative consequences to scare caregivers into following instructions, and (3) guide caregivers on *how* to protect their child when using this product.

- *"To read the instructions and follow them." —Grandparent, Focus Group 8*
- *It's just promoting safety more so than giving you a more grim warning." —Parent, Focus Group 4*
- *"I think it's insinuating that you want to protect your child, which was just stated. We all want to protect our child. So, it's already thinking the best of you, instead of shaming you like some of the other labels tended toward." —Parent, Focus Group 3*

Stand Outs

A few participants stated that this idea did not immediately grab their attention due to the label only containing common knowledge. A few suggested including powerful and persuasive words to truly grab the user's attention. However, one grandparent said that it did grab their attention since the idea had a specific action for them to carry out. One parent also indicated that it caught their attention since this idea is different from the typical warning label that they currently see on products.

- *"Not so much. I mean, I feel like if it… I need something to really pop. This is just such a common knowledge thing I feel like. I feel like I need something that could grab me a little bit." —Grandparent, Focus Group 8*
- *"It doesn't grab my attention. I think it would just be a part of the warning label for me. It wouldn't grab my attention. It is softer. I don't think it's stern enough. They could use a few more words in there to definitely grab your attention just a little bit more than what this does. I mean, I guess it would just be embedded in a body of a warning label, but not really grab your attention." —Parent, Focus Group 3*
- *"It grabs mine because it says, "You can take an action." So it's just a reminder." —Grandparent, Focus Group 1*
- *"[This idea grabs my attention] probably just because it seems different than everything else that's out there." —Parent, Focus Group 4*

Grandparents collectively agreed that they liked the beginning of the message: "protect your child." They considered the phrase to be "strong" and a good reminder since the overarching goal is to always protect your child.

- *"I like the, "You can protect your child." As the lead in…Because you already want to protect your child but it's just a good reminder." —Grandparent, Focus Group 1*

- *"I think as a parent you always want to protect your child. So, anytime you read anything that says... That helps you do that, for me that's a good thing." —Grandparent, Focus Group 1*
- *"I like the word protect because I think it's a powerful word. But I think it's softened a bit too much by, "You can." Being in front of it, to me making it more of a declarative or imperative sentence, "Protect your child, follow all instructions." Is a bit stronger wording and would give it a little bit more emphasis." —Grandparent, Focus Group 1*

The word "protect" in this idea elicited a variety of responses. A few grandparents reported that this word is vague and questioned what they would be specifically protecting their infant from (e.g., from getting a scratch or a broken arm). A few parents interpreted the word "protect" to mean that the product is harmful and could hurt their child. One parent commented that they believe all parents have the intention to protect their child and that the use of "protect" in this idea is an accurate word choice to promote that innate intent.

- *"Yeah. It's very vague." —Grandparent, Focus Group 2*
- *"Protect, like what? Protect them from getting a scratch or protect them from a broken arm? It's a big difference." —Grandparent, Focus Group 2*
- *"It kind of seems like the opposite of what we just read, and the word "protect" makes it seem like the product is potentially harmful." —Parent, Focus Group 9*
- *"I think it's a positive spin on it. Every parent wants to protect their child. I think protection is very innate as a parent. So I think that's a really good word choice for a label like this." —Parent, Focus Group 3*

Participants provided mixed opinions on the phrase "every time you use the product." A grandparent and parent stated that this phrase is a little unnecessary in the sense that it comes across as burdensome to read the instructions every time, instead suggested adding "when using this product" to make it more general. On the other hand, a few parents reported appreciating that this specific phrase reminds caregivers to consistently ensure they are aware of the instructions and how to best protect their child.

- *"It's like every time you use the product, follow the instructions, every time you use the product, does that mean I should look at the instructions every time I use the product? What's going to be different about it? Like refresh my memory? Am I that old?" —Grandparent, Focus Group 2*
- *"I mean, I don't know if it's necessary because I think that in general if it was just, "when using this product" is kind of implying each time you use it." —Parent, Focus Group 3*
- *"It's advocating consistency as well, which I appreciate." —Parent, Focus Group 4*
- *"But I think the main part that sticks out to me is "every time you use this product", because after you start using a product, you're a little bit more following instructions, and then as you keep using it you get a little bit more comfortable, and lenient, and loose. So, I guess that part of the statement jumps out at me and I like it because I would try and remember each time." —Parent, Focus Group 9*

Relevancy

Generally, participants expressed that this idea seemed relevant because all caregivers want to protect their child. In addition, a few participants noted that warning labels are necessary to prevent infant death, therefore all warning labels are relevant.

- *"I would say very relevant. Everybody wants to protect their child." —Grandparent, Focus Group 1*
- *"I mean, a warning label, if it's necessary is always relevant." —Grandparent, Focus Group 7*
- *"It's relevant to follow the instructions every time you use a product, because if, like someone else mentioned, if you kind of think, "Oh, I can just do it like this", or you get used to a specific item or product and you feel like you can take shortcuts or something like that, there's a reason that these instructions are put in place. And it's clearly for their safety. So I think it's really important that we just don't take it upon ourselves to do what we think. Oh, it's not a big deal. So I think we need to make sure that we're following the instructions." —Grandparent, Focus Group 8*

Believability

Several participants reported that this idea is believable since all caregivers have the inherent desire to protect their child. Many also noted the idea seemed broad and covers multiple ways that a caregiver can further protect their child (i.e., provides an action a caregiver can take to protect their child). Alternatively, a few grandparents expressed that the idea seems too generic and, as a result, they would not fully believe that just by following the instructions they would be ensuring the protection of their child.

- *"I feel it's believable…Because once you read it, you know what to do to protect your child. A lot of the information you get, you see on other labels too, but maybe you'll learn something new by reading the label." —Grandparent, Focus Group 1*
- *"Yes. And it doesn't speak of statistical certainties. It just says you can protect your child. It doesn't say it's guaranteed, but it says, 'This is where you can place your resources to make your child as safe as possible.'" —Parent, Focus Group 4*
- *"I think, A, it's pretty believable. Again, we've said it a lot, it's kind of common sense, right? If you follow the instructions on the warning label every time you use the product, you can help protect your child and keep them safe. That makes sense there. Nothing really brings doubt to my mind as I read that." —Parent, Focus Group 9*
- *"Hmm. I'm a bit skeptical of it, to be honest…Well, you can protect your child by following all the warning labels every time you use the product. But can you?" —Grandparent, Focus Group 7*

Familiarity

When the moderator asked the participants if the idea was familiar to them, a few grandparents responded that it was. One grandparent stated that all warning labels mention that the reader must follow all of the instructions, so this idea seemed no different. On the other hand, a few parents indicated that this idea was new to them and that they had not seen the word "protect" previously incorporated into a warning label.

- *"I think it's all familiar." —Grandparent, Focus Group 1*

- *"All of them, that you have to follow instructions on the warning label. That's why it's a warning label. You have to follow the instructions on it." —Grandparent, Focus Group 8*
- *"Every time, I feel like is a little different from warning labels I've seen before, and then the use of the word protect, I feel like the standard warning label, it's follow the instructions and then has just warnings on the warning label about ways that your child can injure themselves. Whereas this is just referring to the set of instructions that you should have already read." —Parent, Focus Group 6*
- *"I think something that's different here other than the "protect your child" phrases every time you use this product, I don't feel like we've seen that on any of the other ones." —Parent, Focus Group 3*

Shareability

Participants agreed that this idea was too generic and did not have any new information. As a result, they said that they would be unlikely to share it after reading.

- *"I would say probably not as likely to share it with others because like [participant name] said, it's just kind of a basic generic statement. So there isn't really anything to share, I don't think." —Parent, Focus Group 3*
- *"I don't think it gives you enough information to share it." —Grandparent, Focus Group 2*
- *"I just think it's basic, right? Like we're telling whoever else is using this product, they follow the instructions. That's something that we're doing already, so I want to be showing them. I'd be relaying this information, but it's because I would do that anyway." —Parent, Focus Group 9*

Motivation

When asked if this idea would motivate participants to read and follow the instructions, the majority expressed feeling neutral on the topic. A few grandparents noted that they typically read instructions anyway and would follow them. One grandparent stated that this idea was too "flowery" and they would only be motivated to read the instructions if the product was portrayed as dangerous.

- *"I think I'm kind of on the equal ground too. I would do it anyway. So it's not compelling me to do anything different than I would ordinarily." —Grandparent, Focus Group 8*
- *"I think I would read them. It's telling me to read more. I think I would read it." —Grandparent, Focus Group 7*
- *"It doesn't have that shock factor. It doesn't scare you into reading it, kind of thing. But it also doesn't turn me off at least from the product." —Parent, Focus Group 3*
- *"I'm not even sure I'd read the directions because it's so flowery. I'm thinking, well, they would've made a bigger deal out of it if it was something dangerous." —Grandparent, Focus Group 2*

Liability

Once again, grandparents mentioned thinking the message in this label was created to protect the manufacturer. Grandparents reported that this message felt like it was framed to encourage caregivers to read the instructions every time so that the manufactures would be protected from liability.

- *"It may be that for some reason, the manufacturer was forced to put up a label of some sort on it and this is what they came up with. Not that they were really trying to warn anybody. It was just, this is a mandate."* —Grandparent, Focus Group 2
- *"Well, the thing about it, I don't think people are going to read the instructions every time you use the product. But I feel like it probably should be put there for liability reasons, in case somebody had a problem with the product. And they could say, "Well, did you read the product label every single time?"* —Grandparent, Focus Group 8

Suggestions

A few participants provided suggestions on how to best word this idea. To make the idea come across as less generic, one grandparent suggested rephrasing it to "you can best protect your child," to motivate others to take on the responsibility. In addition, one grandparent and one parent suggested adding in the word "death" to underline the fact that death could occur from misuse. They thought that using fear might motivate caregivers to read the instructions thoroughly. To make the idea more salient, a parent suggested taking "protect" out and rephrasing it with "you can keep your child safe by following all of the instructions."

- *"I think it's missing a word. I would put, you can best protect, because that's kind of like, again, making you feel. We all want to protect those in our care. But if you say you can best protect, 'Oh, maybe I better read it. There might be something I'm missing.' Versus you can protect sounds generic."* —Grandparent, Focus Group 8
- *"And you know, when you're buying the product, as much as I think about being gentle on a warning label or anything on a product that has to do with the child, honestly, I'd rather see that word death on there. I know it's forceful, but I feel like these young parents just have to be told, I don't think we can stray away from it."* —Grandparent, Focus Group 7
- *"You can always add in that you can protect your child from death you know, you can add in that scary word. Again I hate to put that back in there but, you could add that after, 'protect your child.'"* —Parent, Focus Group 3
- *"I feel like they could use the word, 'You can keep your child safe by following all of the instructions,' instead of the word 'protect.'"* —Parent, Focus Group 9
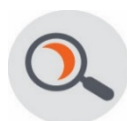
Idea R

Responsible parents like you follow all of the instructions on the warning label to keep their child safe.

What's Working:
This idea does not contain typical verbiage used in warning labels which caught participant's attention.

Watch-Outs:
The idea seems condescending and does not motivate caregivers to adhere to the warning label.

Initial Reactions

Collectively, the majority of participants reported that this idea seemed condescending. They mentioned that it felt like it was judging caregivers and assumes there are no responsible parents. Several participants expressed immediate dislike toward this idea after reading it. Alternatively, a few grandparents reported liking this idea, noting it seemed true, simple, and straightforward.

- *"For me, it's kind of condescending. It's... Like you said, it's kind of guilting you into making sure your child is safe, but most parents are going to make sure that their children are safe." —Grandparent, Focus Group 1*
- *"I feel very uninspired by that...I feel like, this is terrible, I feel like it's like give every parent a trophy, pat on the back kind of thing, you know? Hey, you're so responsible, you should, I know you're going to follow this. No, I don't need to be told that I might, I need to be told this is what I need to do." —Parent, Focus Group 4*
- *"I think it's simple. Straightforward. Easy to read. Not too wordy. Just important bullet point statements." —Grandparent, Focus Group 8*

Participants mentioned that the phrase "responsible parents like you" seems like it unnecessarily guilts caregivers into thinking they are not responsible if they do not follow the instructions. A few participants noted that this idea feels like it only targets parents, when, in reality, there are typically numerous people that care for a child beyond parents. However, one grandparent stated that this phrase would motivate them to read the instructions because doing so would make them feel like a responsible caregiver.

- *"I personally don't like it very much because I feel they're saying, 'Responsible parents, like you.' They're pointing the finger and saying as if I'm not responsible. That's what first grabbed my attention." —Parent, Focus Group 3*
- *"And the parents are only two of people that would be using this product and would follow the instructions, so why are you just focused on saying, giving the message to the parent?" — Grandparent, Focus Group 2*
- *"'Responsible parents like you.' So you're just kind of... And then first of all, it's not always parents who are taking care of the child. It could be at a daycare. It could be grandparents. It could be at a babysitter. I think that everybody should follow the instructions on the warning label to keep the child safe." —Parent, Focus Group 9*
- *"Well, makes you feel like you need to read the instructions [to be a responsible parent]." — Grandparent, Focus Group 8*

Main Message

Although the majority of participants did not like this idea, they reported understanding the underlying message: to encourage caregivers to follow instructions to keep their child safe. However, they mentioned that the shaming they felt from "responsible parents like you" distracted them from focusing on the actual message of the idea. Instead, they kept thinking

it was saying if someone is not following the instructions then they are not a responsible caregiver.

- *"'Follow the instructions to keep your child safe.' And then, this one includes putting you with all the other parents. So, it's trying to, I don't know, maybe group think a little bit of keeping all the parents together to keep their children safe." —Parent, Focus Group 3*
- *"I feel like the idea of keeping my child safe gets lost here. I feel what I hear more is, I interpreted this as, 'If you don't follow the instructions, you're not a responsible parent.'" —Parent, Focus Group 3*
- *"It's basically conveying if you don't follow instructions, you're not a responsible caregiver." —Parent, Focus Group 9*

Relevancy

A few participants said that this idea seemed especially relevant since most caregivers do want to be responsible and keep their child safe. A few noted that the idea did not seem as relevant since caregivers do not always follow all of the instructions but are still able to keep their own children safe.

- *"I think it's relevant because we all want to keep our child safe and in order to do that, we have to make sure we're reading the labels at least once to make sure we know what we're doing and how the product is intended to be used." —Parent, Focus Group 4*
- *"I think it's very relevant because I feel like most of us want to be responsible and we want to take the steps that are needed to be responsible." —Grandparent, Focus Group 8*
- *"Well, responsible parents like you follow all the instructions. A lot of it is that you know it yourself. You don't have to read some of these things. It does... You see something like this and you figure, 'Oh, I know what to do. I can figure it out. It's just common sense, a lot of things.' Because you read different labels, and different warning signs, and a lot of this stuff you know. So, they have to make it stronger where you would want to read it. It'll be something new, something you don't know, because a lot of it is the same." —Grandparent, Focus Group 1*
- *"Well, first I want to know what is responsible to them. So, I'm not sure if it would be relevant to me or not because we've all stated, we can't really follow all of the instructions on the warning label. Well, to the best of our ability, at least." —Parent, Focus Group 3*

Believability

Several grandparents reported that this idea was clear and concise which, in turn, made it seem believable. However, a few participants stated that it does not feel believable due to the generalization that all responsible parents follow all of the directions.

- *"It's believable. Most of it. Everything that I read is believable. It's just whether you want to read it or not, or if you have the time. But sometimes you might not have the time and then you'll forget about it. But when you see something happening or a possibility, you go into action yourself without reading it." —Grandparent, Focus Group 1*
- *"It's believable, but it's, I guess, I don't know the word, intimidating, or it's kind of being smart. They tell you, a responsible parent like you, I don't know, it's kind of being, trying to be a little smart." —Grandparent, Focus Group 2*

- *"I would say not super believable because I would think that just because I may not follow all the instructions on a warning label, doesn't make me not responsible or irresponsible." —Parent, Focus Group 3*
- *"No, we don't like it. It's not even believable. Responsible parents, like you? Really?" —Grandparent, Focus Group 7*

Shareability

A few grandparents reported that they would only share this idea with others because they found the condescending language entertaining. Further, a few expressed that they would not share the idea at all because others would be offended if a fellow caregiver told them they are irresponsible if they do not follow the directions. Those who stated that they would share it cited they would because it promotes child safety and could help save a child's life.

- *"Only to mock it. And to my daughter and ask her, 'Well, would you read this as an irresponsible parent?' You know, making jokes about that, in that way." —Grandparent, Focus Group 2*
- *"I wouldn't. Because …[if] I'm saying, 'Well, if you're not doing this then you're irresponsible.' Now I've offended them. They're not going to listen to me." —Grandparent, Focus Group 1*
- *"Maybe I would be more likely to share this idea just because of the wording of, 'Responsible parents.' Maybe, it would get you talking with other parents like, 'Hey. What do you think of this? And do you follow all the instructions?' Might lead to more of a conversation starter, for me at least." —Parent, Focus Group 3*
- *"Very likely, because I feel like anyone that has infants or young children in their care need to… We've got enough things going on that can injure or harm children. So any safety precautions we can take, I feel like we need to take any extra steps that we can." —Grandparent, Focus Group 8*

Collectively, the majority of participants said this idea caught their attention, but for the wrong reasons. Several grandparents expressed that they were "put off" by "responsible parents like you," which led them to think negatively about the message frame. One grandparent did note that since this idea is different than what they typically see on a warning label, it drew their attention and did motivate them to read the rest of the idea.

- *"In a negative way…Well, when I read it, I'm put off immediately by the wording. It's not to say I'm not going to read it, but I'm already, my mood is darkened by reading 'Responsible parents like you.'" —Grandparent, Focus Group 2*
- *"I think it would grab my attention just from the shaming. It's shaming me. So, I mean, it would have my attention but, it would be in such a negative light that, I mean, it would depend on the product whether or not if I knew the product was going to be helpful for me, I would proceed to purchase it. But, it would definitely be, 'Look at this negative warning label,' in my mind." —Parent, Focus Group 3*
- *"It would grab my attention enough to show it to my wife to make fun of it right before I probably didn't read the rest of the warning label." —Parent, Focus Group 9*
- *"Likely. I'll be honest. I feel like the first word being responsible draws you in for some reason. If they just started with child safety, I feel like people, they see those terms all the time. And*

sometimes they don't look at the importance of those terms because they see it so often. So I feel like seeing something different, like responsible parents, I feel like that makes me want to read the rest." —Grandparent, Focus Group 8

Even though participants had negative reactions to this idea, many still said they would follow the instructions anyway. They said that even if the idea did not explicitly motivate them to follow instructions, they still have an inherent desire to want to protect their infant from death.

- *"Less likely. But I would do it anyway, but I just wouldn't, it would give me a bad taste in my mouth to do it." —Grandparent, Focus Group 2*
- *"Well. I mean, I would follow the directions, but I wouldn't like it." —Grandparent, Focus Group 2*
- *"I would say neither. I would say that it's still approached the warning label and instructions the same way but, I'd just be turned off in general by the wording." —Parent, Focus Group 3*
- *"...Use your common sense. We don't really need it ran out there for us. We know we need to follow the instructions. So it's more important to read the instructions for me than to read through this sentence." —Parent, Focus Group 4*
- *"I think I'd still follow the instructions. I just wouldn't like the terminology here." —Grandparent, Focus Group 7*
- *"I think it will make me read the warning label once and just ignore it because I don't want to read that message again." —Parent, Focus Group 9*

Suggestions

Participants suggested a series of edits to the idea to better connect with caregivers. A few grandparents suggested removing "responsible parents like you" and replacing it with "follow the instructions." One parent similarly suggested getting rid of the first phrase and replacing it with "be responsible and follow all of the instructions on the warning label to keep your child safe." As previously noted, participants recommended making the idea more inclusive by either taking out "parents" or simply replacing it with "caregivers."

- *"I would remove the first four words ["Responsible parents like you"]...Follow the instructions. One of the things that I learned with kids is it's easy to get lost in the language. So, if I've got a kid who's doing something that's potentially dangerous, I don't want to do the, 'Hey, So and so, I need you to stop doing...' Blah, blah, blah. It's, 'Will, stop.' You get their attention. So, if I want somebody to follow the instructions, I need to lead with that." —Grandparent, Focus Group 1*
- *"Yeah, I would knock it all out and just say 'Follow all the instructions and the warnings...'" —Grandparent, Focus Group 2*
- *"I think if it said, 'Be responsible and follow all the instructions on the warning label to keep your child safe.'" —Parent, Focus Group 3*
- *"I might even add or put an asterisk instead of parents, caregivers, because sometimes... My daughter is lucky to have us, my wife and I around, but a lot of people have caregivers that come to the house or friends. They're not necessarily always parents." —Grandparent, Focus Group 8*

Message Ranking

After discussing each of the five message frames that could be used to develop future warning labels, participants provided a letter grade. The participants graded each message frame using a five-point "A" to "F" scale (excluding "E"), based on overall appeal (i.e., the more they liked the message frame, the higher the grade). Results are as follows:

Parents	Grade*				
Message	A	B	C	D	F
D *"Death (/serious injury/suffocation/strangulation) to your child can occur if you do not follow all of the instructions on the warning label."*	6	12	12	0	0
P *"You can protect your child by following all of the instructions on the warning label every time you use the product."*	3	9	14	4	0
S *"X number of children have died (/suffered from serious injury/strangulation/suffocation) as the result of not following all of the instructions on the warning label."*	1	9	6	4	10
R *"Responsible parents like you follow all of the instructions on the warning label to keep their child safe."*	1	5	4	10	10
L *"Keep your child safe. Follow all of the instructions on the warning label."*	1	4	13	9	2

*Grade totals do not always equal total number of parent participants as some participants did not provide a grade.

Grandparents	Grade				
Message	A	B	C	D	F
D *"Death (/serious injury/suffocation/strangulation) to your child can occur if you do not follow all of the instructions on the warning label."*	9	7	1	0	0
L *"Keep your child safe. Follow all of the instructions on the warning label."*	5	8	4	5	0
R *"Responsible parents like you follow all of the instructions on the warning label to keep their child safe."*	2	5	0	9	6
P *"You can protect your child by following all of the instructions on the warning label every time you use the product."*	0	5	10	7	0
S *"X number of children have died (/suffered from serious injury/strangulation/suffocation) as the result of not following all of the instructions on the warning label."*	0	5	6	4	7

*Grade totals do not always equal total number of granparent participants as some participants did not provide a grade.

Participants were then asked to select the ideas they thought best answered each of the following questions:

- Which idea was your favorite?
- Which idea motivated you the most?

- Which idea motivated you the least?
- Which idea should definitely not be used?
- Which idea stuck with you the most?
- Which idea stuck with you the least?

Favorite Idea

Participants most commonly selected Idea D *[Death (/serious injury/suffocation/strangulation) to your child can occur if you do not follow all of the instructions on the warning label]* as their favorite idea. A few noted that the use of the term "death" was attention-grabbing and highlighted the serious consequences that can occur if instructions are not followed. For the remaining ideas, the ranking order followed with Idea P as the second favorite, then Idea S, Idea R, and lastly, Idea L. Idea R was not ranked highly as a favorite due to both parents and grandparents reporting it as condescending (although that aspect did motivate a few participants). Idea L, ranked last, was reported to be common sense by most participants. However, a few participants saw it as a motivating idea due to the frame being straight and to the point.

- *"I think that's the same reason, [Idea D] is telling us that it's really serious to read the directions. And if we don't, there could be serious consequences" —Grandparent, Focus Group 2*
- *"I think still D is my favorite." —Parent, Focus Group 5*
- *"I don't know if I view it as a favorite in this particular thing, but I mean favorite wording, I would go with 'L' because there's no, it's not a strong word. So favorite I would go with 'L' simply because there's no strong wording. Realistic 'D' is still my, and I'm trying to keep perspective of who's looking at these labels and what the purpose is of looking at the labels. Nobody can guarantee that nothing's going to ever happen to your child or to us period. In any product that we buy. But as an infant child using a sleep safety product, I would want my own children or other new parents to understand that there is a risk of some sort and they need to read the label. And that one makes me go with 'D'." —Grandparent, Focus Group 7*

Most Motivating Idea

In addition to Idea D being a common favorite among participants, the majority of grandparents also reported that Idea D would motivate them to follow instructions on a warning label the most. Beginning the sentence with "death" grabbed their attention and motivated them to read the instructions to prevent severe consequences from occurring.

- *"[Idea D is] just as if the statement's hitting you over the head. Like you have to do it. It's just... It needs to be done." —Grandparent, Focus Group 1*
- *"It's just the wording of how it's there and starting off with death. You're going to want to read [Idea D], and make sure that you are following the directions carefully so that none of that stuff would occur." —Grandparent, Focus Group 1*

- *"[Idea D] because peril can happen to your child if you don't follow the instructions on the warning label. So it's pretty important that you read the warning label to make sure that that doesn't happen." —Grandparent, Focus Group 2*
- *"I'm going with 'D' because I feel like by seeing that word, death, as hard as it is, that it will stop somebody in their tracks and make them read further to find out what is on that label." — Grandparent, Focus Group 7*

Ideas L and R were the next most commonly reported in terms of motivating grandparents to follow instructions. They reported that Idea L educated them the most about the risks associated with the product. A few grandparents reported that Idea R encouraged them to be a responsible caregiver and keep their infant safe by reading the instructions.

- *"[Idea L] gives you the idea that there are some risks to the use of this product. Keep your child safe, follow the rules, and don't be telling me I'm a responsible parent by doing so. Just, 'Hey, you want to keep your kids safe? Follow these rules.'" —Grandparent, Focus Group 2*
- *"'L' because basically I bought something and I should really read the instructions, the warnings, instructions and everything. It's basically just leading me to, for just the safety of my child, I'm going to read the instructions. And that's what leads me to do." —Grandparent, Focus Group 7*
- *"I think idea R would grab me the most…Okay. Again, on the responsible parents, I feel like I want to be responsible so I'm going to make sure I do whatever it's saying to continue to be as responsible as I can. And the least one, I felt that way, because again, it's just a common knowledge statement, I feel like." —Grandparent, Focus Group 8*

Parents similarly agreed that Idea D motivated them most, with Ideas P, L, and S following in the rankings. Parents noted that they thought Idea D was straightforward. The use of the term "death" caught their attention and motivated them to follow instructions to prevent serious injuries.

- *"[Idea D]… I just think it's impactful. It's to the point, and there's not really any room for confusion." —Parent, Focus Group 5*
- *"Obviously D starting off with death does grab your attention. And it's a little bit nicer than the last one we were comparing, Idea S, where it says 'can occur,' not 'have died.' So I just like the way that it makes you think, 'Okay, I need to read this, make sure I'm following the instructions here, because this is a possibility to happen if I do not.'" —Parent, Focus Group 6*
- *"Okay. So yeah, to read, it's definitely 'D.' That definitely pushes me there. Just the word death, like was said before, it grabs my attention and makes me think, 'Okay, I need to read this carefully,' without sort of twisting my thoughts like Idea S did. So I feel like it's the better version of Idea S." —Parent, Focus Group 6*
- *"I think idea 'P' for me kind of hit. It checked off all the boxes, makes me motivated the most to follow the instructions." —Parent, Focus Group 3*
- *"For me, I would probably say idea L. I think based on just the first sentence saying, "keep your child safe", because if I read that, I'd be like, well, of course I want to keep my child safe, what do I need to do? So I think that would be the most motivating for me." —Parent, Focus Group 3*
- *"I was going to say I think honestly even though I don't like it, that idea S would motivate me the most to follow the instructions. Just because it would shock and scare me if I was going to be using that*

product, following everything. Because look at all these kids that have died or suffocated." —Parent, Focus Group 3

Least Motivating Idea

Overwhelmingly, participants reported Idea L and R motivated them to follow instructions the least. Participants reported that Idea L did not leave a lasting impact on them, nor did it highlight the potential risks associated with the product. Participants expressed that because Idea L lacked information to motivate them to follow the instructions, they were more likely to believe that the product was naturally safe. Furthermore, many participants reported that the phrase "responsible parents like you" in Idea R was condescending, which left them unmotivated to read and follow the instructions.

- *"There's no oomph behind the statement [in Idea L]. It's kind of just like, 'Keep your child safe. Follow the instructions.' So, it's just... Yeah. It seems like the manufacturer doesn't care." —Grandparent, Focus Group 1*
- *"[Message L]...Safe is just not a strong enough word. Safe from what? Yeah. I just, I don't think it's impactful." —Parent, Focus Group 5*
- *"And then Idea L just makes me feel like the product is inherently safe and has no risk associated with it." —Parent, Focus Group 6*
- *"I have 'R' and 'L.' They're both on the same level to me. I don't really care for either...Because [Idea L is] not saying much to me, following instructions. Not really. It's not giving you any information." —Parent, Focus Group 9*
- *"I just... I hate that responsible parents bit. I find that just really, really off-putting [about Idea R]." —Grandparent, Focus Group 1*
- *"Exactly what you just said because [Idea R] is the most condescending sounding one." —Grandparent, Focus Group 2*
- *"Idea R is least motivating. I don't know, it's just the phrase in itself, or that I'm not motivated to move forward past this. It's such a negative beginning, just not into it." —Parent, Focus Group 3*
- *"Idea R, because it starts with the parents, not the child." —Parent, Focus Group 4*

Idea that Stuck the Most

Overall, Idea S stuck with participants the most. Many expressed that the percentage and potential death associated with misuse of the product were the main reasons this idea stuck with them—the scare factor made them contemplate the numerous negative consequences and acknowledge that injuries could occur from product misuse.

- *"For me, it goes down to 'S' just because it's factual." —Parent, Focus Group 4*
- *"I would think 'S.' Just because it's throwing all these numbers at you and all these possible things that could happen, it would just make me start thinking the worst." —Parent, Focus Group 6*
- *"Well, I think the word death would stick with anybody right away. There would be the number one. You would buy the product but that sticks in your mind." —Grandparent, Focus Group 7*

- *"It depends on what perspective you're looking at it from. I think 'S,' it does provide good information. I don't like it, but to be made aware that a lot of kids have died from this and even more kids have died from the other one, it's useful information. It's just scary information." —Grandparent, Focus Group 8*

Idea that Stuck the Least
The majority of participants agreed that Idea L stuck with them the least. Many reported that the idea was common sense and did not present any new information that would motivate them to follow the instructions. Idea L did not leave a lasting impression nor motivate them to take any action beyond what they already know.

- *"Yeah I'd say 'L' as well…just indifferent." —Parent, Focus Group 4*
- *"[Idea L] is just stating the obvious. So to me, it's like I didn't need to read any of that, move on to the next thing." —Parent, Focus Group 6*
- *"I would say probably 'L.' As somebody else stated it just seems common sense. I mean, it's the stuff you would do anyway." —Grandparent, Focus Group 8*
- *"Probably 'L,' for the reasons that [participant] said earlier, it's just common sense. I breeze right by it. Ironically 'R,' I would still be laughing about two days later, but that wouldn't mean I was taking it seriously." —Parent, Focus Group 9*

Recommendations

Participants offered numerous thoughts on where to place a warning label on a product and how the label should look. Ideas that came up across groups included:
- Place warning labels on the product's box (as well as on the product) in obvious places where they would always be seen.
- Use colors and fonts that are common on warning labels (e.g., yellows and reds, bolded "WARNING" titles).
- Add a QR code to the label that would take readers to a video with further instructions.
- Include images of what to do and what not to do with the infant product.

In addition, participants also offered feedback about the message frames that they felt would enhance warning labels and increase consumers' adherence to them. Recommendations centered around inclusivity and incorporating a balance of positive and negative consequences. Participants generally found elements of message frames D and P to be most compelling because they spoke to both of these consequences. The use of the term "death" in message D not only caught the attention of caregivers but also motivated them to adhere to the warning label. The use of the phrase "you can protect your child" in message P was a positive reminder of what steps caregivers can take to protect their infant.

Literature suggests that when messages emphasize negative consequences (or are "fear-inducing") they can be effective, but only when individuals feel confident in their ability to perform the activities needed to avoid the negative consequences. A potentially effective way to assist individuals in feeling that they can avoid the negative consequence is equipping them with information on how to avoid it (e.g., also emphasize how to achieve positive consequences). [5,6]

Next Steps

Leveraging these findings and recommendations, FMG then collaborated with graphic designers to update the warning label copy to be tested in a copy testing survey. Edits were made to language (making it more direct and straightforward), imagery (including more images), formatting (bulleting and lists), and colors (more colors, more color contrast).

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[5] Tannenbaum, M. B., Hepler, J., Zimmerman, R. S., Saul, L., Jacobs, S., Wilson, K., & Albarracín, D. (2015). Appealing to fear: A meta-analysis of fear appeal effectiveness and theories. *Psychological bulletin*, *141*(6), 1178–1204. https://doi.org/10.1037/a0039729.

[6] Jonathan van 't Riet, Robert A.C. Ruiter, Marieke Q. Werrij & Hein De Vries (2010) Self-efficacy moderates message-framing effects: The case of skin-cancer detection, Psychology & Health, 25:3, 339–349, DOI: 10.1080/08870440802530798

Chapter 4: Copy Test Survey

Based on findings from the qualitative research, FMG refined five infant product warning labels and tested them in a survey to assess infant product warning label language across parents and grandparents of children ages 2–11 months.

Survey Development

The survey was designed to better understand the gap in consumer knowledge about product warning labels and consumer adherence to, and behaviors associated with, infant sleep product warning labels. The survey allows these insights to be obtained on a larger scale (N = 650 parents and grandparents).

The survey design is largely based on constructs from the Health Belief Model,[7] which is used in communication research to guide health-related behavior change. Understanding how individuals perceive the severity of certain risks, as well as their susceptibility to them, lends insight into their willingness to adopt a behavior or adhere to a health message. Other factors, such as individuals' confidence in their ability to do the behavior (or adhere to a message), or their perceptions of benefits and barriers (i.e., if the benefits outweigh the barriers), are also part of this model. As such, the health belief model was a relevant framework to understand these constructs among consumers.

Methodology

Sampling
For this survey, FMG partnered with Prodege, an independent market research institution, to recruit the sample. For the purposes of this survey, we targeted two populations:

1. Parents of an infant 2–11 months old.
2. Grandparents of an infant 2–11 months old that visits at least once a week and is under the grandparents' supervision.

To be considered a completed case, qualified respondents had to meet one of the following criteria listed above and complete the survey.

Survey Completion Rates
The screening and main interview stages of data collection were conducted during a single survey session for the respondents. A screening stage identified qualified and eligible panelists; they also qualified to participate in the second stage (i.e., the main study survey).

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[7] Carpenter, C.J. (2010). A meta-analysis of the effectiveness of health belief model variables in predicting behavior. *Health communication, 25 8*, 661–9.

Respondents who answered the screener, regardless of eligibility, were considered a screener complete. Respondents who were determined to be eligible for the study, based on the screener, then completed the survey. In total, Prodege collected 678 interviews, 400 with parents and 278 with grandparents.

Demographic Information of the Study Sample

Table 4.1 Respondent Demographics

Category	Frequency	Percentage
Gender		
Male	119	18%
Female	559	82%
Caregiver Status		
Grandparents	278	41%
Parents	400	59%
Age		
18–24	49	7%
25–34	239	35%
35–44	124	18%
45–54	82	12%
55–64	121	18%
65–74	59	9%
75+	4	1%
Race/Ethnicity[8]		
White	582	86%
Black	58	9%
Hispanic/Latino	59	9%
American Indian or Alaska Native	14	2%
Asian	25	4%
Native Hawaiian or other Pacific Islander	3	<1%
Other	19	3%
Who Typically Puts the Infant to Bed		
Myself	599	88%
Spouse	57	9%
Other	22	3%
Primary Purchaser of Infant's Sleep Products		
Yes	568	84%
No	110	16%
Income		
Below $30,000	106	16%
$30,000–$49,999	121	18%
$50,000–$99,999	260	38%
$100,000–$149,999	109	16%
$150,000 or more	57	8%
Prefer not to say	25	4%
Education		

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[8] Respondents could select multiple races/ethnicities.

Did not graduate high school	24	4%
High school graduate or GED	135	20%
Some college	141	21%
2-year college or technical training	102	15%
Bachelor's degree	185	27%
Master's or other advanced degree	89	13%
Prefer not to say	2	<1%

Study Cooperation

A sub-sample of Prodege web-mode panelists was invited to the survey on August 18, 2021, in a soft launch. The initial data from the soft launch was reviewed and the remainder of sampled Prodege panelists were invited to the survey on August 20, 2021. The survey closed on September 14, 2021. To encourage study cooperation, email reminders were sent intermittently to sampled web-mode panelists throughout the survey data collection period. Respondents received proprietary internal currency, which was the cash equivalent of $1 for completing the survey.

Data Processing

FMG's data management specialists applied cleaning rules to the survey data for quality control. FMG next processed the data using the data cleaning and preparation steps outlined in Table 4.2. FMG clearly named and labeled each variable and properly identified each by type (e.g., Likert-type variables designated as interval variables). Open-ended items were thematically analyzed. Any personally identifiable information (PII) provided by respondents was also removed. The data set cleaning procedures included:

Table 4.1. Data Cleaning and Preparation Steps

Data Cleaning Steps Before Analysis		
1. Receive data sets	6. Check variable labels	11. Run recodes according to project protocol
2. Print file information/format library	7. Check value labels	12. Check recoded variables against raw variables
3. Merge all necessary data (including administrative data, survey formats, as applicable)	8. Check skip patterns	13. Resolve inconsistencies
4. Delete duplicates	9. Check raw data frequencies	14. Parse down to final dataset
5. Check variable names	10. Check weights against known population totals (if applicable)	15. Independent review of dataset creation to ensure accuracy

Analysis and Reporting

FMG created a topline report that included descriptive analyses (averages and frequencies) for all survey items. The topline report provided an overview of key survey metrics by subpopulations of interest. Findings from the topline report, as well as additional survey data and analyses, are detailed in the report below.

## Behaviors & Awareness Associated with Infant Products and Warnings Labels (Section A)

Caregiver Infant Sleep Behaviors & Products (A1, A2)

Respondents' infant sleep behaviors were measured by: asking respondents which behaviors they currently and regularly follow when putting an infant to sleep (A1) and which behavior is most important to them when putting an infant to sleep (A2).

Of the total responses, more than three-quarters of respondents reported putting their infant to sleep on their back (82%) and ensuring the sheets fit snugly around the mattress (74%). Figure 1 details the top six behaviors that respondents currently and regularly follow when putting an infant to sleep (A1). Thirty-nine percent of respondents indicated they swaddle their infant, 32% reported putting a blanket over or under the infant in the sleeping area, 19% reported placing their

Figure 1. Infant Sleep Behaviors

infant to sleep on their side, and 19% stated they co-sleep with their infant (i.e., put them in the same bed that the caregiver sleeps in). For a further breakdown of A1 by race, ethnicity, income, and education, see Appendix D.
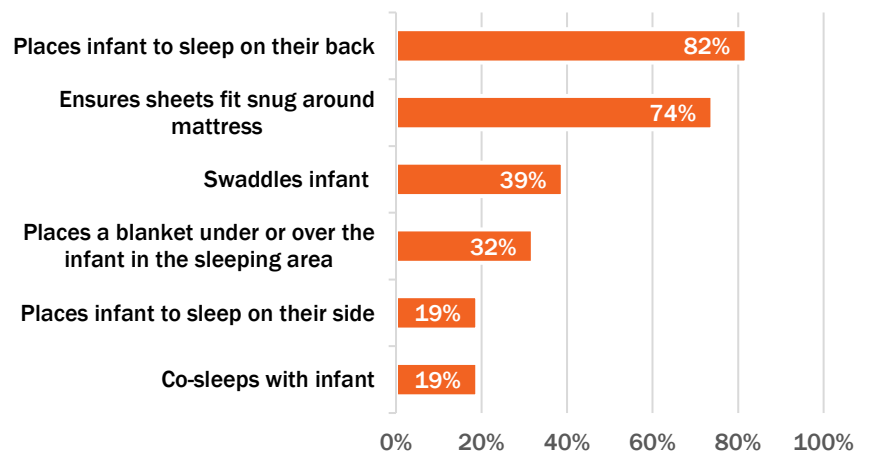
Of the total sample, 26% of parents and 10% of grandparents reported co-sleeping with their infant. Similarly, 85% of parents and 77% of grandparents indicated that they put their infant to sleep on their back.

Of all of the behaviors indicated in A1, over half of the respondents (55%) stated that placing an infant on their back was the *most* important behavior when putting an infant to sleep (A2). Eighteen percent of the respondents indicated that ensuring the sheets fit snugly around the mattress was the most important, and 10% reported that swaddling the infant is the most important to them.

Infant Products (A3)

Next, respondents reported which product(s) they use to put their infant to sleep. Figure 2 highlights the percentage of respondents that reported using each product. Of the total sample, over half of the respondents (61%) reported using a crib to put their infant to sleep. Thirty-four percent of respondents reported using a portable crib or playard, 28% reported using a bassinet, and 11% reported using a bedside sleeper to put their infant to sleep.

Of note, 35% of parents indicated that they used a bassinet to put their infant to sleep and only 20% of grandparents noted using this product. On the other hand, 42.1% of grandparents indicated they use a portable crib or playard compared to only 29% of parents that noted they use this product to put their infant to sleep.

Figure 2. Infant Products
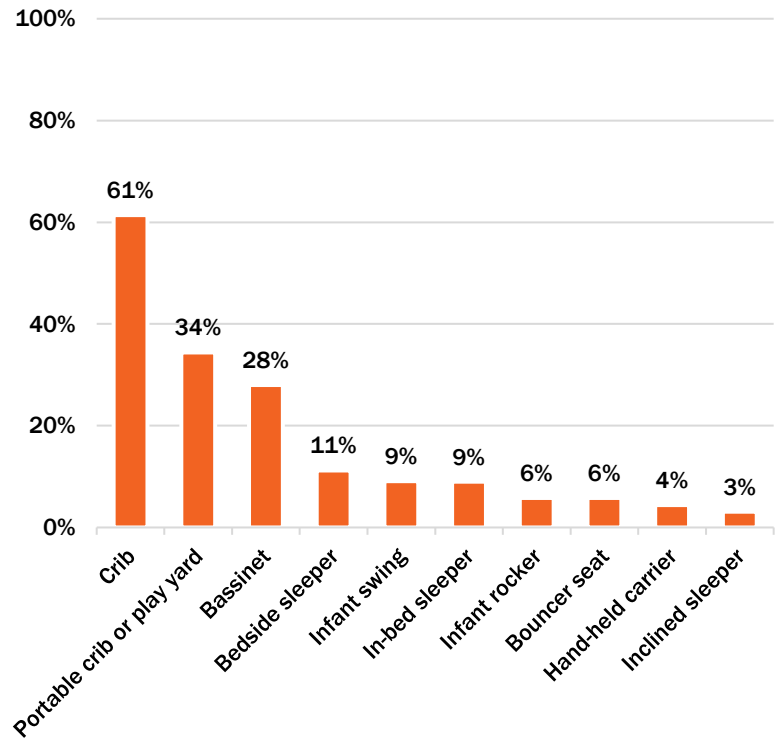
Source of Infant Sleep Safety Guidelines & Recommendations (A4)

Parents and grandparents then reported where they get recommendations and guidelines regarding infant sleep safety. Table 4.3 provides a detailed overview of these sources.

Over half of the respondents (67%) reported that their pediatrician or other health care provider is their source of sleep safety guidelines and recommendations. Over a quarter of respondents also indicated that they receive information from parents/grandparents (39%), warning labels on a product and/or packaging (37%), friends (29%), and educational websites (26%).

Table 4.3. Source of Infant Sleep Safety Guidelines & Recommendations: Parents and Grandparents (A4)

Source	Overall (N = 678)	Parents (n = 400)	Grandparents (n = 278)
CPSC.gov	11%	9%	14%
AAP.org (American Academy of Pediatrics)	18%	21%	13%
CDC.gov (Centers for Disease Control and Prevention)	11%	14%	6%
NIH.gov (National Institutes of Health)	7%	8%	6%
March of Dimes	3%	4%	1%
Blogs	10%	15%	3%
Online parent groups	20%	27%	10%
Educational website	26%	31%	18%
Social Media (e.g., Facebook, YouTube, reddit)	23%	31%	13%
Mobile apps	10%	15%	4%
Books (recommended by doctors)	21%	24%	15%
Books (recommended by parents)	18%	22%	13%
Product manufacturers	21%	20%	23%
Warning labels on products and/or packaging	37%	35%	41%
Parents/Grandparents	39%	35%	44%
Spouse/Partner	19%	23%	13%
Friends	29%	31%	26%
Pediatrician or other health care provider	67%	75%	56%
Other source(s)	4%	1%	7%

Awareness of Warning Labels (A5, A6, A7, & A8)

The next series of survey questions sought to better understand parents' and grandparents' general awareness of warning labels on infant products. The questions included: (1) have you ever noticed a warning label on an infant product (A5), (2) where have you seen warning labels on infant products (A6), (3) how was the label attached to the product (A7), and (4) how often do you read the warning labels that are attached to infant products (A8).

The majority of respondents (89%) stated that they have noticed a warning label on an infant product (A5; 91% of parents; 86% of grandparents). Respondents that stated they had noticed a warning label were next asked a series of follow-up questions about those labels (A6–A8).

Figure 3. Location of Warning Labels
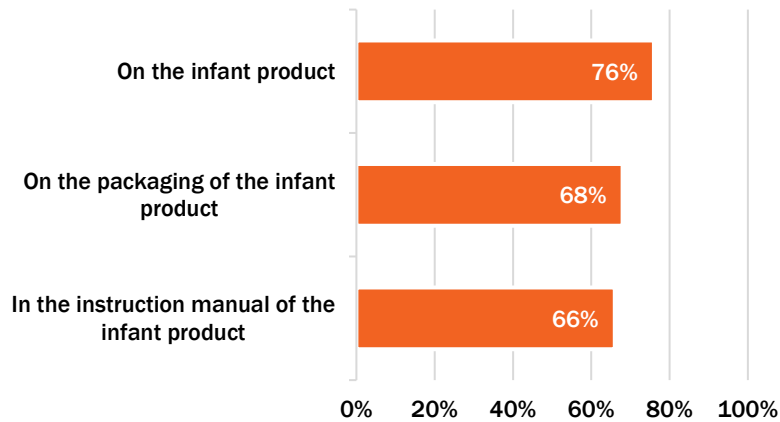
Out of the whole sample, over three-quarters (76%; 75% of parents; 77% of grandparents) reported seeing the label on the infant product, 68% (64% of parents; 68% of grandparents) saw it on the packaging of the product, and 66% (64% of parents; 66% of grandparents) saw it in the instruction manual of the product (see Figure 3; A6).

Over half of the respondents who reported seeing the label on the product itself (n = 513) (65%) indicated that the warning label was sewn onto the product (A7), while 19% stated it was printed on the product, and 17% reported it was on a sticker attached to the product.
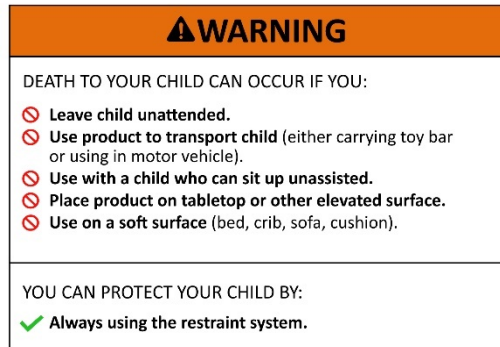
The final question of Section A asked respondents to report how often they read warning labels that are attached to infant products (A8). Over half of respondents (57%; 51% of parents; 67% of grandparents) reported only reading a warning label on an infant product before they use the product for the first time. 23% of respondents (28% of parents; 17% of grandparents) report reading the warning label every time they use the product, 18% (20% of parents; 14% of grandparents) report reading it every few times they use the product, and 1% (1% of parents; 2% of grandparents) report having never read the warning label.

Infant Product Single Warning Label Review (Section B)

Section B of the survey was designed to gather feedback on a series of infant product warning labels. Each respondent reviewed one of ten possible product warning labels and answered a series of follow-up questions (B1–B14). Respondents only saw one version of each of the labels detailed below.

Section B | Rocker Warning Labels

Rocker Warning Label #1

⚠ **WARNING**

DEATH TO YOUR CHILD CAN OCCUR IF YOU:

🚫 **Leave child unattended.**
🚫 **Use product to transport child** (either carrying toy bar or using in motor vehicle).
🚫 **Use with a child who can sit up unassisted.**
🚫 **Place product on tabletop or other elevated surface.**
🚫 **Use on a soft surface** (bed, crib, sofa, cushion).

YOU CAN PROTECT YOUR CHILD BY:

✔ **Always using the restraint system.**

Rocker Warning Label #2

⚠ **WARNING**

DEATH TO YOUR CHILD CAN OCCUR.

🚫 **Do not leave child unattended.**
🚫 **Do not use product to transport child** (either carrying toy bar or using in motor vehicle).
🚫 **Do not use with a child who can sit up unassisted.**
🚫 **Do not place product on tabletop or other elevated surface.**
🚫 **Do not use on a soft surface** (bed, crib, sofa, cushion).

YOU CAN PROTECT YOUR CHILD BY:

✔ **Always using the restraint system.**

Of respondents who saw rocker warning label #1, 71% (n = 66) reported that the label is very believable (B2) and 65% of respondents who saw label #2 (n = 68) stated it was very believable.

When asked how confident respondents would feel following the instructions for rocker warning label #1 (B14), 77% of respondents reported being very confident. Similarly, 78% of respondents indicated they would feel confident following instructions for label #2.
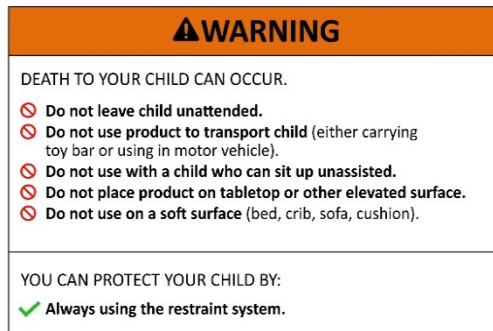
Respondents reported the main message of labels #1 and #2 to be that there are risks (e.g., death/injury) if you do not properly follow the instructions, that you should not leave a child unattended, and that the user should use the item as directed (B1).

Eight percent of respondents for label #1 and 1% of respondents for label #2 expressed that there was something confusing, unclear, or hard to understand in the warning label (B4). Respondents who reviewed label #1 noted that there is general confusion on where would be appropriate to use the product. For label #2, one respondent indicated that the ratio of harm versus ways to keep your child safe being unbalanced was confusing (i.e., there should be more protective measures listed) (B5).

Respondents then answered open-ended questions about where they thought this warning label would be best located on a product (B12). Table 4.4 highlights the top three locations respondents reported. Respondents commonly suggested having the rocker warning label as a sticker, label, or tag on the product.

Table 4.4. Best Location for Rocker Label #1 and #2

Best Location for Rocker Warning Label #1	Best Location for Rocker Warning Label #2
Backside of rocker	Backside of rocker
Frontside of rocker	Frontside of rocker
Side of rocker	Top of rocker

Respondents were next asked how much they like the various aspects of the warning label (e.g., formatting, colors, etc.). Table 4.5 details the percentages of "like it very much" responses. At least

half of the respondents reported liking the format, introduction/heading, and symbols for rocker warning labels #1 and #2.

Table 4.5. Likeability of Various Aspects of Rocker Warning Label Warning #1 and #2 (B3)

Aspects of Warning Label	Rocker Warning Label #1 (n=66)	Rocker Warning Label #2 (n=68)
Colors	48%	44%
Format (e.g., bullets, paragraphs)	56%	50%
Introduction/heading	58%	50%
Symbols	52%	50%
Pictures	30%	31%

*Percentages in the graph represent like it very much responses.

When asked if respondents learned anything new from the warning label (B6), 41% reported yes for rocker warning label #1 and 46% reported yes for label #2. Respondents reported that label #1 taught them generally how to keep kids safe, how to not use the rocker with a child that cannot sit up, and to not use it on an elevated surface. For label #2, respondents reported learning that they should not use the rocker with a child who cannot sit up unassisted and that the product should be used on a flat surface (B7).

Next, respondents were asked if there were any sections of the warning label that would motivate them to follow instructions (B8). The majority of respondents (80%) said there were sections that would motivate them in rocker warning label #1 and 82% said that there were sections of label #2 that would motivate them. Respondents for labels #1 and #2 similarly reported that the line "death to your child can occur" motivated them most to follow the instructions (B9).

Perceived effectiveness (PE) of each warning label was measured by asking respondents, on a scale of 1 to 7, to indicate the extent to which they agreed or disagreed that the warning label (1) grabbed their attention, (2) made them think more, (3) is easy to understand, (4) taught them something new, (5) would get them to follow the advice, (6) is different from other warning labels they have seen, (7) includes information that applies to them, and (8) includes information that is trustworthy (1 = strongly disagree, 7 = strongly agree; B10). A PE score was generated by averaging the mean response for each answer (see Table 4.6). Overall, both rocker warning label #1 (PE mean score = 5.57) and label #2 (PE mean score = 5.60) scored fairly similarly.

Table 4.6. Perceived Effectiveness of Rocker Warning Label #1 and #2 (B10)

This warning label is…	Attention-grabbing	Making me think more	Easy to understand	Inclusive of new information	Worth following	Different from other labels	Inclusive of relevant information	Trustworthy	PE mean score
Rocker Warning Label #1	74%	64%	91%	38%	82%	23%	65%	88%	5.57
Rocker Warning Label #2	67%	61%	91%	37%	85%	22%	70%	85%	5.60

*Percentages are a combination of agree and strongly agree.

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Respondents then indicated on a scale of 1 to 7 the likelihood that they would take the following actions after reviewing this warning label: (1) go to a website to find out more information, (2) change how they use an infant product, (3), call the phone number to receive an instruction manual, (4) follow all of the instructions, and (5) follow one or more of the instructions (see Figure 4; 1 = not at all likely, 7 = very likely). Over half of respondents stated that it is very likely that they would follow all of the instructions (70% of respondents for rocker warning label #1; 69% of respondents for label #2) or follow one or more of the instructions (74% of respondents for label #1; 66% of respondents for label #2).

Figure 4. Likelihood of Taking Action After Reviewing Rocker Warning Label (B11)
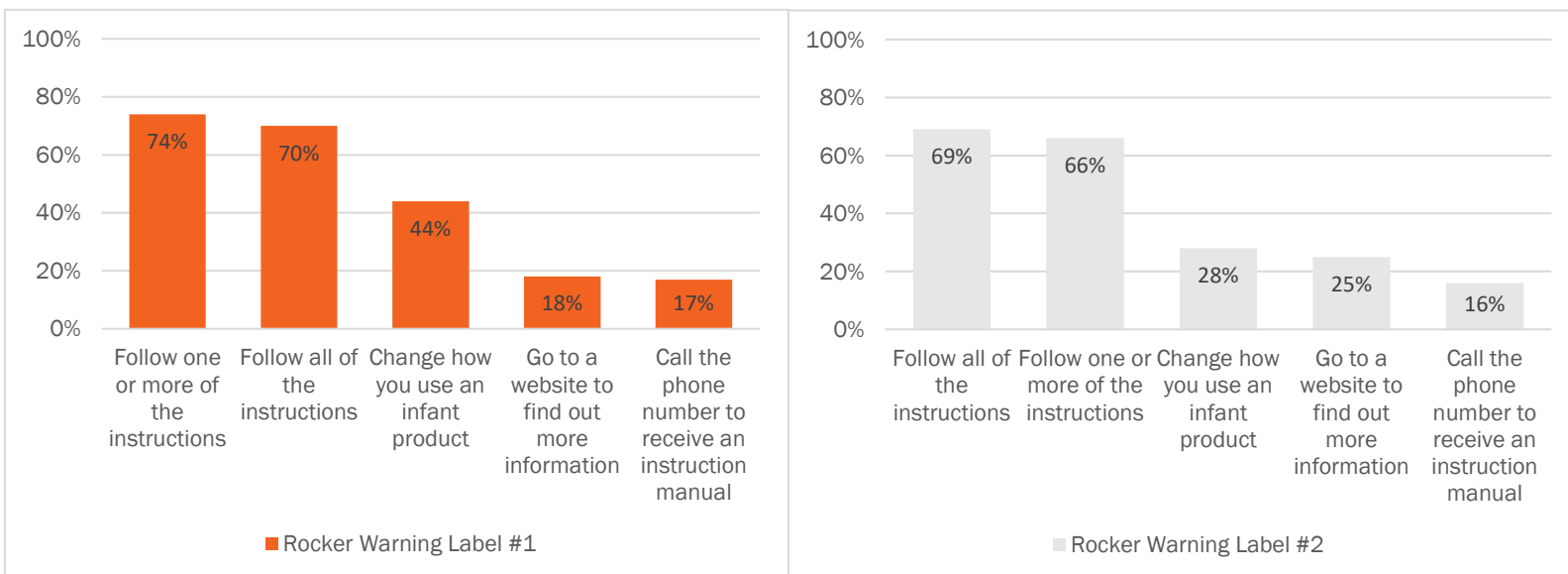
*Percentages in the charts represent very likely responses.

Section B | Handheld Carrier Warning Labels

Handheld Carrier Warning Label #1

Of respondents who reviewed handheld carrier warning label #1, 75% (n = 69) reported that it was very believable (B2). Similarly, 73% of respondents who reviewed label #2 (n = 66) stated that it was very believable.

When asked how confident respondents would feel following the instructions for label #1 (B14), 80% of respondents reported being very confident. Similarly,

Handheld Carrier Warning Label #2

82% of respondents indicated they would feel confident following instructions for label #2.

Respondents who reviewed label #1 reported the main message to be that users should use the harness as instructed, that strangulation is a risk, and to promote the general protection/safety of children (B1). For label #2, respondents reported the main message to be to use the safety harness as instructed, properly tighten straps, and generally follow the instructions to keep the child safe.

Four percent of respondents who saw label #1 and 5% of respondents who saw label #2 expressed that there was something confusing, unclear, or hard to understand in the warning label (B4). Respondents who reviewed label #1 noted there was general confusion on how tightly the straps should be tightened and it was hard to tell any difference between the two pictures on the label (loose vs. secure). For label #2, respondents similarly expressed that the diagrams looked very similar upon first glance and that it was hard to detect any differences (B5).

In an open-ended question, respondents reported where they thought the best location for this warning label to be placed on a product would be (B12). Table 4.7 highlights the top three locations respondents reported for the best location of the label on the handheld carrier.

Table 4.7 Best Location for Handheld Carrier Label #1 and #2

Best Location for Handheld Carrier Warning Label #1	Best Location for Handheld Carrier Warning Label #2
Side of handheld carrier	Side of handheld carrier
Backside of handheld carrier	Front of handheld carrier
Top of handheld carrier	On the straps/harness/buckle of handheld carrier

Respondents were next asked how much they liked the various aspects of the warning label (e.g., formatting, colors, etc.). Table 4.8 details the percentages of "like it very much" responses. Nearly half of respondents reported liking every aspect of label #2 very much, and nearly half of respondents reported liking every aspect of label #1, except for the pictures (39%).

Table 4.8 Likeability of Various Aspects of Handheld Carrier Warning Label Warning #1 and #2 (B3)

Aspects of Warning Label	Handheld Carrier Warning Label #1 (n=69)	Handheld Carrier Warning Label #2 (n=66)
Colors	49%	48%
Format (e.g., bullets, paragraphs)	55%	55%
Introduction/heading	49%	64%
Symbols	54%	61%
Pictures	39%	50%

*Percentages in the graph represent like it very much responses.

When asked if respondents learned anything new from the warning label (B6), 33% stated yes for label #1 and 30% stated yes for label #2. Respondents who viewed either label collectively reported that they learned strangulation can occur in a handheld carrier (B7).

Next, respondents indicated whether any sections of the warning label would motivate them to follow instructions (B8). Nearly all of the respondents (91%) said that there were sections that would motivate them in label #1 and 85% said there were sections of label #2 that would motivate them. Respondents collectively reported that the word "strangulation" motivates them to follow instructions (B9).

Respondents then indicated their level of agreement with a series of questions used to determine the overall PE score for the warning label (see Table 4.9). Overall, the PE score for label #1 (PE mean score = 5.72) was comparable to the PE score for label #2 (PE mean score = 5.5). Of note, participants reported that warning label #1 was more attention-grabbing, made them think more, and was more inclusive of relevant information compared to warning label #2.

Table 4.9 Perceived Effectiveness of Handheld Carrier Warning Label #1 and #2 (B10)

This warning label is...	Attention-grabbing	Making me think more	Easy to understand	Inclusive of new information	Worth following	Different from other labels	Inclusive of relevant information	Trustworthy	PE mean score
Handheld Carrier Warning Label #1	80%	70%	87%	40%	86%	31%	81%	83%	5.72
Handheld Carrier Warning Label #2	67%	59%	92%	38%	82%	24%	71%	86%	5.5

*Percentages are a combination of agree and strongly agree.

Respondents then stated the likelihood that they would take a series of actions after reviewing either warning label #1 or #2 (see Figure 5). Over half of respondents stated that it was very likely that they would follow all of the instructions (77% of respondents for label #1; 74% of respondents for label #2) or follow one or more of the instructions (71% of respondents for label #1; 71% of respondents for label #2).
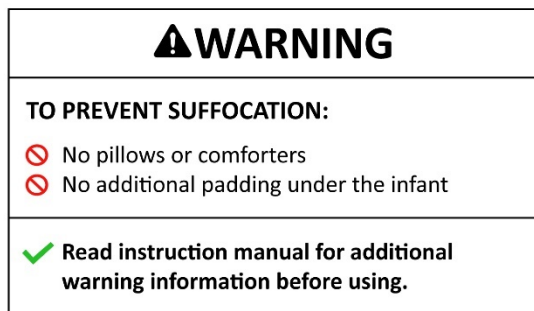
Figure 5. Likelihood of Taking Action After Reviewing Handheld Carrier Warning Label (B11)
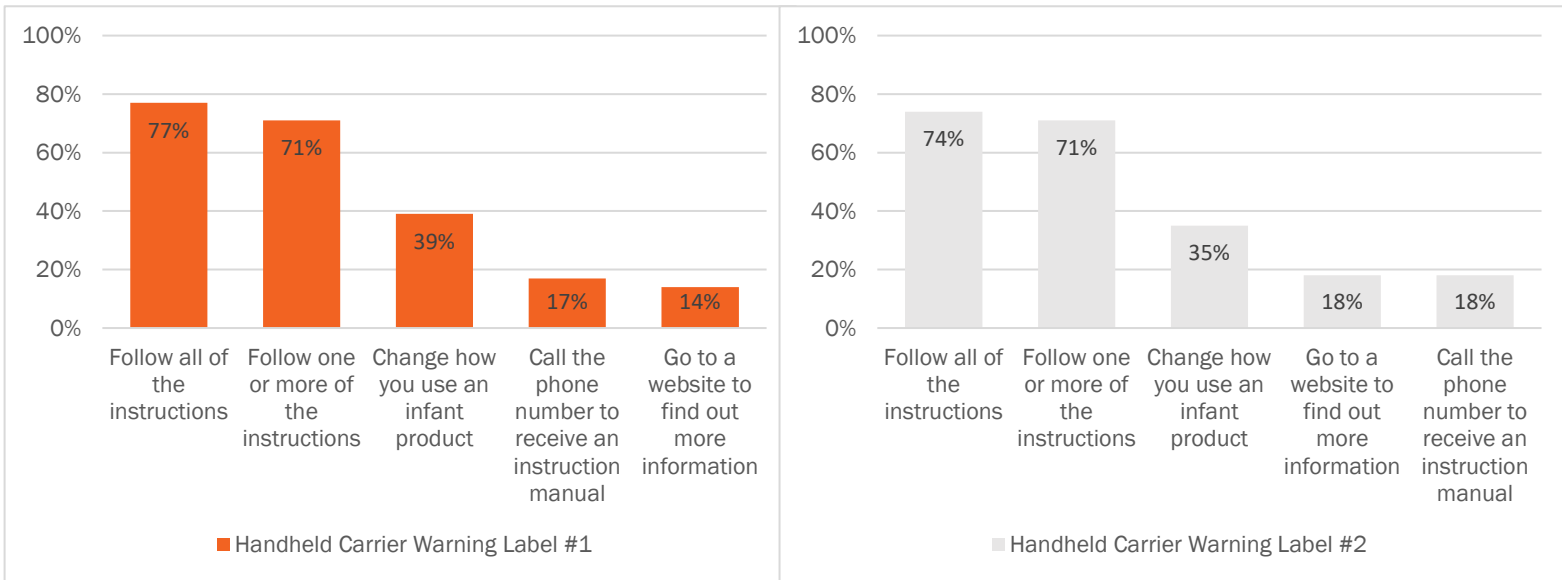
*Percentages in the charts represent very likely responses.

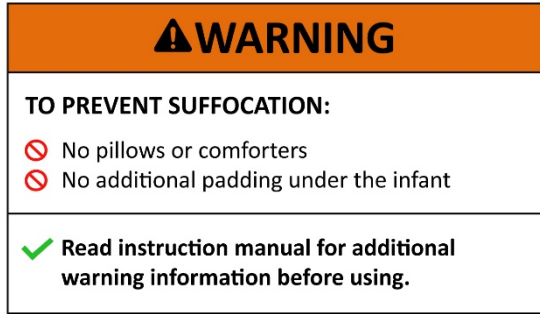## Section B | Crib Warning Labels

Crib Warning Label #1

Of those who saw crib warning label #1, 76% of respondents (n = 70) reported that the label was very believable (B2) and 67% of respondents (n = 67) stated the label #2 was very believable.

When asked how confident respondents would feel following the instructions in label #1 (B14), 85% of respondents reported being very confident. Similarly, 86% of respondents indicated that they would feel confident following the instructions in label #2.

Crib Warning Label #2

⚠WARNING

TO PREVENT SUFFOCATION:

🚫 No pillows or comforters
🚫 No additional padding under the infant

✔ **Read instruction manual for additional warning information before using.**

Respondents who saw these labels reported the main message to be to not add anything to the sleep area with your child to prevent suffocation from occurring (B1).

Three percent of respondents for label #1 and 4% of respondents for label #2 expressed that there was something confusing, unclear, or hard to understand in the warning label (B4). Of the respondents who reviewed label #1, one respondent noted confusion around whether any type of blanket is acceptable to use in the sleeping area. For label #2, respondents expressed confusion around what position the child should be laid down to sleep and said that there is a need for more information in the label (B5).

Respondents were asked an open-ended question about where they thought the best location for this warning label to be placed on a product would be (B12). Table 4.10 highlights the top three locations respondents reported.

Table 4.10 Best Location for Crib Label #1 and #2

Best Location for Crib Warning Label #1	Best Location for Crib Warning Label #2
On the mattress	On the top of the crib
On the package	On the side of the crib
Side of crib	On the package

Respondents were next asked how much they like the various aspects of the warning label (e.g., formatting, colors, etc.). Table 4.11 details the percentages of "like it very much" responses. Respondents who viewed label #2 liked the colors, format, and introduction/heading very much compared to label #1. On the other hand, a higher percentage of respondents reported liking the symbols and pictures very much in label #1.

Table 4.11. Likeability of Various Aspects of Crib Warning Label Warning #1 and #2 (B3)

Aspects of Warning Label	Crib Warning Label #1 (n=70)	Crib Warning Label #2 (n=69)
Colors	49%	54%
Format (e.g., bullets, paragraphs)	47%	51%
Introduction/heading	56%	70%
Symbols	60%	55%
Pictures	39%	37%

*Percentages in the graph represent like it very much responses.

When asked if respondents learned anything new from the warning label (B6), 26% reported yes for label #1 and 22% reported yes for label #2. Respondents overwhelmingly reported that they learned to not use additional padding, pillows, or comforters with the baby in the crib.

Next, respondents indicated whether there were any sections within the warning label that would motivate them to follow instructions (B8). Nearly all of the respondents (80%) said there were sections that would motivate them in label #1 and 78% said there were sections of label #2 that would motivate them. For label #1, respondents reported that the term "suffocation" motivated them. Respondents that reviewed label #2 similarly reported that the phrase "to prevent suffocation" motivated them, along with the orange warning header on the label (B9).

Respondents then indicated their level of agreement with a series of questions used to determine the overall PE score for the warning label (see Table 4.12). Overall, the PE score for label #1 (PE mean score = 5.46) was comparable to the PE score for label #2 (PE mean score = 5.37). Of note, respondents that reviewed label #1 and respondents that reviewed label #2 reported similar percentages of agree/strongly agree across the board for the series of questions associated with B10.

Table 4.12 Perceived Effectiveness of Crib Warning Label #1 and #2 (B10)

This warning label is...	Attention-grabbing	Making me think more	Easy to understand	Inclusive of new information	Worth following	Different from other labels	Inclusive of relevant information	Trustworthy	PE mean score
Crib Warning Label #1	68%	57%	90%	26%	80%	19%	78%	84%	5.45
Crib Warning Label #2	69%	57%	93%	22%	84%	19%	79%	85%	5.37

*Percentages are a combination of agree and strongly agree.

Respondents then stated the likelihood that they would take a series of actions after reviewing the warning label (see Figure 6). Over half of respondents stated that it is very likely they would follow all of the instructions (70% crib warning label #1; 68% crib warning label #2) and follow one or more of the instructions (72% crib warning label #1; 71% crib warning label #2).
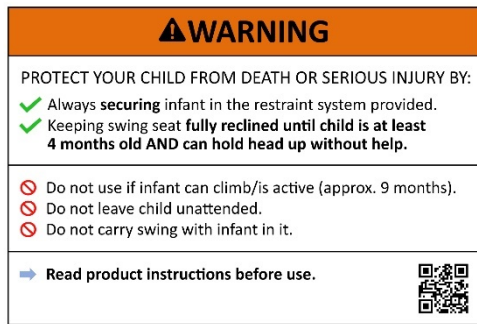
Figure 6. Likelihood of Taking Action After Reviewing Crib Warning Label (B11)
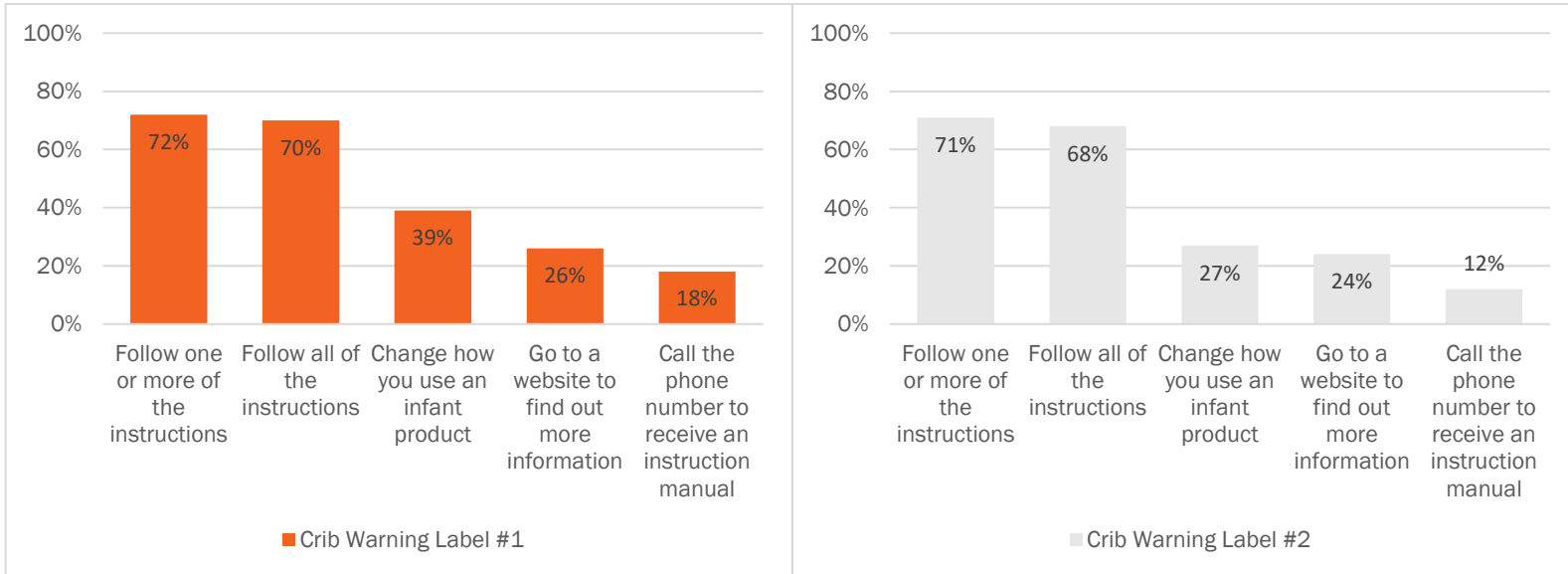
*Percentages in the charts represent very likely responses.

Section B | Swing Warning Labels

Swing Warning Label #1

⚠ **WARNING**

PROTECT YOUR CHILD FROM DEATH OR SERIOUS INJURY BY:

✔ Always **securing** infant in the restraint system provided.
✔ Keeping swing seat **fully reclined until child is at least 4 months old AND can hold head up without help.**

🚫 Do not use if infant can climb/is active (approx. 9 months).
🚫 Do not leave child unattended.
🚫 Do not carry swing with infant in it.

➡ **Read product instructions before use.**

Swing Warning Label #2

⚠ **WARNING**

PROTECT YOUR CHILD FROM DEATH OR SERIOUS INJURY.

✔ **SECURE** infant in the restraint system provided.
✔ **FULLY RECLINE** swing seat until child is at least 4 months old AND can hold head up without help.

🚫 Do not use if infant can climb/is active (approx. 9 months).
🚫 Do not leave child unattended.
🚫 Do not carry swing with infant in it.

➡ **Read product instructions before use.**

Of respondents who viewed swing warning label #1, 72% (n = 69) reported that the label was very believable (B2) and 73% of respondents who viewed label #2 (n = 67) reported that it was very believable.

When asked how confident respondents would feel following the instructions on label #1 (B14), 85% of respondents reported being very confident. Similarly, 83% of respondents indicated they would feel confident following instructions on label #2.
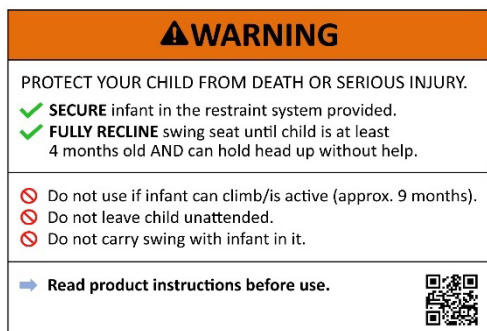
Respondents who reviewed label #1 reported the main message to be to follow directions for the safety of your child, protect your child, and properly use the swing. Similarly, respondents who reviewed label #2 expressed the main message to be to secure the child, follow the age guidance in the label, and prevent injury (B1).

Hardly any respondents (3% of respondents who saw label #1 and 0% of respondents who saw label #2) expressed that there was something confusing, unclear, or hard to

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understand in the warning label (B4). One respondent who reviewed label #1 expressed that they did not like the inclusion of a QR code since many parents and grandparents would not know how to use it (B5).

Respondents were then asked an open-ended question about where they thought the best location would be for this warning label to be placed on a product (B12). Table 4.13 highlights the top three locations respondents reported.

Table 4.13 Best Location for Swing Label #1 and #2

Best Location for Swing Warning Label #1	Best Location for Swing Warning Label #2
Front of swing	On the swing's seat
Top of swing	Side of swing
On the swing's package	Top of swing

Respondents were next asked how much they like the various aspects of the warning label (e.g., formatting, colors, etc.). Table 4.14 details the percentages of "like it very much" responses. Nearly half of the respondents reported liking every aspect of label #1 very much and #2, except for the pictures for label #1 (32%) and #2 (30%).

Table 4.14 Likeability of Various Aspects of Swing Warning Label Warning #1 and #2 (B3)

Aspects of Warning Label	Swing Warning Label #1 (n=69)	Swing Warning Label #2 (n=67)
Colors	49%	55%
Format (e.g., bullets, paragraphs)	52%	58%
Introduction/heading	62%	64%
Symbols	57%	54%
Pictures	32%	30%

*Percentages in the graph represent like it very much responses.

When asked if respondents learned anything new from the warning label (B6), 28% reported yes for label #1 and 48% reported yes for label #2. Samples sizes were small (n = 69 and n = 67 respectively) so these percentage differences should be interpreted with caution. Respondents who reviewed label #1 and respondents who reviewed label #2 similarly expressed learning to not use the swing with infants over 9 months of age, to use the swing in a fully reclined position for infants under 4 months, and not to use the swing if the infant is active.

Next, respondents indicated whether any sections within the warning label would motivate them to follow instructions (B8). Nearly all respondents who saw label #1 (86%) said there were sections that would motivate them, and 79% of respondents who saw label #2 said there were sections that would motivate them. Respondents for both labels collectively indicated that the phrase "protect your child from death or serious injury" would motivate them to follow instructions.

Respondents also mentioned that the warning symbol and check marks on label #2 were motivating.

Respondents then indicated their level of agreement with a series of questions used to determine the overall PE score for the warning label they reviewed (see Table 4.15). Overall, the PE score for label #1 (PE mean score = 5.68) was comparable to the PE score for label #2 (PE mean score = 5.57).

Table 4.15 Perceived Effectiveness of Swing Warning Label #1 and #2 (B10)

This warning label is...	Attention-grabbing	Making me think more	Easy to understand	Inclusive of new information	Worth following	Different from other labels	Inclusive of relevant information	Trustworthy	PE mean score
Swing Warning Label #1	74%	58%	94%	33%	87%	17%	78%	96%	5.68
Swing Warning Label #2	71%	54%	89%	39%	88%	18%	74%	83%	5.57

*Percentages are a combination of agree and strongly agree.

Respondents then stated the likelihood that they would take a series of actions after reviewing the warning label (see Figure 7). Over half of respondents stated that it is very likely they would follow all of the instructions (78% label #1; 79% label #2) or follow one or more of the instructions (81% label #1; 74% label #2).
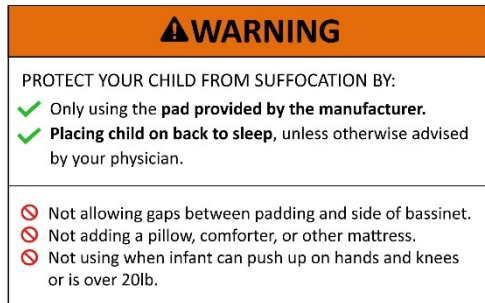
Figure 7. Likelihood of Taking Action After Reviewing Swing Warning Label (B11)
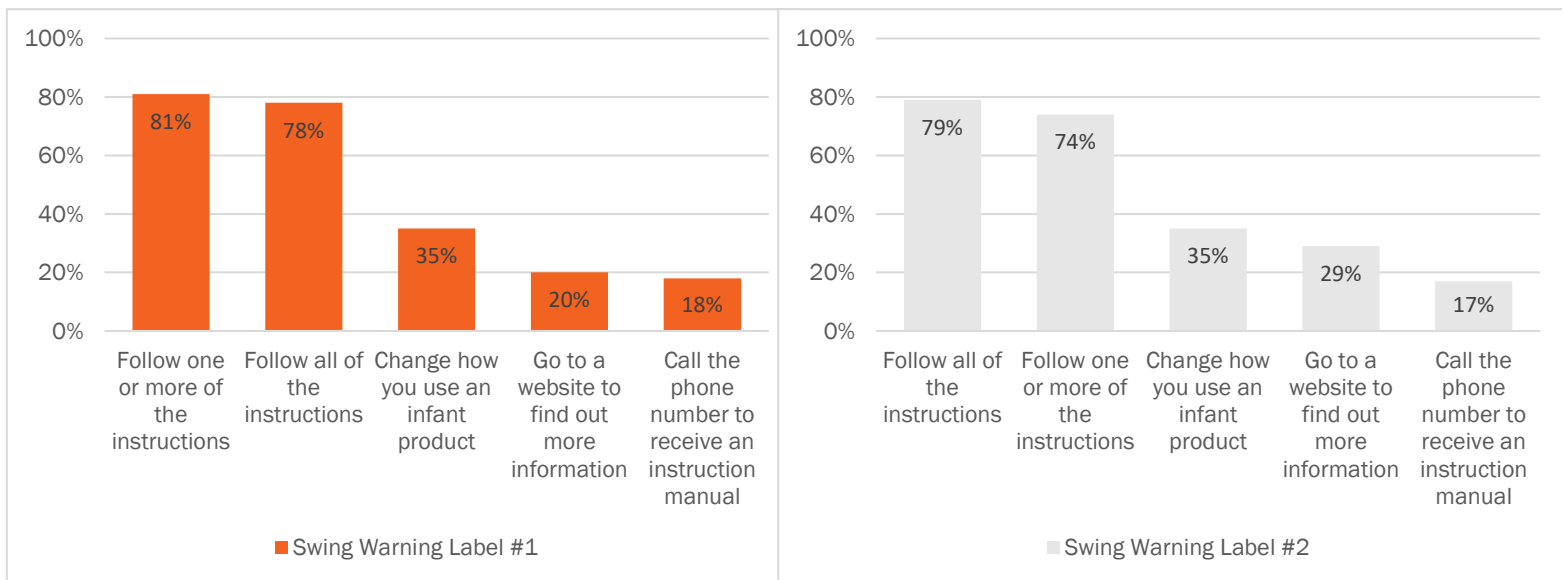
*Percentages in the charts represent very likely responses.

Section B | Bassinet Warning Labels

Bassinet Warning Label #1

⚠WARNING

PROTECT YOUR CHILD FROM SUFFOCATION BY:

✔ Only using the **pad provided by the manufacturer.**
✔ **Placing child on back to sleep**, unless otherwise advised by your physician.

🚫 Not allowing gaps between padding and side of bassinet.
🚫 Not adding a pillow, comforter, or other mattress.
🚫 Not using when infant can push up on hands and knees or is over 20lb.

Bassinet Warning Label #2

⚠WARNING

SUFFOCATION TO YOUR CHILD CAN OCCUR IF YOU DO NOT FOLLOW INSTRUCTIONS:

✔ Only use the **pad provided by the manufacturer.**
✔ **Place child on back to sleep,** unless otherwise advised by your physician.

🚫 Do not allow gaps between padding and side of bassinet.
🚫 Do not add a pillow, comforter, or other mattress.
🚫 Do not use when infant can push up on hands and knees or is over 20lb.

Of those who saw bassinet warning label #1, 76% of respondents (n = 67) reported that the label was very believable (B2) and 76% of respondents (n = 66) reported that label #2 was very believable.

When asked how confident respondents would feel following the instructions for label #1 (B14), 87% of respondents reported being very confident. Similarly, 86% of respondents indicated they would feel confident following instructions for label #2.
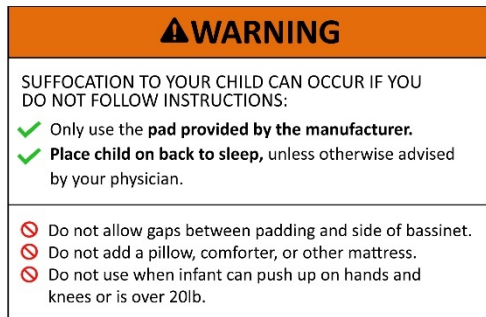
Respondents of both labels similarly reported the main message to be to follow the instructions to protect children from suffocation (B1).

Hardly any respondents expressed that there was something confusing, unclear, or hard to understand in the warning label (B4) (1% of those who saw label #1 and 0% of those who saw label #2). A couple of respondents who reviewed label #1 expressed general confusion about the phrase "do not allow gaps between padding and side of bassinet" (B5).

Respondents answered an open-ended question about where they thought the best location for this warning label to be placed on a product would be (B12). Table 4.16 highlights the top three locations respondents reported.

Table 4.16 Best Location for Bassinet Label #1 and #2

Best Location for Bassinet Warning Label #1	Best Location for Bassinet Warning Label #2
Inside the bassinet	Inside the bassinet
On the mattress pad	On the side of the bassinet
On the side of the bassinet	On the top of the bassinet

Respondents were next asked how much they liked the various aspects of the warning label (e.g., formatting, colors, etc.). Table 4.17 details the percentages of "like it very much" responses. Nearly half of the respondents reported liking every aspect of both labels very much, except for the pictures for label #1 (30%) and #2 (21%).

Table 4.17 Likeability of Various Aspects of Bassinet Warning Label Warning #1 and #2 (B3)

Aspects of Warning Label	Bassinet Warning Label #1 (n=67)	Bassinet Warning Label #2 (n=66)
Colors	49%	45%
Format (e.g., bullets, paragraphs)	49%	53%
Introduction/heading	58%	52%
Symbols	52%	48%
Pictures	30%	21%

*Percentages in the table represent like it very much responses.

Respondents were then asked if they learned anything new from the warning label (B6). Thirty-seven percent reported yes for label #1 and 23% reported yes for label #2. Respondents reported learning about the 20-pound weight limit for the bassinet, not to use the bassinet when their child can push up, and to put their child on their back when they sleep (B7).

Next, respondents indicated whether there were any sections of the warning label that would motivate them to follow instructions (B8). Nearly all of the respondents (81%) said that there were sections that would motivate them in label #1 and 88% said there were sections of label #2 that would motivate them. For label #1, respondents said that the phrase "protect your child from suffocation" as well as the inclusion of the warning sign would motivate them to follow the instructions (B9). Similarly, respondents who reviewed label #2 indicated that the phrase "suffocation to your child can occur" and the use of bolding and check marks would motivate them to follow the instructions.

Respondents then indicated their level of agreement with a series of questions used to determine the overall PE score for the warning label (see Table 4.18). Overall, the PE score for label #1 (PE mean score = 5.55) did not significantly differ from the PE score for label #2 (PE mean score = 5.41).

Table 4.18 Perceived Effectiveness of Bassinet Warning Label #1 and #2 (B10)

This warning label is...	Attention-grabbing	Making me think more	Easy to understand	Inclusive of new information	Worth following	Different from other labels	Inclusive of relevant information	Trustworthy	PE mean score
Bassinet Warning Label #1	77%	52%	97%	39%	87%	24%	77%	95%	5.55
Bassinet Warning Label #2	64%	48%	95%	21%	73%	11%	71%	86%	5.41

*Percentages are a combination of agree and strongly agree.

Respondents then stated the likelihood that they would take a series of actions after reviewing the warning label (see Figure 8). Over half of respondents stated that it was very likely they would follow all of the instructions (76% of respondents for label #1; 60% of respondents for label #2) and follow one or more of the instructions (78% of respondents for label #1; 66% of respondents for label #2).

Figure 8. Likelihood of Taking Action After Reviewing Bassinet Warning Label (B11)
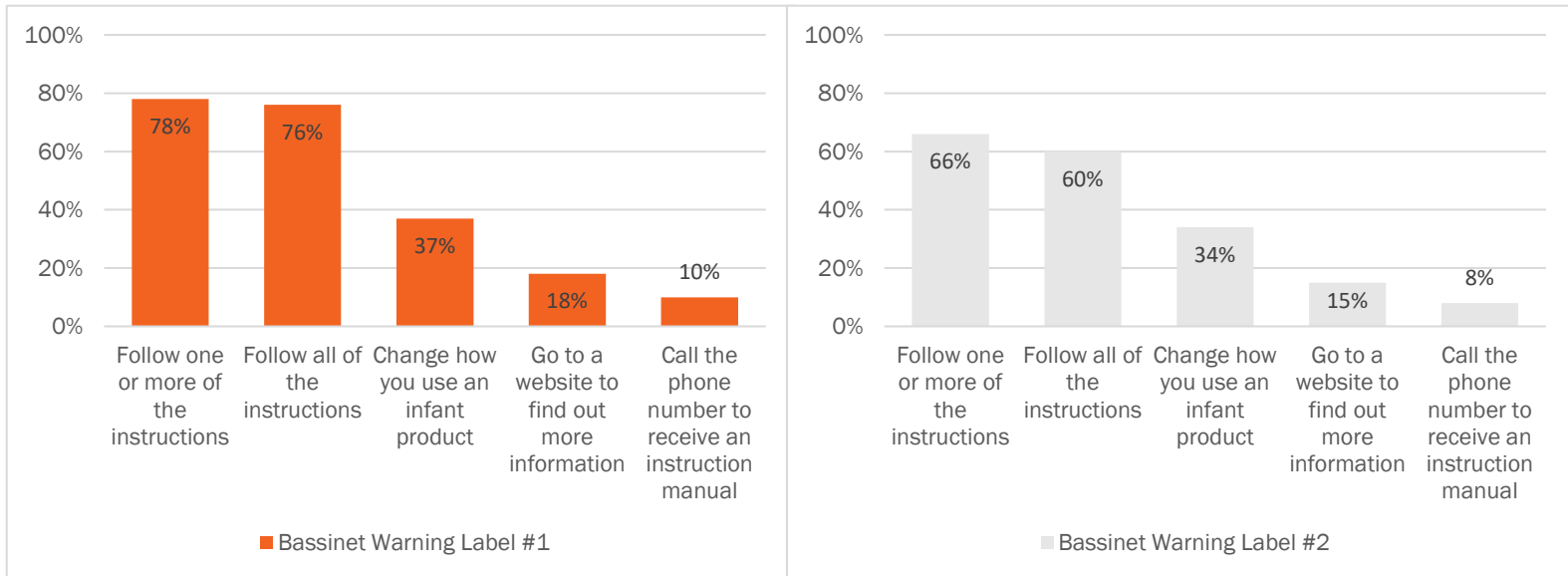
*Percentages in the charts represent very likely responses.

Infant Product Warning Label Comparison (Section C)

After reviewing one single infant product warning label, respondents were next shown two versions of an infant product warning label (e.g., crib, bassinet, swing, handheld carrier, or rocker). Respondents compared these two variations of a warning label and provided feedback. Single-sample *t*-tests were conducted to identify any significant differences between which label was more attention-grabbing, which was more likely to get the respondents to follow the instructions, and which was the preferred label among the two variations.

Questions for this section included (1) which label is more attention-grabbing (C1), (2) what about that label makes it more attention-grabbing (C2), (3) which label is more likely to get you to follow the instructions (C3), (4) what about that label is more likely to get you to follow the instructions (C4), (5) what specific differences in the wording within the label make you more likely to follow the instructions (C5), (6) which warning label do you prefer overall (C6), (7) how confident are you in your ability to follow the instructions in the warning label (C7), and (8) the extent to which the warning label gives you a new way to think about putting your infant safely to sleep (C8).

Section C | Rocker Warning Labels

Rocker Warning Label #1

⚠WARNING

DEATH TO YOUR CHILD CAN OCCUR IF YOU:

🚫 **Leave child unattended.**
🚫 **Use product to transport child** (either carrying toy bar or using in motor vehicle).
🚫 **Use with a child who can sit up unassisted.**
🚫 **Place product on tabletop or other elevated surface.**
🚫 **Use on a soft surface** (bed, crib, sofa, cushion).

YOU CAN PROTECT YOUR CHILD BY:

✔ **Always using the restraint system.**

Rocker Warning Label #2

⚠WARNING

DEATH TO YOUR CHILD CAN OCCUR.

🚫 **Do not leave child unattended.**
🚫 **Do not use product to transport child** (either carrying toy bar or using in motor vehicle).
🚫 **Do not use with a child who can sit up unassisted.**
🚫 **Do not place product on tabletop or other elevated surface.**
🚫 **Do not use on a soft surface** (bed, crib, sofa, cushion).

YOU CAN PROTECT YOUR CHILD BY:

✔ **Always using the restraint system.**

Of the respondents who reviewed the rocker warning labels (n = 132), 53% expressed that label #1 was more attention-grabbing and 47% stated that label #2 was more attention-grabbing (C1). A single sample *t*-test revealed that one label was not significantly more attention-grabbing than the other, $t(131) = -0.69$, $p = 0.49$.

A follow-up question asked respondents to detail what about label #1 (n = 70) or #2 (n = 62) made it more attention-grabbing than the other (C2). Figure 9 details the frequencies for which parts of the warning labels (e.g., specific wording, pictures, symbols, etc.) made them more attention-grabbing.
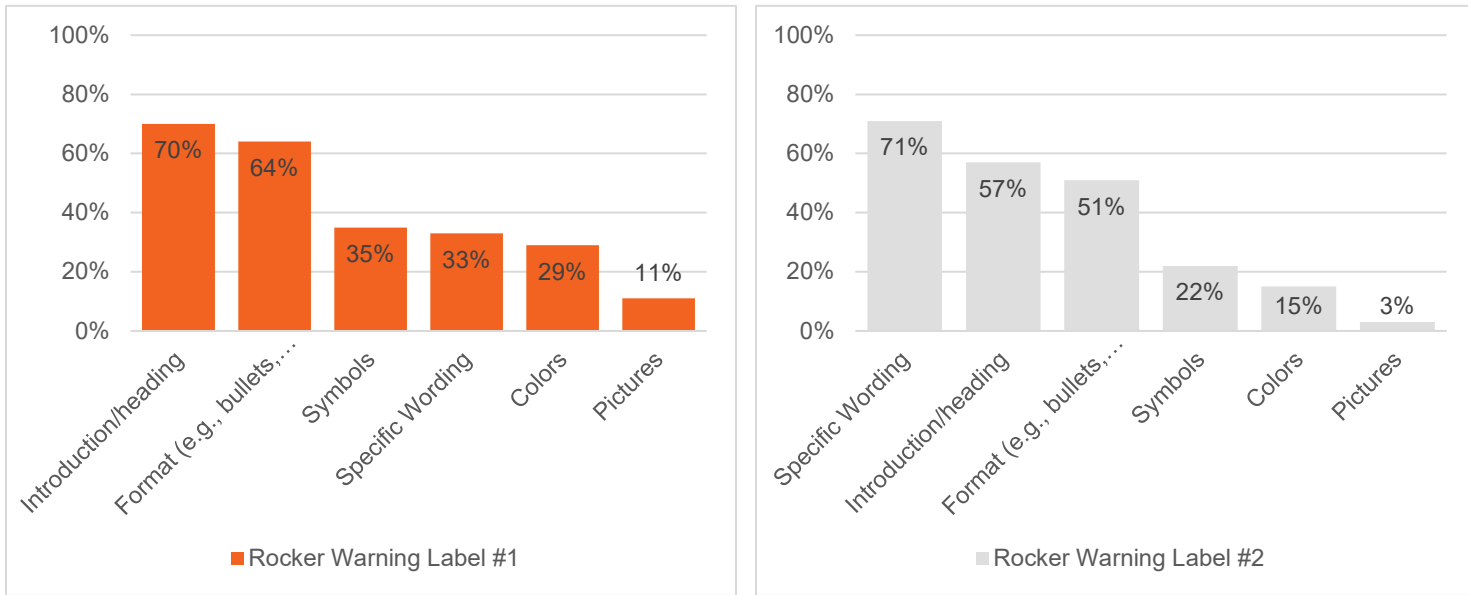
Figure 9. Aspects of Rocker Warning Labels #1 and #2 That Make Them More Attention Grabbing (C2)
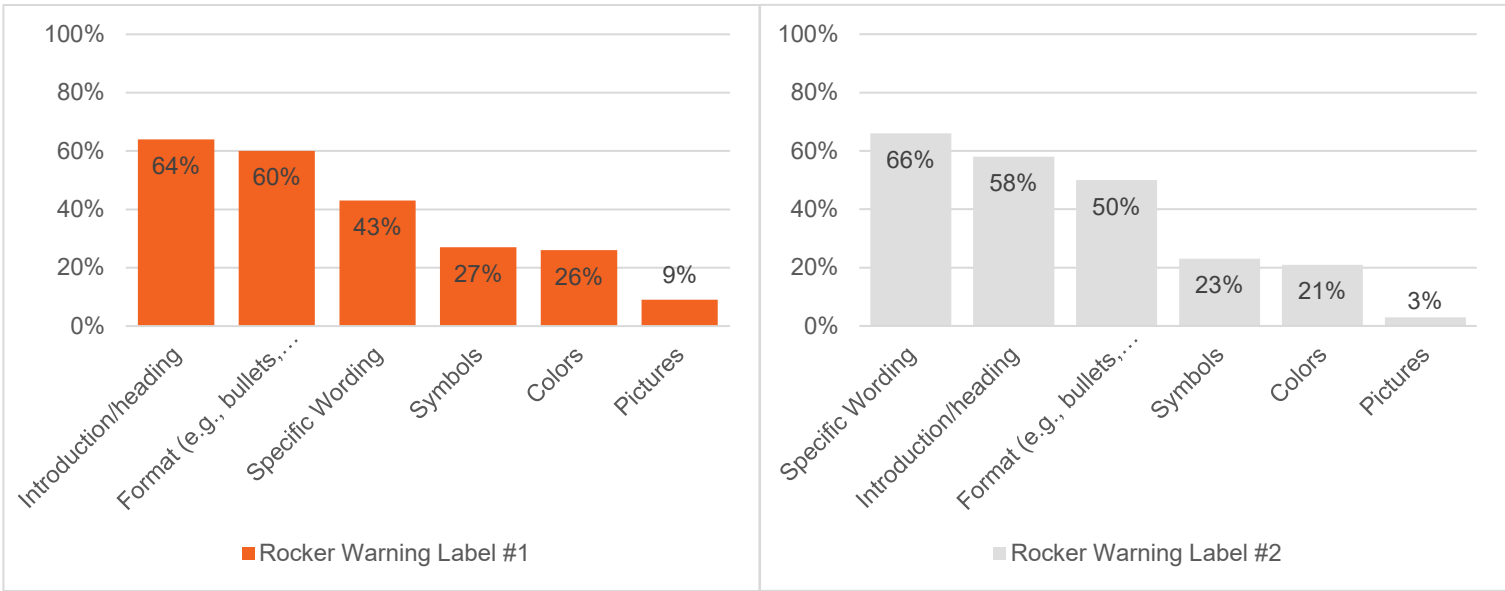
Next, respondents were asked which of the rocker warning labels would be more likely to get them to follow the instructions (C3). Half of the respondents (50%) reported that label #1 would make them more likely to follow the instructions and 50% of respondents reported that label #2 would. A single sample *t*-test revealed that neither of the rocker warning labels was significantly more likely to get the respondents to follow the instructions, $t(130)$ = -0.09, p = 0.93.

A follow-up question asked the respondents to detail what about label #1 (n = 66) or #2 (n = 65) made it more likely for them to follow the instructions (C4). Figure 10 details frequencies for which parts of the warning labels (e.g., specific wording, pictures, symbols, etc.) made them more attention-grabbing.

Respondents who selected specific wording as an element that would make them more likely to follow instructions expressed in an open-ended question that the phrase "do not" in label #2 stood out (C5). The phrase "do not" stood out because it is clear and to the point.

Respondents then reported their overall preference toward one of the rocker warning labels (C6). In total, 46% preferred label #1, and 54% preferred label #2. A single sample t-test revealed neither of the rocker warning labels was significantly preferred over the other, $t(130) = 0.96$, $p = 0.34$.

Next, respondents indicated, on a scale of 1 to 7, the extent to which they felt confident in their own ability to follow the instructions of their preferred label (1 = not at all confident, 7 = very confident; C7). Respondents on average reported that they are confident in their ability to follow instructions for label #1 ($M = 6.77$; n = 60) and label #2 ($M = 6.79$; n = 71).

Lastly, respondents reported the extent to which their preferred warning label gave them a new way to think about putting their infant asleep. This was assessed using a scale of 1–7 (1 = strongly disagree, 7= strongly agree; C8). Figure 11 highlights that over half of the respondents reported that they agree/strongly agree that label #1 and label #2, respectively, gave them a new way to think about putting their infant to sleep.

Figure 11. Extent the Rocker Warning Label Provided a New Way to Think About Putting an Infant to Sleep (C8)

	Strongly disagree/disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree/strongly agree
Rocker Warning Label #1	8%	10%	22%	5%	55%
Rocker Warning Label #2	6%	4%	21%	17%	52%
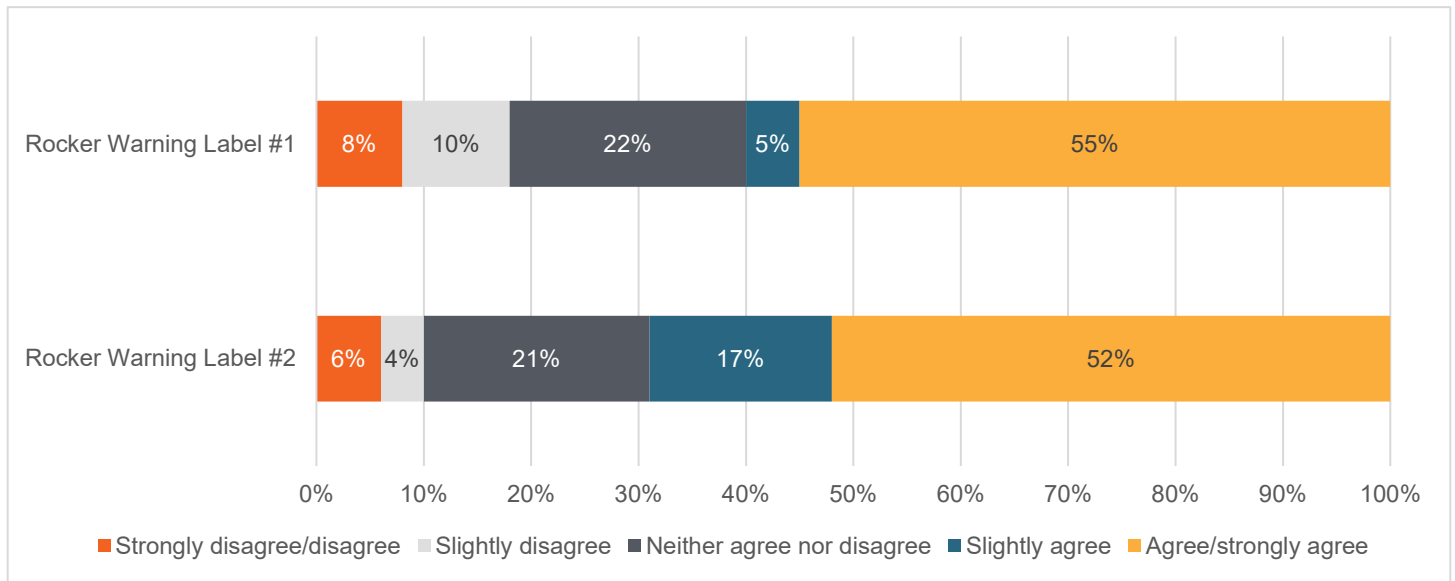
Section C | Handheld Carrier Warning Labels

Handheld Carrier Warning Label #1

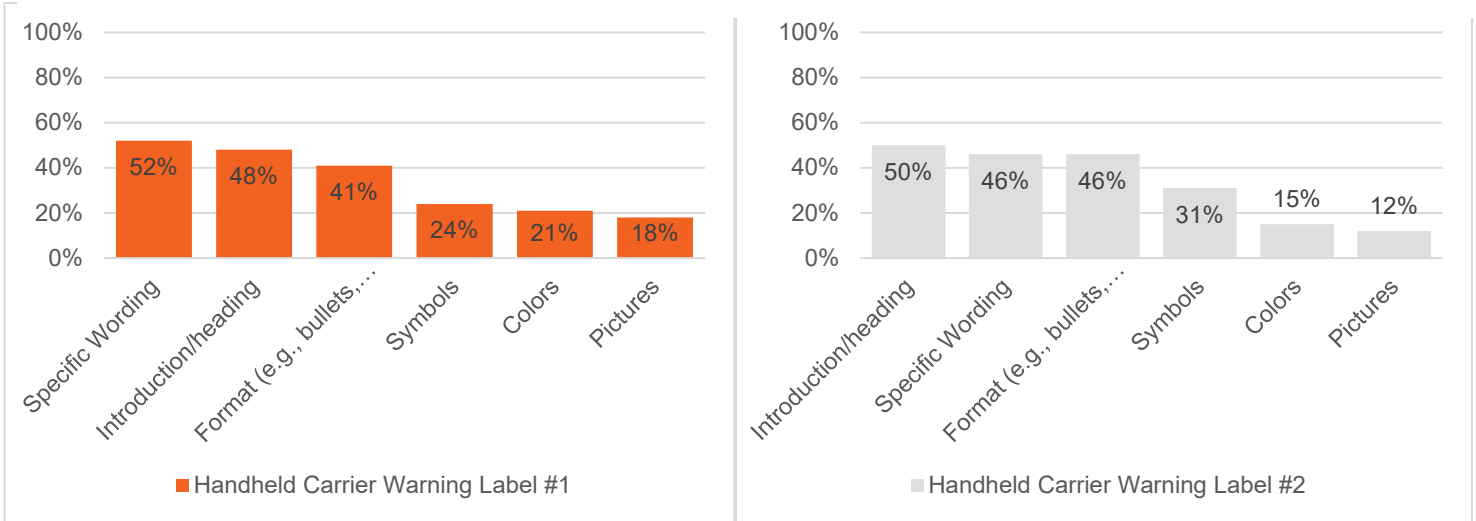| ⚠WARNING	
✓	**Protect your child** by fully restraining them at all times (even when not in vehicle).
🚫	**Strangulation can occur** if you loosely or partially buckle harness straps.

Handheld Carrier Warning Label #2

⚠WARNING	
✓	**Fully restraining your child** will protect them from harm.
🚫	Loosely or partially buckling harness straps **can result in strangulation.**

Of the respondents who reviewed the handheld carrier labels (n = 135), 81% expressed that label #1 was more attention-grabbing and 19% stated that label #2 was more attention-grabbing (C1). A single sample *t*-test revealed that label #1 was significantly more attention-grabbing than label #2, $t(134) = -9.02$, $p < .001$.

A follow-up question asked the respondents to further detail which elements of handheld carriers #1 or #2 made it more attention-grabbing than the other (C2). Figure 12 details the frequencies of respondents that selected various aspects (e.g., specific wording, pictures, symbols, etc.) of the warning label that made it more attention-grabbing than the other warning label.

Figure 12. Aspects of Handheld Carrier Warning Labels #1 and #2 That Make Them More Attention Grabbing (C2)

Next, respondents were asked which of the handheld carrier warning labels would be more likely to get them to follow the instructions (Q3). Most respondents (79%) reported that label #1 would make them more likely to follow the instructions and 21% of respondents reported the same for label #2. A single sample *t*-test revealed label #1 was significantly more likely to get respondents to follow instructions than label #2, $t(134)$ = -8.04, $p < .001$.

A follow-up question asked the respondents to detail which elements of handheld carrier warning label #1 (n = 106) or #2 (n = 29) made them more likely to follow the instructions (C4). Figure 13 details the frequencies for which aspects of the warning label made them more likely to follow the instructions (e.g., specific wording, pictures, symbols, etc.)

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Figure 13. Aspects of Handheld Carrier Warning Labels #1 and #2 That Make Respondents More Likely to Follow Instructions (C4)
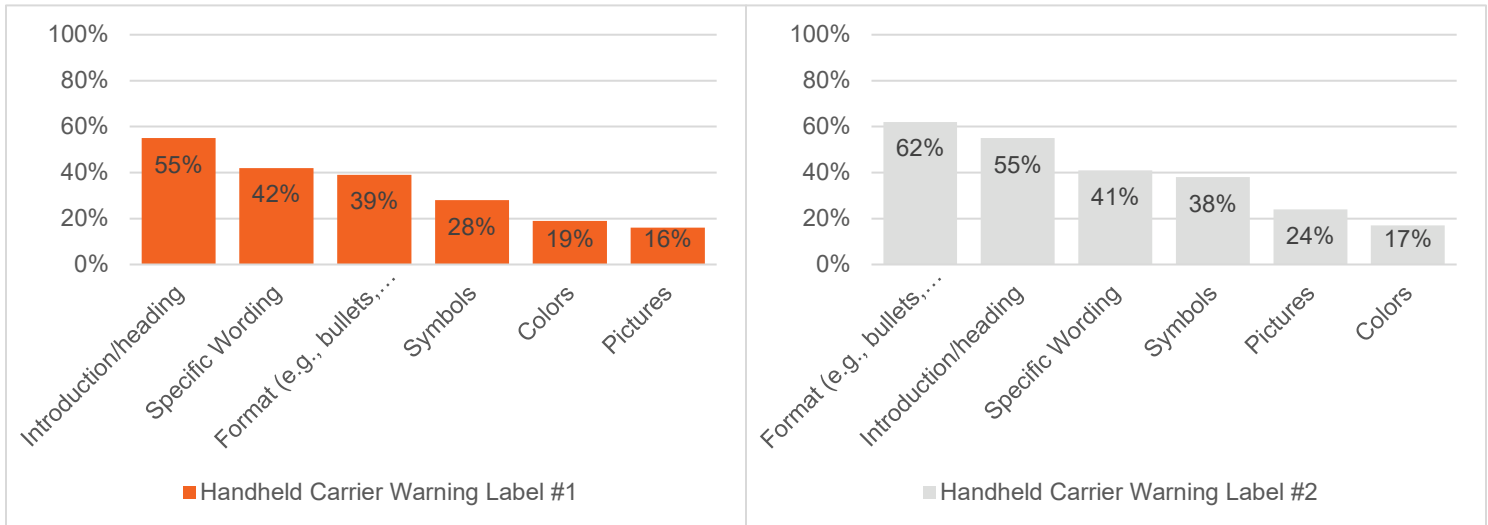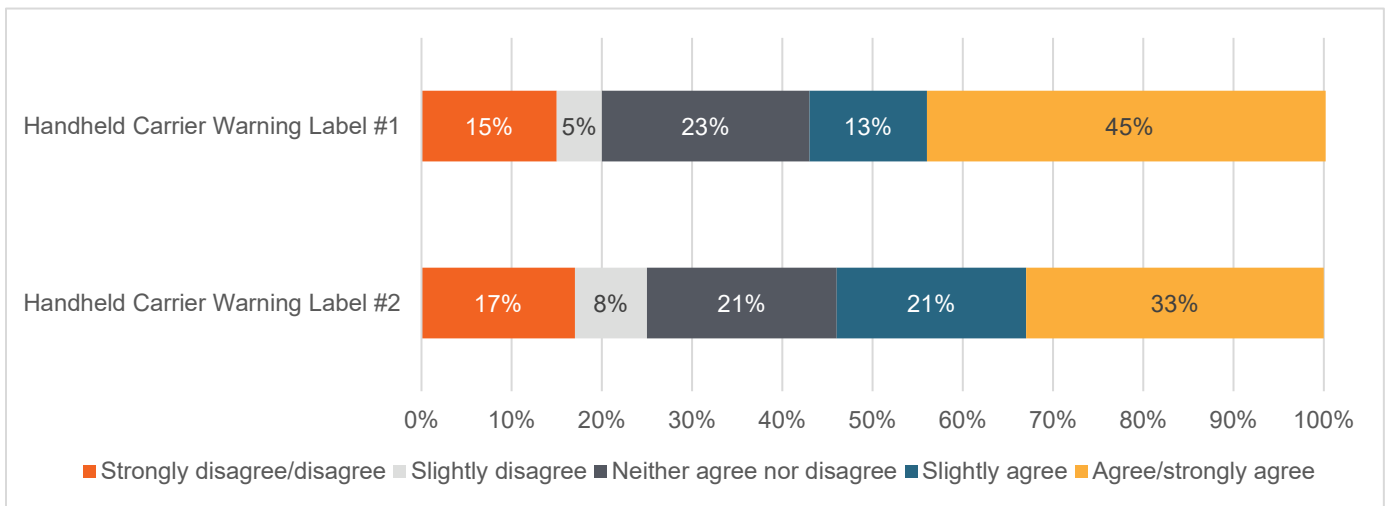

Respondents who selected specific wording as an element that would make them more likely to follow instructions expressed in an open-ended response that the bold text and the use of term "strangulation" stood out (C5). Respondents also mentioned that the specificity and directness of the labels made them more likely to follow the instructions as well.

Respondents next reported their overall preference toward one of the handheld carrier warning labels (C6). In total, 82% preferred label #1, and 18% preferred label #2. A single sample t-test revealed that respondents significantly preferred label #1 over label #2, t(134) = -9.76, p < .001.

Next, respondents indicated, on a scale of 1 to 7, the extent to which they felt confident in their own ability to follow the instructions on their preferred label (1 = not at all confident, 7 = very confident; C7). Respondents on average reported that they are confident in their ability to follow instructions for handheld carrier label #1 (M = 6.80; n = 111) and label #2 (M = 6.71; n = 24).

Lastly, respondents were asked the extent to which the preferred warning label gave the respondents a new way to think about putting their infant asleep. This was assessed using a scale of 1–7 (1 = strongly disagree, 7= strongly agree; C8). Figure 14 highlights that over a quarter of the respondents for each warning label reported that they agree/strongly agree that handheld carrier warning label #1 (n = 111) and label #2 (n = 24), respectively, gave them a new way to think about putting their infant to sleep.

Figure 14. Extent the Handheld Carrier Warning Label Provided a New Way to Think About Putting an Infant to Sleep (C8)

Section C | Crib Warning Labels

Crib Warning Label #1

Crib Warning Label #2

Of the respondents who reviewed the crib warning labels (n = 132), 99% expressed that label #2 was more attention-grabbing and 1% stated that label #1 was more attention-grabbing (C1). A single sample *t*-test revealed that warning label #2 was significantly more attention-grabbing than label #1, $t(131) = 65.00$, $p < .001$.

A follow-up question asked the respondents to detail which elements of the crib warning label #1 (n = 1) or #2 (n = 131) made it more attention-grabbing (C2). Figure 15 details the frequencies for each element that respondents said made the label more attention-grabbing (e.g., specific wording, pictures, symbols, etc.).

Figure 15. Aspects of Crib Warning Labels #1 and #2 That Make Them More Attention Grabbing (C2)
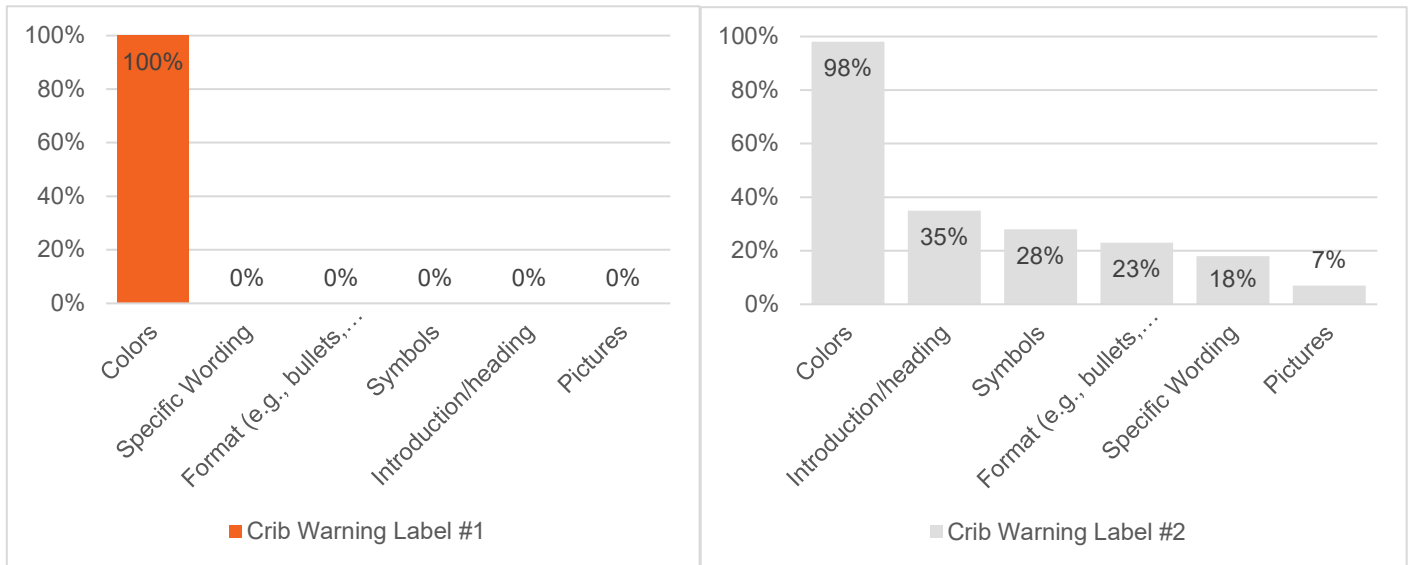
Next, respondents were asked which of the crib warning labels would be more likely to get them to follow the instructions (Q3). Nearly all of the respondents (98%) reported that label #2 would make them more likely to follow the instructions, and 2% of respondents reported the same for label #1. A single sample *t*-test revealed that label #2 was significantly more likely to get respondents to follow instructions than label #1, $t(131) = 36.65$, $p < .001$. A follow-up question asked the respondents to detail which elements of the crib warning label #1 (n = 3) or #2 (n = 129) made them more likely to follow instructions (C4). Figure 16 details the frequencies for each element that respondents said made them more likely to follow the instructions (e.g., specific wording, pictures, symbols, etc.).

Figure 16. Aspects of Crib Warning Labels #1 and #2 That Make Respondents More Likely to Follow Instructions (C4)
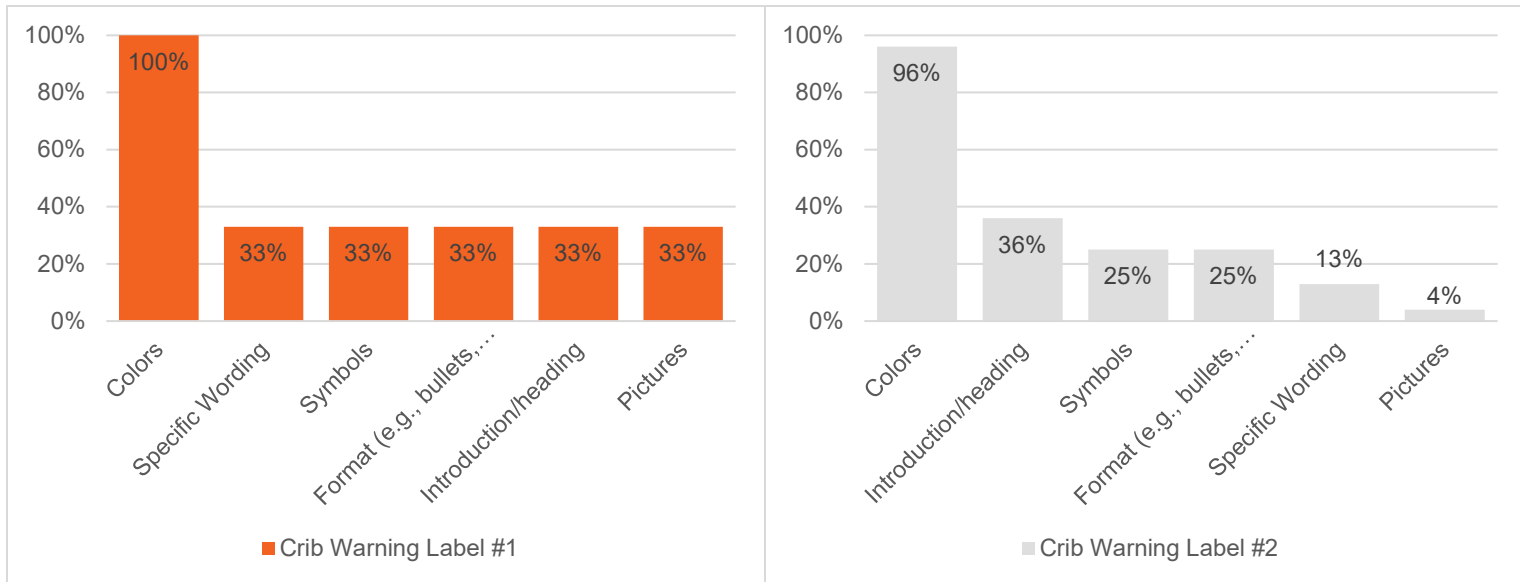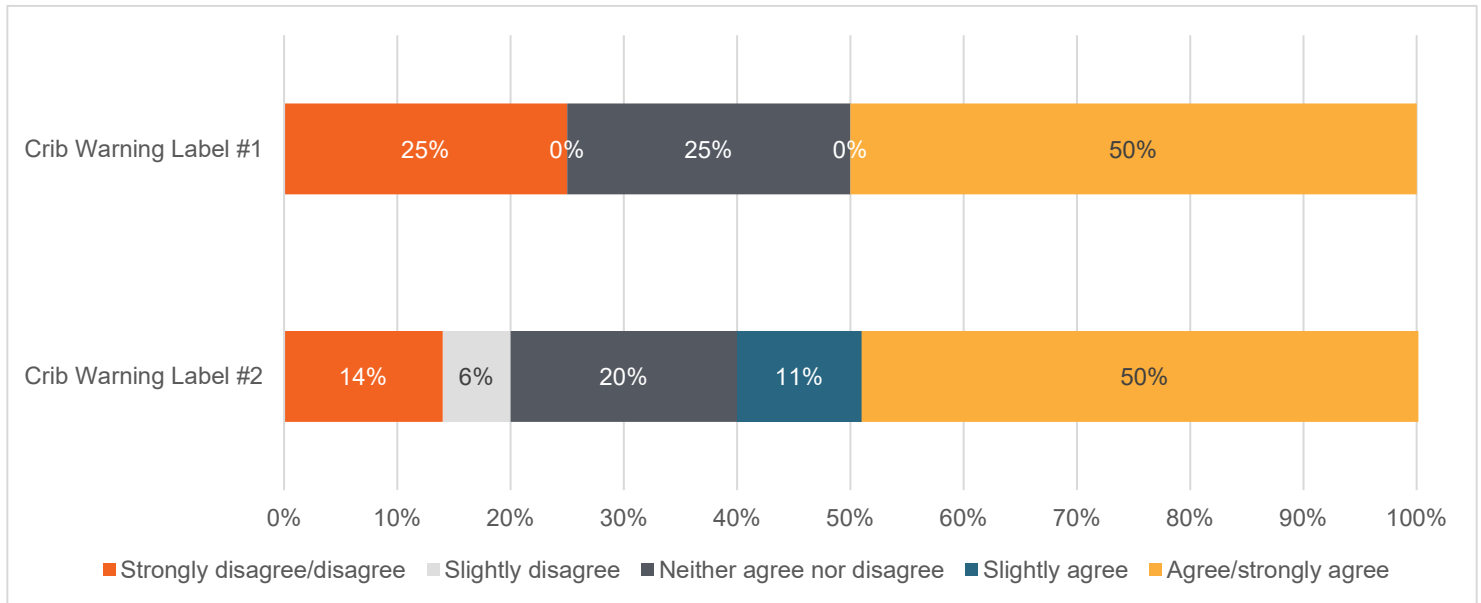

Respondents who selected specific wording as an element that would make them more likely to follow instructions expressed in an open-ended response that the bright colors in label #2 and the phrase "to prevent suffocation" in label #1 and label #2 stood out (C5).

Respondents then reported their overall preference toward one of the crib warning labels (C6). In total, 97% of respondents preferred label #2 and 3% of respondents preferred label #1. A single sample t-test revealed that respondents significantly preferred label #2 over label #1, $t(130) = 31.11$, $p < .001$.

Next, respondents indicated, on a scale of 1 to 7, the extent to which they felt confident in their own ability to follow the instructions of their preferred label (1 = not at all confident, 7 = very confident; C7). Respondents on average reported that they are confident in their ability to follow instructions for label #1 ($M = 6.75$; n = 4) and label #2 ($M = 6.75$; n = 127).

Lastly, the extent to which the preferred warning label gave the respondents a new way to think about putting their infant asleep was assessed using a scale of 1–7 (1 = strongly disagree, 7= strongly agree; C8). Figure 17 highlights that half of the respondents for each warning label reported that they agree/strongly agree that label #1 (n = 4) and label #2 (n = 127), respectively, gave them a new way to think about putting their infant to sleep.

Figure 17. Extent the Crib Warning Label Provided a New Way to Think About Putting an Infant to Sleep (C8)

Section C | Swing Warning Labels

Swing Warning Label #1

⚠ **WARNING**

PROTECT YOUR CHILD FROM DEATH OR SERIOUS INJURY BY:

✔ Always **securing** infant in the restraint system provided.
✔ Keeping swing seat **fully reclined until child is at least 4 months old AND can hold head up without help.**

🚫 Do not use if infant can climb/is active (approx. 9 months).
🚫 Do not leave child unattended.
🚫 Do not carry swing with infant in it.

➡ **Read product instructions before use.**

Swing Warning Label #2

⚠ **WARNING**

PROTECT YOUR CHILD FROM DEATH OR SERIOUS INJURY.

✔ **SECURE** infant in the restraint system provided.
✔ **FULLY RECLINE** swing seat until child is at least 4 months old AND can hold head up without help.

🚫 Do not use if infant can climb/is active (approx. 9 months).
🚫 Do not leave child unattended.
🚫 Do not carry swing with infant in it.

➡ **Read product instructions before use.**

Of the respondents who reviewed the swing warning labels (n = 134), 65% expressed that label #2 was more attention-grabbing and 35% stated that label #1 was more attention-grabbing (C1). A single sample *t*-test revealed that label #2 was significantly more attention-grabbing than label #1, *t*(135) = 3.58, *p* = 0.001.

A follow-up question asked the respondents to detail which elements of the swing warning label #1 (n = 48) or #2 (n = 88) made it more attention-grabbing (C2). Figure 18 details the frequencies for each element that respondents said made the label more attention-grabbing (e.g., specific wording, pictures, symbols, etc.).

Figure 18. Aspects of Swing Warning Labels #1 and #2 That Make Them More Attention Grabbing (C2)
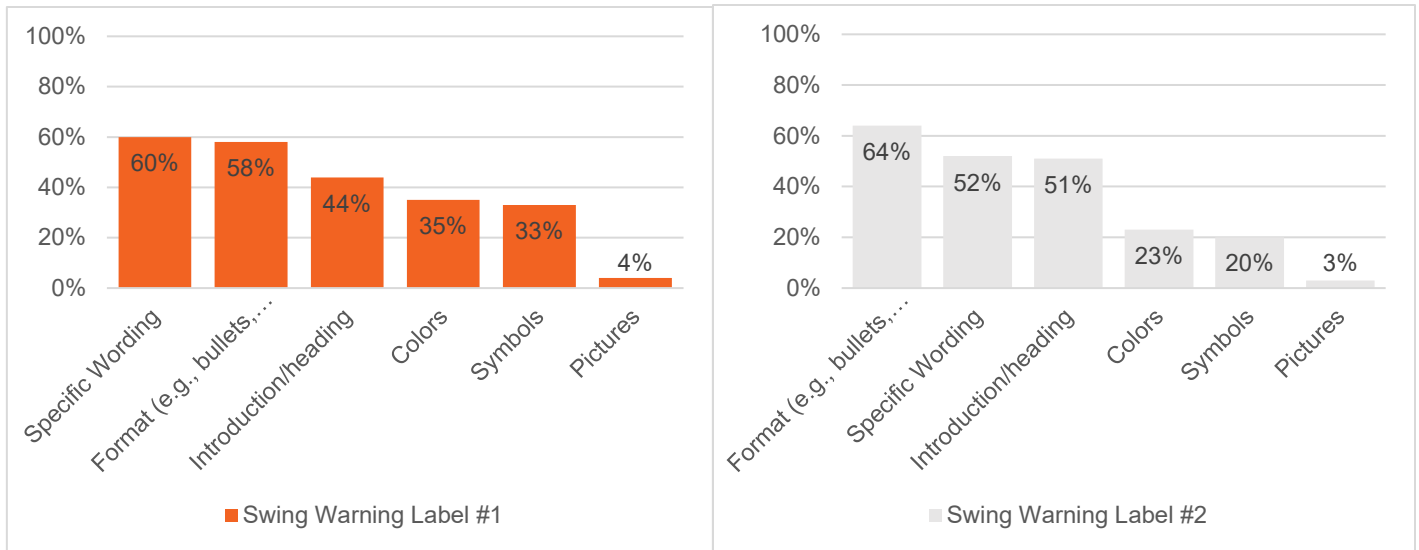
Next, respondents were asked which of the swing warning labels would make them more likely to follow the instructions (Q3). Over half of respondents (62%) reported that label #2 would make them more likely to follow the instructions and 38% of respondents reported the same for label #1. A single sample t-test revealed label #2 was significantly more likely to get respondents to follow the instructions than label #1, $t(133) = 2.84$, $p = 0.005$.

A follow-up question asked the respondents to further detail which elements of swing warning label #1 (n = 51) or #2 (n = 83) made it more likely for them to follow the instructions (C4). Figure 19 details the frequencies for each element that respondents said made them more likely to follow the instructions (e.g., specific wording, pictures, symbols, etc.)
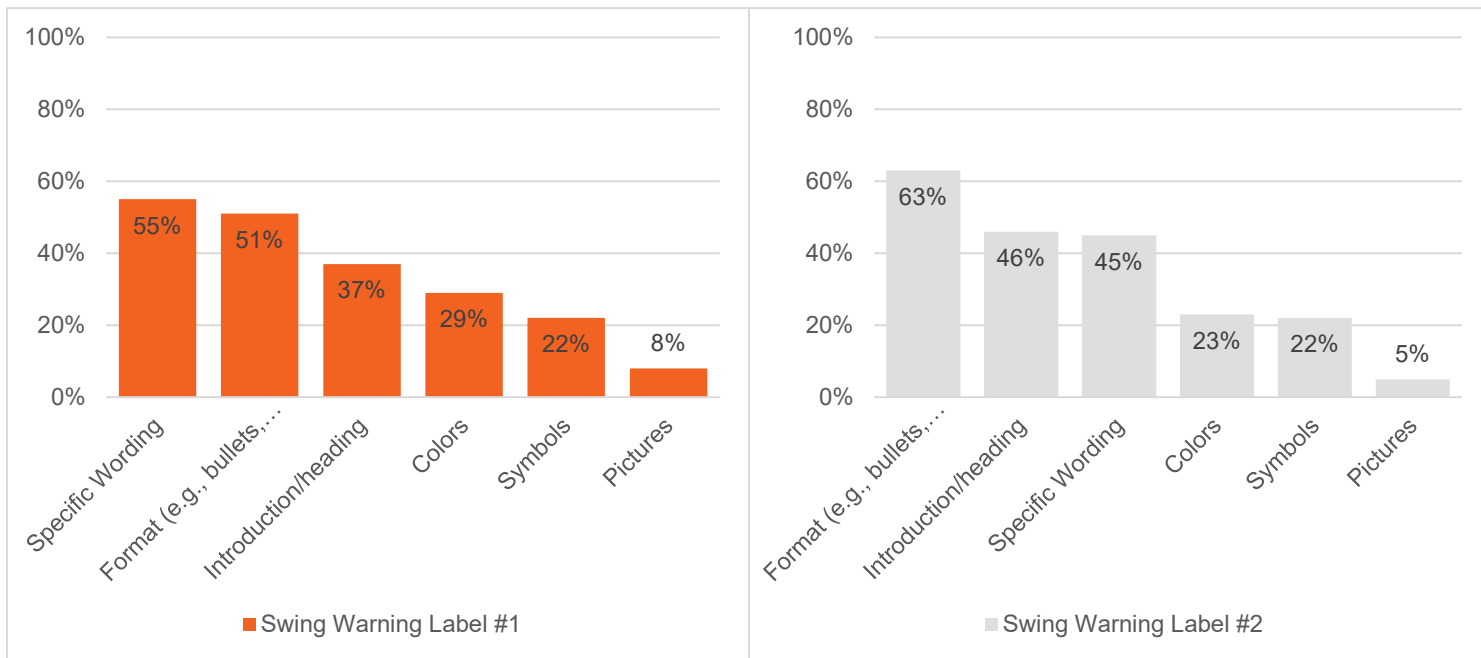
Respondents who selected specific wording as an element that would make them more likely to follow instructions expressed in an open-ended response that the bold lettering of important words in both labels, as well as the use of the terms "always" in label #1 and "secure" in label #2, stood out to them (C5).

Respondents then reported their overall preference toward one of the swing warning labels (C6). In total, 67% of respondents preferred label #2 and 33% of respondents preferred label #1. A single sample t-test revealed that label #2 was significantly more preferred than label #1, $t(132) = 4.13$, $p < .001$.

Next, respondents indicated, on a scale of 1 to 7, the extent to which they felt confident in their own ability to follow the instructions of their preferred label (1 = not at all confident, 7 = very confident; C7). Respondents on average reported that they are confident in their ability to follow instructions for label #1 ($M = 6.73$; n = 44) and label #2 ($M = 6.81$; n = 89).

Lastly, the extent to which the preferred warning label gave the respondents a new way to think about putting their infant asleep was assessed using a scale of 1–7 (1 = strongly disagree, 7= strongly agree; C8). Figure 20 highlights that over a third of the respondents for each warning label reported that they agree/strongly agree that swing warning label #1 (n = 44) and label #2 (n = 88), respectively, gave them a new way to think about putting their infant to sleep.

Figure 20. Extent the Swing Warning Label Provided a New Way to Think About Putting an Infant to Sleep (C8)

Section C | Bassinet Warning Labels

Bassinet Warning Label #1

Bassinet Warning Label #2

Of the respondents who reviewed the bassinet warning labels (n = 133), 59% expressed that label #2 was more attention-grabbing and 41% stated that label #1 was more attention-grabbing (C1). A single sample *t*-test revealed that label #2 was significantly more attention-grabbing than label #1, $t(132) = 2.02$, $p = 0.05$.

A follow-up question asked the respondents to detail what about bassinet warning label #1 (n = 55) or #2 (n = 78) made it more attention-grabbing (C2). Figure 21 details the frequencies for each element that respondents said made the label more attention-grabbing (e.g., specific wording, pictures, symbols, etc.).

Figure 21. Aspects of Bassinet Warning Labels #1 and #2 That Make Them More Attention Grabbing (C2)
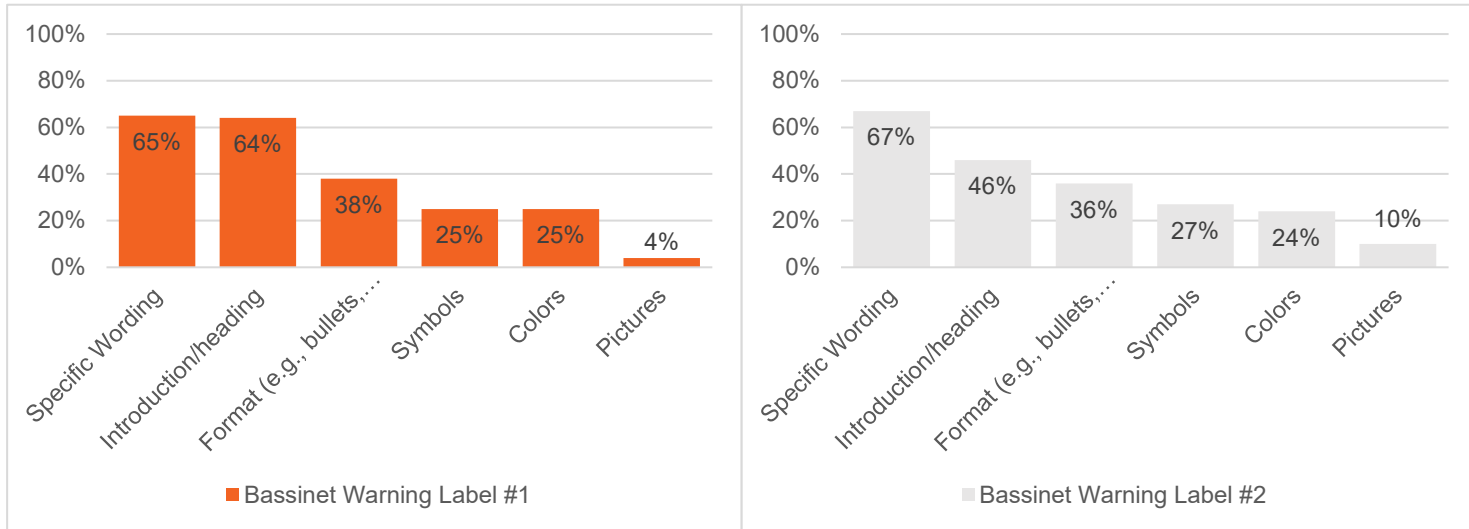
Next, respondents were asked which of the bassinet warning labels would make them more likely to follow instructions (Q3). Over half of the respondents (62%) reported that label #2 would make them more likely to follow the instructions, and 38% of respondents reported the same for label #1. A single sample *t*-test revealed label #2 was significantly more likely to get respondents to follow instructions than label #1, $t(132) = 2.75$, $p = 0.007$.

A follow-up question asked the respondents to further detail which elements of bassinet warning label #1 (n = 51) or #2 (n = 82) would make them more likely to follow the instructions (C4). Figure 22 details the frequencies for each element that respondents said would make them more likely to follow instructions (e.g., specific wording, pictures, symbols, etc.).
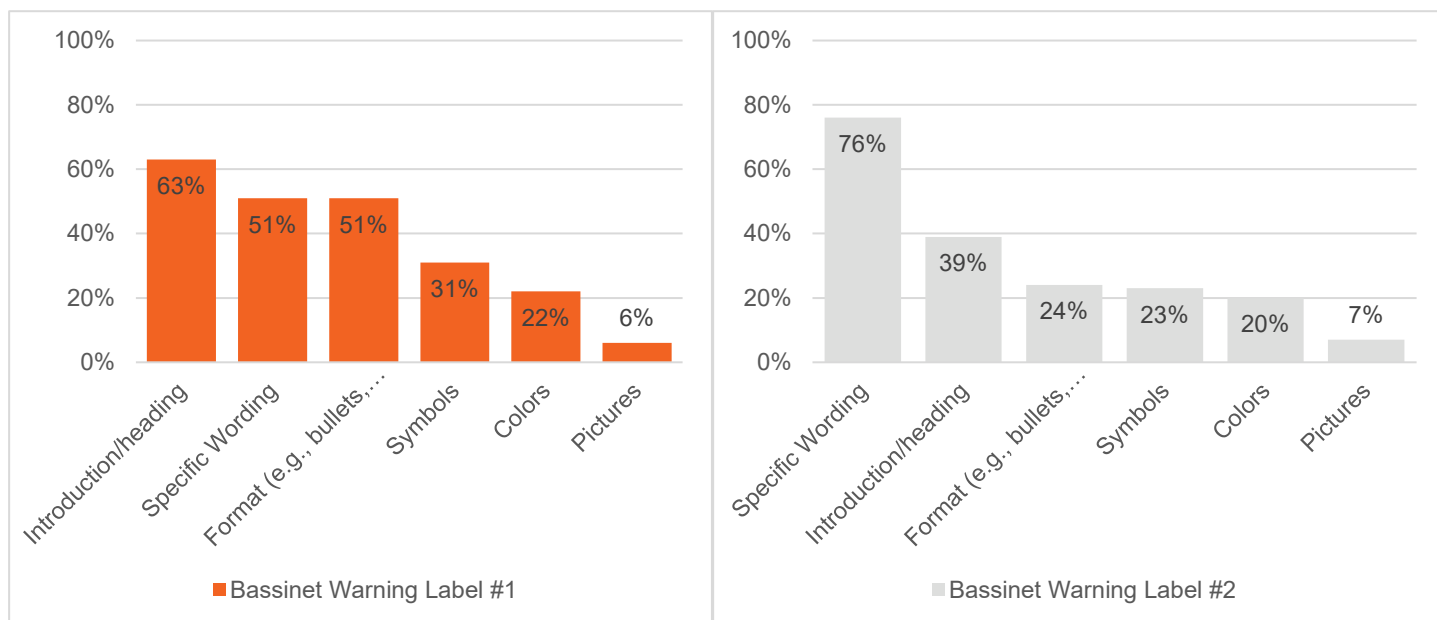
Respondents who selected specific wording as an element that would make them more likely to follow instructions expressed in an open-ended response that starting label #2 with "suffocation" and using the phrase "do not" in label #2 stood out (C5). Additionally, a few respondents expressed that the direct and authoritative commands in both warning labels made it easier to read and quickly understand what the label was conveying.

Respondents then reported their overall preference toward one of the bassinet warning labels (C6). In total, 61% of respondents preferred label #2, and 39% preferred label #1. A single sample *t*-test revealed that label #2 was significantly more preferred than label #1, t(132) = 2.57, p = 0.01.

Next, respondents indicated, on a scale of 1 to 7, the extent to which they felt confident in their own ability to follow the instructions of their preferred label (1 = not at all confident, 7 = very confident; C7). Respondents on average reported that they are confident in their ability to follow instructions for label #1 (*M* = 6.71; n = 52) and label #2 (*M* = 6.79; n = 81).

Lastly, respondents reported the extent to which the preferred warning label gave the respondents a new way to think about putting their infant asleep. This was assessed using a scale of 1–7 (1 = strongly disagree, 7= strongly agree; C8). Figure 23 highlights that over a third of the respondents (for each warning label) reported that they agreed/strongly agreed that label #1 (n = 52) and label #2 (n = 81) gave them a new way to think about putting their infant to sleep.

Figure 23. Extent the Bassinet Warning Label Provided a New Way to Think About Putting an Infant to Sleep (C8)
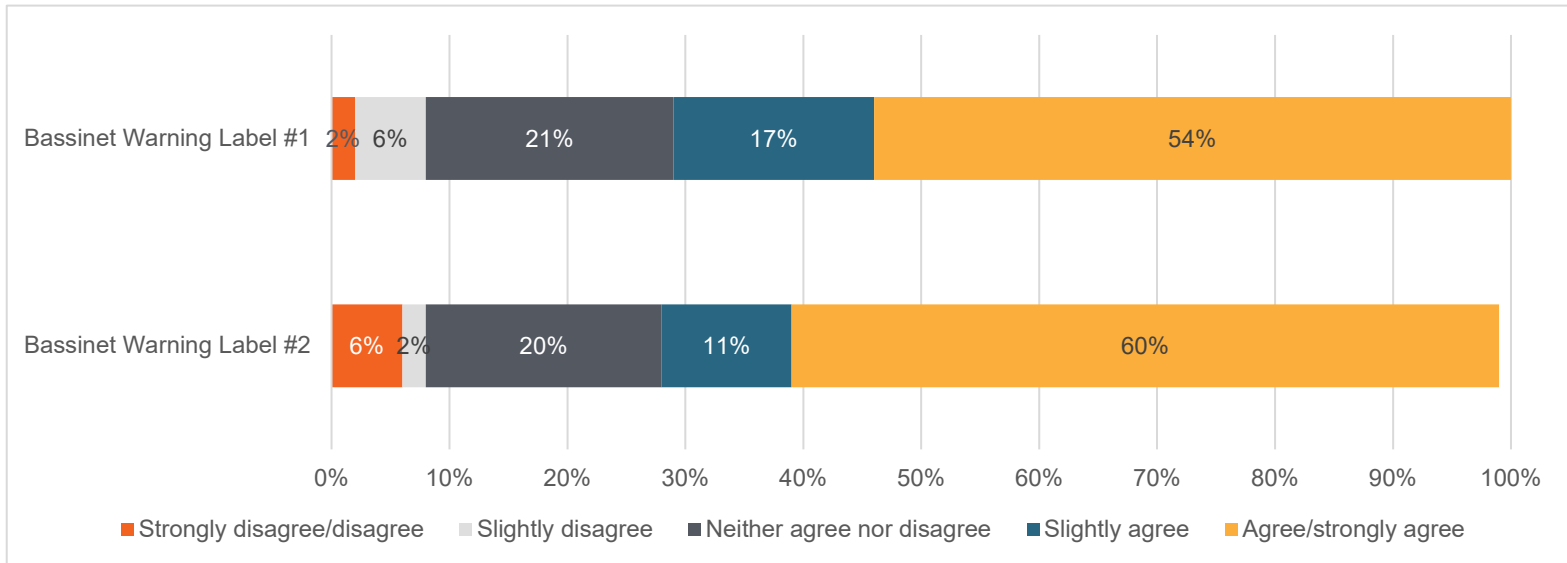
Warning Label Beliefs (Section D)

After comparing warning labels, respondents were next shown a series of statements to better understand their personal beliefs related to warning labels. Respondents reported how true a series of statements related to warning labels were using a 7-point scale (1 = not at all true; 7 = very true). Figure 24 highlights the average mean of responses for both parents and grandparents.

Figure 24. Warning Label Beliefs (D1)

Shorter warning labels do not provide enough information to know how to use the product safely. — Grandparents 3.67, Parents 3.73

Shorter warning labels make it easier to follow instructions. — Grandparents 5.27, Parents 4.94

If warning labels were more eye-catching, I would pay attention to them. — Grandparents 4.73, Parents 4.72

I usually pay attention to infant sleep product recalls. — Grandparents 6.31, Parents 5.67

There are so many infant sleep safety guidelines that it is hard to know which to follow. — Grandparents 3.22, Parents 3.33

When it comes to infant sleep safety recommendations/guidelines, I usually trust warning labels most. — Grandparents 5.77, Parents 5.52

When it comes to infant sleep safety recommendations/guidelines, I usually trust my friends and family most. — Grandparents 3.71, Parents 3.94

When it comes to infant sleep safety recommendations/guidelines, I usually trust my pediatrician. — Grandparents 6.07, Parents 6.10

All warning labels for infant products contain the same information. — Grandparents 3.22, Parents 4.10

Warning labels are put on infant products to protect the manufacturer from being sued by consumers. — Grandparents 4.97, Parents 5.26

Warning labels are put on infant products to help prevent an accidental death or injury from occurring. — Grandparents 6.76, Parents 6.46

■ Grandparents ■ Parents

Conclusion

Survey findings support many of the qualitative research findings we heard throughout earlier phases of research (IDIs, focus groups). Caregivers typically rely on their pediatricians for information about how to best care for their infants. Additionally, many caregivers typically only read warning labels once before using a product for the first time. As a result, they appreciate clear, concise, and well-formatted warning labels that are colorful and attention-grabbing.

Results from survey sections B and C highlight these preferences. All updated warning labels that were tested earned relatively high perceived effectiveness (PE) scores—scores that measure responses to a range of key metrics used to assess effectiveness. During A/B testing of labels, several significant differences were seen in results comparing two versions of one label. This A/B testing allows for a more nuanced understanding of what works well in labels and what does not work as effectively. In general, labels that were colorful, had selective bolding or emphasized words such as death or strangulation, were significantly preferred and resulted in respondents thinking differently about putting an infant to sleep. Specifically, these findings were apparent in comparisons of the handheld carrier, crib, swing, and bassinet labels.

Chapter 5: Discussion, Recommendations, and Future Research

Discussion and Recommendations

Caregivers are inundated with messaging regarding infant sleep safety. This is apparent through our past formative research, as well as throughout each phase of this study. As a result, trusting sleep safety messaging, whether in the form of warning labels or elsewhere, becomes more and more difficult for caregivers. This is particularly true for grandparents and older caregivers who may have raised their own children during times where safety recommendations were different than they are currently. Therefore, it is important that when messaging is speaking to infant sleep safety, it is direct, concise, evidence-based, and informative.

The content analysis revealed that the content of the warning labels tended to fall into two categories, namely specifications about the negative consequences of using the products in the non-recommended way, and particular action steps about how to use the products safely. During IDIs, participants said the loss frame messages (i.e., fear appeals) were more attention getting than the gain frame messages were, but that the risk needed to be quantified. Also, they expressed needing visuals to understand some of the risks and specific action steps to avoid placing their children in harm's way. Focus groups helped understand nuances in the ways participants understand label messaging, while results from survey findings highlight that caregivers often only look at warning labels once, for a short time, before using a product for the first time.

As a result, ensuring that the content of labels is resonant, attention-grabbing, and motivates behavior is critical. Warning labels that include color in the heading, a clear 'warning' demarcation, and some type of symbols or visuals tended to perform strongly in survey analysis. In addition, bulleting, bolding, and other straightforward formatting resonated with participants across phases of research. Labels that included a clear set of actions to take, written in command form (i.e., a call to action), were rated highly (findings which were consistent with earlier phases of research during this project). Caregivers reported being more motivated to act when the steps are clearly laid out for them. During IDIs and focus groups, numbers or statistics providing evidence-based support were attention-grabbing and motivated respondents to follow instructions. This idea of the quantification of risk also resonated with participants during other phases of research.

Warning labels that were most effective during testing were concise. However, there are some statements or ideas that would benefit from supplemental information (e.g., the statement "infants have suffocated in gaps between extra padding and side of the bassinet"). Respondents were generally confused by this statement and wanted more information about how to avoid this negative consequence. For information like this (i.e., information that might be best conveyed with

a 'how-to' video or other visualization), QR codes or links to websites could enhance instruction adherence. Respondents responded well to the label with the QR code and, as was heard throughout IDIs and focus groups as well, caregivers often mentioned that they would appreciate seeing some type of video that detailed instructions.

Future Research

Because caregivers are constantly flooded with information regarding infant sleep safety and often do not know which information sources to trust, leveraging existing relationships with pediatricians could be beneficial in increasing warning label adherence. Throughout all phases of research, participants continuously mentioned that they will often talk to their child's doctor when they are trying to figure out what is best for them. Survey findings further emphasize the trust that caregivers place in their pediatricians.

Establishing a partnership with pediatricians (or, potentially the American Academy of Pediatrics) to help caregivers understand the purpose and intent of warning labels may help increase their adherence to these warning labels. As was continuously brought up throughout discussions, caregivers often think that warning labels are put on products by manufacturers so that they can protect themselves from liability if something negative were to happen. Caregivers do not have the fundamental understanding that many warning labels are coming from an external source and truly exist to help them protect their children. If pediatricians were able to communicate this to caregivers very directly, perhaps caregivers would be more likely to adhere to labels. We recommend that there is an opportunity for future research with pediatricians as well as for the development of a communication-based strategy in this space. Speaking with doctors and pediatricians (e.g., through in-depth interviews) to understand how they are talking with caregivers about infant safety would provide insight as to how to better communicate with this audience. Providing pediatricians with straightforward and direct talking points and materials about sleep safety and warning labels could help them structure their conversations with caregivers (particularly new parents) and equip them with the knowledge needed to adequately follow instructions on warning labels.

Appendix A: IDI Discussion Guide

Warning Label Comprehension and Interpretation by Consumers for Children's Sleep Environments:
In-Depth Interview Discussion Guide

Research Objective: Conduct in-depth interviews (IDI) with adults (parents and grandparents) to investigate consumers' comprehension of warning label language, what resonates most with them, and what behaviors are associated with their understanding of the labels. Specific focus will include what awareness consumers have about warnings related to infant sleep environments, what their understanding is of warning label messages, how they differentiate warning labels, what specific words or phrases resonate with them better than others, and what changes they recommend. Additional discussion will focus on perceived barriers and misperceptions that impact child safety.

NOTES TO REVIEWER:
This discussion guide is not a script and therefore will not be read verbatim. The moderator will use these questions as a roadmap and probe as needed to maintain the natural flow of conversation.
Moderator instructions are highlighted in yellow.

Session Overview: Total time—60 minutes

SECTION A: Introduction and Icebreaker (5 minutes) The moderator will explain the purpose of the research, present the ground rules, and allow participants to ask any questions.
SECTION B: Behaviors Associated with Infant Sleeping (5 minutes) This section will assess participant perceptions of infant sleeping more generally, including their current behaviors regarding infant sleeping practices and products that they use.
SECTION C: Knowledge, Attitudes, and Awareness of Infant Sleep Safety and Warning Labels (20 minutes) Barriers, misperceptions, as well as general understanding and awareness of infant sleep safety will be assessed. Participants will be asked to share their recollection of warning label content and if and how they use this information.
SECTION D: Warning Label Content Comparison (25 minutes) Participants will view sleep product warning labels and share their perceptions, understanding, and thoughts related to the content. They will also compare labels side-by-side and be asked about which they perceive to be more effective.
SECTION E: Conclusion (5 minutes) Moderator ensures that all questions are answered and all comments have been heard.

Section A. Introduction and Icebreaker (5 minutes)

Thank you for speaking with us today, your time is greatly appreciated. My name is _____, and I work for Fors Marsh Group, which is an independent research company. This means that I'm here to listen to you and what you have to tell me, and I have no stake in how you respond. Today, we would like to hear from you about infant sleeping practices and sleep product warning labels.

We will have about 60 minutes for our discussion. Before we get started, I want to go over a few general rules for our discussion today:

- First, there are no wrong answers and I am not here to evaluate or judge you. My whole purpose is to hear your perspectives, opinions, and experiences.

- What we talk about here is confidential. That means your name will not be associated with anything you say in our reports and your responses will not be linked to your identity in any way.

- Your participation is voluntary and you have the right to withdraw from the study at any time. You don't have to answer every question if you don't want to. If you need to go to the restroom during the discussion, please feel free to do so.

- There are some people from the research team who are listening and taking notes so I can be present in our discussion. Even though people are listening, please speak openly about your opinions and experiences. We want to learn from you, so it is important that you share your honest opinions.

- We are also video recording and audio-recording this session. I will be speaking with a lot of people for this project, and it will be impossible for me to remember everything that is said in these interviews. The audio files will be transcribed, but any information that could identify you will be removed from the transcripts. At the end of our discussion, our research team will write a report and will refer to the recordings and transcripts when writing the report.

- Please turn your cell phone off or switch it to silent mode.

Do you have any questions before we begin?

Great, let's get started.

Section B. Behaviors Associated with Infant Sleeping (5 min)

So to start off our discussion, I'd like to learn a little more about your background as a caregiver. First of all, I'd like to confirm that you are a parent/grandparent of an infant child under one year of age, is that correct? What is an activity that you like to do together?

[PARENTS]

- How old is your infant?
- How many other children do you have?
    - (If any) How old are they?
- Who typically puts your infant to bed at night?
    - What does that process look like? (Probe on interaction with sleep product)
- Where does your infant sleep? (Probe for room and product)
    - What about daytime naps? (Probe on interaction with sleep product)
- What is typically in your infant's sleeping area? (Probe on blankets, toys, pillows, pads, etc.)
    - (If they mention blanket, probe for swaddle or cover, thin or thick/quilted/fluffy.)
- What position do you typically place your child in on these sleep surfaces?
    - For what reason(s) do you choose this (these) position(s)?

[GRANDPARENTS]

- How old is your infant grandchild?
- How many other grandchildren do you help to take care of?
    - (If any) How old are they?
- How often do you care for your grandchild?
- When you look after your grandchild, are they typically in your house or are you at the home where the child/children live(s)?
- How often do you put your grandchild to bed at night?
    - What about nap time?
- When you put them to bed, what does that process look like?
- Where does your grandchild sleep when you are watching them?
- What is typically in your grandchild's sleeping area? (Probe on blankets, toys, pillows, pads, etc.)
    - (If they mention blanket, probe for swaddle or cover, thin or thick/quilted/fluffy.)
- What position do you typically place your grandchild in on these sleep surfaces?
    - For what reasons(s) do you choose this (these) position(s)?

Section C. Knowledge, Attitudes, and Awareness of Infant Sleep Safety and Warning Labels (20 minutes)

Ok great. So now we're going to shift gears a little bit to talk about sleep safety.

- Thinking generally about infant sleep safety, what comes to mind when I say infant sleep safety recommendations or guidelines?
  - What recommendations or guidelines are you aware of? (Probe for details on infant position, adding items to sleep environment.)
- How did you learn about these recommendations or guidelines? (Probe on sources such as social media, hospital, pediatrician, other parents, and family.)
- Is there anything confusing or unclear about these recommendations or guidelines?
  - What could be done to make them clearer?
- Which specific recommendations or guidelines do you prioritize?
  - For what reasons?
- Are there some guidelines you do not always follow when it comes to putting your infant/grandchild to sleep?
  - For what situations/reasons?
- I'd like you to imagine that you are using a brand-new infant sleeping product that you are unfamiliar with.
  - What sources of information would you use to learn about how to use this product?
  - [Probe on using the instruction manual, warning labels, or other sources of information about the product – from manufacturer and elsewhere.]
  - What would you do with the warning labels on the product?
    - [If reading]: For what reasons would you read the warning labels?
      - How often would you refer back to the warning labels after first starting to use the product?
    - [If ignoring]: For what reasons would you not read the warning labels?
    - [If removing]: For what reasons would you remove the labels?
  - What would make you more likely to pay attention to the warning labels? Where should the warning label be placed to make you pay attention?
  - What would make you more likely to follow the instructions in the warning labels? [Probe to understand if wording changes, visuals, bolding, etc. would make them more likely to pay attention and adhere]

- What types of products do you use to put your infant to sleep? (Probe to obtain comprehensive list.)
- Do you add anything to the sleep environment and if so, what?
  - What are the reasons you add these products?

- What other products does the infant fall asleep in?
    - If the infant falls asleep in these products, are you likely to leave them there or move them?
- How is the child's napping environment similar or different from their overnight sleeping environment?
- Do you use the restraints provided in these environments where available? (Such as bouncer seat, swing, handheld carrier)
    - In what situations do you use or not use the restraints?

I'd like to show you a few images of a variety of products, to make sure we're talking about the same things.

[Share screen with participant to show list of products and accompanying pictures.]

- How much attention do you typically pay to warning labels for these products?
    - For what reasons do you pay attention/not pay attention to these labels?
    - [If paying attention] Generally, what grabs your attention most on these labels?
    - To what extent do you follow the messaging in the labels?
- Thinking of all of the products you use, what warnings can you recall?
    - (If needed) Warning information could appear on labels attached to the products or in the instruction manual.
    - To what extent do the warnings in these labels fit with the sleep guidelines we previously discussed?
    - Of these products, are there any that have multiple warning labels? How are they different from each other?
- How often do you read the warning label information for these products?
    - For what reasons?
- How often have you referred back to the warning label information on these products?
    - For what reasons?
- How similar or different are the warning labels for these different products that you use?
    - What information is the same?
    - What information is different?

Section D. Warning Label Comparison (25 minutes)

[Activity: Warning Label Review]

Next, we'd like your feedback on a few different warning labels for sleep products.

I'm going to give you a few minutes to read the text in the warning label. If you could please think aloud as you're reviewing it and share whatever thoughts or reactions you have while you're looking at it, that would be great.

- What is your initial reaction to this warning label?
- How would you describe the content from this label in your own words?
- What is the main message of this warning label?
- What do you think is the purpose of the label?
- What, if anything, did you learn from reading this label?
  - To what extent did the label remind you about something that you had previously learned?
- What information from the label stands out, if any?
  - What was the most important information?
  - What was the least important information?
  - What information from this label is different from what you see in other warning labels?
- What information did you find to be the most useful or helpful?
- How believable do you find this label to be?
- What is your understanding of the risks mentioned in this label?
  - What risk stands out to you more than others, if any?
- How easy or difficult is this information to understand?
  - What makes it easy or difficult to understand?
- What, if anything, was unclear about this information?
  - What remaining questions do you have about the information?
- What are your thoughts on the amount of content in this label?
  - Too much? Too little?
- What are your thoughts on the format of this label?
  - [Probe on color, design, use of different capitalization, fonts, etc.]
- What changes, if any, would you suggest for this label?
  - What, if anything, would you add to the label? For what reasons?
  - What, if anything, would you remove from the label? For what reasons?
  - What formatting changes would you recommend? For what reasons?

- How would reading this change how you use the product?
- What instructions in this label would you follow?
    - For what reasons?
- What instructions in this label would you not follow?
    - For what reasons?

- Between these two labels, which do you prefer?
    - For what reasons?
- What do you think is the difference in the messages of these warning labels?
    - What makes them different?
- Which label is more informative?
    - What makes it more informative to you?
- Which label is easier to understand?
    - What makes it easier to understand?
    - What words or phrases are easy to understand? Which are harder?
- Which label is more attention-grabbing?
    - What makes it more attention-grabbing to you?
    - What words or phrases are attention-grabbing? Are words or phrases in one label more attention-grabbing than another?
- Which label's formatting do you prefer?
    - For what reasons?
- Which label do you think would be more effective?
    - For what reasons?
- Where would you like to see these warning labels placed? For what reasons?
    - How would you change [label not as effective] to make it more effective? What language edits would you make?
- Are you more likely to follow the instructions in one of these labels?
    - For what reasons?

- What would make you more likely to pay attention to a specific product's label?
- What would make you more likely to follow the guidelines in a warning label?
- What would make you less likely to follow the guidelines?
- How similar or different are the warning labels on these different kinds of products?
- What are your thoughts on the use of images or icons in warning labels?

Section D. Conclusion (5 min.)

This has been a very helpful session. Thank you so much for taking time out of your day to talk with me and share your perspectives and experiences. Before we wrap up, is there anything else that you would like to share or that we might have missed?

 [TIME PERMITTING] If you don't mind, I am going to take just a moment to see if my team has any additional follow up questions for you. [Ask any additional questions.]

Ok, thank you again for your time. Are there any final questions? If not, you are free to go. Have a wonderful day!

Label-Specific Probes

Full-Sized Cribs

- How do you feel about the length of these two labels? <mark>[Probe to understand if length affects comprehension]</mark>
- What parts of the labels stand out most to you?

Bassinets

- What do you think about the use of different font sizes? How does that impact how you read the label? What about capitalization?
- How do you feel about the white background versus black background?

Playards

- How do you feel about the length of these two labels? [<mark>Probe to understand if length affects comprehension] affects comprehension]</mark> What parts of the labels stand out most to you?
- How do you feel about the white background versus black background?

Inclined Sleepers

- How do you feel about the length of these two labels? <mark>[Probe to understand if length affects comprehension]</mark> What parts of the labels stand out most to you?
  - Which of the hazards stands out most to you?
- What do you think about the use of bolding? How does that impact how you read the label? What about capitalization?

Swings

- What do you think about the use of bullet points in the second label? Do you have a preference for paragraphs in the first label versus bullet points in the second?
- How do you feel about the black and white versus the color?

Bouncer Seats

- How do you feel about the length of these two labels? <mark>[Probe to understand if length affects comprehension]</mark> What parts of the labels stand out most to you?
- What do you think about the use of underline? How does that impact how you read the label? Bolding? Capitalization?

Hand-held Carriers

- How do you feel about the length of these two labels? <mark>[Probe to understand if length affects comprehension]</mark> What parts of the labels stand out most to you?
- What do you think about the different images in each of these labels?
- What do you think about the use of capitalization? How does that impact how you read the label? Bolding?

Rockers

- How do you feel about the length of the labels? ==[Probe to understand if length affects comprehension]== What parts of the labels stand out most to you?
- What do you think about the use of capitalization? How does that impact how you read the label? Bolding? Bullet points?
- How do you feel about the use of color in the first label versus the black and white in the second?

Consumer Product Safety Commission (CPSC): Warning Label Comprehension and Interpretation by Consumers for Children's Sleep Environments

Initial Summary of Findings
July 10, 2020

Methodology and Purpose

Eight remote in-depth interviews (IDIs) were conducted from Monday, January 13, through Friday, January 17, 2020. The interviews were 60 minutes each and were segmented by caregiver status (parent and grandparent) and age of child (2–5 months and 6–11 months). The purpose of the IDIs was to assess:

- Consumer awareness of warnings and public messages about infant sleep environments;
- Consumer understanding of the differences between warning labels on various infant sleep products;
- How consumers differentiate warning labels and what differences there are in how consumers comprehend warning labels;
- Which words or phrases on warning labels resonate well with consumers, and which do not;
- How the language of the warning labels should be edited to make them more effective; and
- How caregivers understand the messages on warning labels, and what their reported behavior would be after reading them.

Following the interviews, nine online focus groups were conducted from Monday, June 1, through Friday, June 5, 2020. Focus groups lasted approximately 90 minutes and were segmented by caregiver status (parent and grandparent) and age of child (2–5 months and 6–11 months). A total of 53 caregivers participated. The purpose of the focus groups was to assess:

- Which message frame most effectively communicates potential dangers of a product to consumers;
- Which message frame has the most potential to influence safe product usage;
- Potential unintended consequences of the message frames being tested;
- How clear, resonant, persuasive, believable, and motivating each message frame is to the consumers;
- If the message frames change consumers' perceptions of safety messaging; and
- If the message frames make consumers more likely to adhere to safety messaging and change their behavior as a result.

This memo outlines preliminary research findings and recommendations for warning label adjustments. Warning labels, once refined, will then be tested in an online copy testing survey. Detailed findings from the IDI, focus group, and survey analysis will be included in a final comprehensive written report, which will include recommendations for improving warning labels, as well as general recommendations for safety messaging improvements.

IDI Findings

The IDIs began with a general assessment of participant behavior when putting an infant to sleep. The most common behaviors reported by both parents and grandparents were:

- Placing the infant in a crib or playpen for sleep;
- Laying the infant on their back or stomach when putting the infant in the sleep product; and
- Covering the infant with a blanket.

Both parents and grandparents reported being aware of numerous safety recommendations, stating they had heard about them from pregnancy apps, pediatricians, the internet (e.g., Google), friends and family, or from previous experiences with other children. The most common safety recommendations that caregivers reported being aware of included:

- Do not put anything in the crib (e.g., toys) that the infant could choke on if put in their mouth;
- Always put the infant on their back when laying them down to sleep; and
- Monitor the infant when using the product.

Although participants reported being aware of many safety messages they also discussed that many messages have contradicted each other over the years, making it hard to know which ones to follow. For example, years ago, guidelines used to say to place an infant on their stomach, but guidelines now say to place an infant on their back. To combat dealing with conflicting messaging, participants mentioned prioritizing some over others. These included:

- Not putting the infant in a sleep product with too many items (e.g., toys) to prevent choking;
- Placing the infant in a sleep product to prevent the infant from falling or getting hurt while co-sleeping;
- Assessing the appropriate position in which to lay the infant down to sleep (i.e., on their backs); and
- Keeping up-to-date on recalls.

However, some participants reported that there are a few guidelines that they are aware of that they have decided to not follow. For example, some mentioned they put toys in the infant's crib because they believe the infant is strong enough to push the toy off their face if needed (e.g., if it were suffocating them), or they lay the infant down on their stomach instead of back because that is the only way the infant will fall asleep.

Warning Labels

The discussion then focused on participants' knowledge, attitudes, and behaviors regarding infant sleep product warning labels. The majority of participants reported that they have seen or read a warning label on an infant sleep product. The most common reasons that participants said they read warning labels included:

- To better understand the product before using it with an infant;
- To know when an infant has surpassed the recommended age and weight limit for the product; and
- To understand the various advantages of using the product.

Although many participants reported reading warning labels, a few noted that they remove the label (e.g., cut it off) after reading it once because they perceive the label to be a choking hazard for the

infant (and hence, want to remove it). Additionally, several participants said they only read a warning label once or twice because the information seems like common sense and they are already aware of most of it.

Warning Label Comparisons

Next, each participant reviewed a single warning label (randomized by participant) and then compared another two warning labels side by side. There was confusion around some of the language included in the warning labels presented, particularly ones that mentioned "bottom panel" and "the gap between padding." Both of these phrases were confusing and unclear to the participants.

Participants reported that the following words and phrases caught their attention and would motivate them to follow instructions due to the fear of what would happen to their own infant if they did not. Comparisons of specific words and phrases across labels will be discussed in more detail in the final report. Words that caught participant attention and would motivate them to follow instructions included:

- "Infants can suffocate" and "infants have suffocated"
- "WARNING"
- "Never attach any additional strings or straps to the product"
- "Never leave a child unattended"

Recommendations from IDIs

During discussions, participants touched on several ways that warning labels could be enhanced to motivate caregivers to pay more attention. As such, the following recommendations for warning label enhancement are presented based on findings from IDIs:

- Use various colors (e.g., red lettering and color coding).
- Use bullets (makes the label concise and easy to read).
- Highlight crucial information.
- Add percentages (e.g., X% of infants have choked on this product).
- Use asterisks, bolding, and all-caps where appropriate throughout the label.
- Include examples of harmful incidents that have occurred with the product.
- Include information about the suggested age and weight of the infant using the product.
- Add images and illustrations when possible (e.g., what not to do and what to do).
- Make warning labels stand out more (e.g., use yellow background instead of white).

Focus Group Findings

The focus groups began with a general assessment of participants' awareness of infant sleep safety guidelines and recommendations. Common safe sleep guidelines that participants reported being aware of include:

- Not putting any additional items (e.g., toys or blankets) in the crib with the infant;
- Putting the infant on their back to sleep is the safest; and

- Avoiding risk of sudden infant death syndrome (SIDS).

Sources from which parents and grandparents reported learning about sleep safety guidelines and recommendations include:

- Friends who have babies
- Medical professionals (e.g., pediatricians, nurses)
- Facebook "mommy groups"
- Previous experience raising children
- Baby books
- Baby safety classes at the hospital
- Phone applications (e.g., *The Bump* and *What to Expect*)
- Personal research online

Grandparents frequently reported learning about current safety guidelines from infants' parents (i.e., their children). Grandparents also reported being aware that many of the safety guidelines they followed when they raised their own children are now outdated (e.g., current guidelines state to lay the infant on their back instead of their stomach).

Message Frame Testing Results

Next, participants viewed five communication approaches that could be used to develop future warning labels. The participants graded each message frame using a five-point "A" to "F" letter grade (excluding "E"), like those typically used in the American Grading System, based on overall appeal (i.e., the more they liked the message frame, the higher the grade). Results are as follows:

<div align="center">Parents</div>

Message	Grade				
	A	B	C	D	F
S *"X number of children have died (/suffered from serious injury/strangulation/suffocation) as the result of not following all of the instructions on the warning label."*	1	9	6	4	10
L *"Keep your child safe. Follow all of the instructions on the warning label."*	1	4	13	9	2
R *"Responsible parents like you follow all of the instructions on the warning label to keep their child safe."*	1	5	4	10	10
P *"You can protect your child by following all of the instructions on the warning label every time you use the product."*	3	9	14	4	0
D *"Death (/serious injury/suffocation/strangulation) to your child can occur if you do not follow all of the instructions on the warning label."*	6	12	12	0	0

Message	Grade				
	A	B	C	D	F
S *"X number of children have died (/suffered from serious injury/strangulation/suffocation) as the result of not following all of the instructions on the warning label."*	0	5	6	4	7
L *"Keep your child safe. Follow all of the instructions on the warning label."*	5	8	4	5	0
R *"Responsible parents like you follow all of the instructions on the warning label to keep their child safe."*	2	5	0	9	6
P *"You can protect your child by following all of the instructions on the warning label every time you use the product."*	0	5	10	7	0
D *"Death (/serious injury/suffocation/strangulation) to your child can occur if you do not follow all of the instructions on the warning label."*	9	7	1	0	0

As shown in the tables, Message Frame D received the most A and B grades and Message Frame R received the most D and F grades in total. Some aspects of the frames resonated with participants and other aspects were not as impactful.

- Parents disliked Message Frames R and S the most compared to other frames, but despite them being unappealing, parents still reported that both R and S would motivate them to further read the instructions on the label.
  - o Parents reported disliking the number included in Message Frame S, citing that they would be more likely to consider purchasing a product without a number on a warning label, questioning why a product with a large number would still be on the market.
- Parents reported that R is condescending/judgmental in tone due to the introductory phrase "responsible parents like you."
  - o Parents thought that the message was attempting to flatter them into following the warning label instructions. Parents reported that this message made them feel that if they did not follow the instructions, they would be labeled as an irresponsible caregiver.
  - o A few grandparents liked how the message made them feel like they should read the instructions to be responsible caregivers.
  - o Participants suggested using the term "caregivers" instead of "parents" to be more inclusive of all individuals who would read the label.
- Message Frame D resonated well with both audiences—the word "death" caught participants' attention and made them realize how permanent the effects could be if they do not follow instructions. Participants also mentioned the content of this frame was the most familiar to them (i.e., is similar to existing warning label framing), which likely impacted their perceptions.

- Message Frame L did not capture the attention of all the caregivers and was too nonspecific for a few participants. However, the phrase "keep your child safe" did motivate a few caregivers to continue reading, because they indeed wanted to keep their child safe.
- Caregivers connected with Message Frame P in the sense that the message is positive and did not make them feel as if they were being guilted into following the instructions on the warning label.
    - The phrase, "you can protect your child" provided a good reminder to caregivers of what to do to protect their child.

The final report will further detail participant perceptions of the message frames, including each frame's effectiveness in communicating potential dangers, as well as its potential to motivate adherence to safety messaging and safe product usage. In addition, the final report will go into detail regarding how clear, resonant, persuasive, believable, and motivating each message frame is, with participant quotes to support each component.

Recommendations from Focus Groups

Participants offered numerous thoughts on where to place a warning label on a product and how the label should look. Our initial recommendations on formatting and placement of the warning label include:

- Place warning labels on the product's box (as well as on the product) in obvious places where they would always be seen.
- Use colors and fonts that are common on warning labels (e.g., yellows and reds, bolded "WARNING" titles).
- Add a QR code to the label that would take readers to a video with further instructions.
- Include images of what to do and what not to do with the infant sleep product.

Participants also offered feedback about the message frames that they felt would enhance warning labels and increase consumers' adherence to them. Our initial recommendations for improving the warning label messaging include:

- Use words that are inclusive of all individuals who may be caring for the infant (e.g., "caregivers").
- Use an inclusive tone within the warning label.
- Use attention-grabbing words that emphasize the seriousness of the message (e.g., "death").
- Consider combining elements of message D and P and speaking to both negative and positive consequences in labels;
    - The use of the term "death" in message D not only caught the attention of caregivers, but also motivated them to adhere to the warning label; and
    - The use of the phrase "you can protect your child" in message P was a positive reminder of what steps caregivers can take to protect their infant.
    - Literature suggests that when messages emphasize negative consequences (or are 'fear-inducing'), they can be effective, but only when individuals feel confident in their ability to perform the activities needed to avoid the negative consequences. A potentially effective way to assist individuals in feeling that they can avoid the

negative consequence is equipping them with information on how to avoid it (e.g., also emphasize how to achieve positive consequences). [1,2]

Copy Test Stimuli Recommendations

Recommendations for copy testing stimuli were developed based on the findings from both IDIs and focus groups. They can be found in the supplemental PowerPoint deck.

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[1] Tannenbaum, M. B., Hepler, J., Zimmerman, R. S., Saul, L., Jacobs, S., Wilson, K., & Albarracín, D. (2015). Appealing to fear: A meta-analysis of fear appeal effectiveness and theories. *Psychological bulletin*, *141*(6), 1178–1204. https://doi.org/10.1037/a0039729.

[2] Jonathan van 't Riet, Robert A.C. Ruiter, Marieke Q. Werrij & Hein De Vries (2010) Self-efficacy moderates message-framing effects: The case of skin-cancer detection, Psychology & Health, 25:3, 339-349, DOI: 10.1080/08870440802530798

Appendix C: Focus Group Discussion Guide

FORS|MARSH
GROUP

CPSC Sleep Warnings: Message Idea Testing Focus Group Discussion Guide

Objective: To conduct focus groups with parents and grandparents to determine which message idea(s) is/are most effective at increasing adherence to infant sleep product warning labels. Findings will support the refinement and enhancement of warning label copy that will ultimately be tested in a copy testing survey. Results of these phases of research will ultimately help CPSC effectively convey critical information about product warnings.

NOTES TO REVIEWER:
This discussion guide is not a script and therefore will not be read verbatim. The moderator will use these questions as a roadmap and probe as needed to maintain the natural flow of conversation. Question probes are *italicized*.
Moderator instructions are highlighted in yellow. Materials are highlighted in green.

Session Overview: Total time—90 minutes

SECTION I: Introduction and Icebreaker (3.5 min.) The interviewer will explain the purpose of the focus group, present the ground rules, and allow participants to ask any questions.
SECTION II: Infant Sleep Safety: Baseline Knowledge and Awareness (8 min) Moderator asks participants questions to get a sense of their baseline awareness, knowledge, attitudes and beliefs about infant sleep safety and associated warning labels.
SECTION III: Message Idea Testing (50 min.) Moderator presents ideas to participants in a randomized order and facilitates discussion around initial reactions, message idea comprehension, relatability, memorability, and intentions.
SECTION IV: Message Idea Comparison (10 min.) Moderator asks participants questions to help them determine which of the ideas they perceive to be most effective.
SECTION V: Imagery Activity (15 min.) Moderator asks participants to complete an activity in which they will select a warning label idea and write down any words or phrases they think best fit within this idea, as well as depict any imagery they associate with it.
SECTION V: Closing (3.5 min.) Moderator ensures that all questions are answered, and all comments have been heard.

Section I: Introduction and Icebreaker (3.5 min.)

Thank you so much for coming today. I appreciate you taking the time to talk to me. My name is⎯⎯⎯⎯, and I'll be moderating this group. I work for a company called Fors Marsh Group, which is a private research company based in Arlington, VA.

I am conducting this group on behalf of the U.S. Consumer Product Safety Commission, but I do not work for them, so I have no stake in how you respond.

The purpose of this group is to get your feedback on some potential messaging strategies for sleep product warning labels.

Before we get started, I would like to review a few ground rules:

- There are no wrong answers. Our whole purpose for being here is to hear what you honestly think, so please speak up, especially if what you have to say is different than what someone else is saying. You may represent what a lot of other people who aren't here think.

- We are not here to come to agreement, and we recognize that you all may have different perspectives on the issues we discuss. And that's OK! Please keep an open mind as we talk today and respect each other's opinions.

- We are audio and video recording this discussion, that way, I don't have to worry about writing everything down. These audio recordings will be used to create transcriptions of the focus group to be analyzed for our report; however, we will not be including any names or other identifying information in the transcripts and the recordings will be deleted once the transcripts are created.

- Everything we talk about here is confidential; your individual responses will not be linked back to you in any way and your name will not be associated with anything you say in our reports. On that note, we ask that you (1) only use your first names during the group today and (2) not discuss anything we talk about today outside of this room. Does anyone have any questions?

- Your participation is voluntary. This means that you do not have to answer a question if you do not wish to and that you may stop participating at any time. Also, you do not have to disclose any information that you are uncomfortable sharing. If someone shares something personal or an opinion that you disagree with, we ask that you please remain respectful of one another, even when voicing your own differing

opinions. At the end of today's session, we will provide some resources to you for your own information.

Now, I'd like to kick us off with some introductions. Let's go around the room and each person share your name and your favorite thing to do with your [child/grandchild].

Section II: Infant Sleep Safety: Baseline Knowledge and Awareness (8 min.)

As I mentioned, today we are going to talk about infant sleep safety warnings. To kick off our discussion, I'd like to do a couple of exercises with you all.

- What comes to mind when I say, "infant sleep products"?
    - What infant sleep products do you typically use for your infants?
        - During naps? At nighttime?

- What comes to mind when I say, "infant sleep safety"?
    - What guidelines or recommendations are you aware of?
    - Where have you heard about these?

- What comes to mind when I ask you to think of warning labels related to infant sleep products?
    - What warning labels are you aware of? What is included in them?
    - Where do you typically see warning labels?
    - Which parts of warning labels do you think are most effective?
        - Which instructions do you typically follow in the warning labels?
    - Are there warning labels you don't believe?

Great, thanks for all your input. This leads us into what the major part of our day today is going to be about—assessing strategies for the best ways to develop warning labels. For the purposes of today's discussion, I'm going to show you a few examples of warning labels that might be seen on or attached to an infant sleep product. This way we will all be on the same page moving forward. [Moderator passes around printouts of warning labels.] So for the purposes of today's discussion, when I say warning label, this is what I am generally referring to. Please take a minute to look these over, and then pass them back this way to me.

⚠ WARNING

FALL HAZARD
To prevent falls, **stop using the product when** infant:
- Begins to roll over, or
- Can pull up on sides (approximately 5 months).
- **Always** use on floor. Never use on any elevated surface.
- **Always** use restraint system.

SUFFOCATION HAZARD
Infants have suffocated:
- On added pillows, blankets and extra padding.
  - Only **use the pad provided** by the manufacturer.
  - **Never** place extra padding under or beside infant.
- When trapped between product and adjacent surfaces.
  - Only use in *(manufacturer to insert type of product)* when it is securely attached.
  - **Never** use *(manufacturer to insert type of product)* in different product.
  - **Never** use in contained areas (for example, crib, play yard) or next to vertical surfaces (for example, walls and dressers)
- When product was placed on a soft surface and tipped over.
  - **Never** use on a soft surface (for example, bed, sofa, cushion).
- **Always** place child on **back to sleep**.

Section III: Message Idea Testing (50 min.)

So today, we are here to test out some different ways that infant sleep product warning labels may be developed in the future.

I am going to show you written descriptions of a few different ideas (or, communication approaches) and ask for your feedback to determine which you feel would be the best starting place for developing a warning label. Please keep in mind that what I am going to show you are merely written descriptions of messaging strategies/approaches and don't represent the actual words that you might see on a warning label. Think of this as the big idea behind the warning label. With that in mind, we ask that you try to provide us feedback on the concepts overall and not get too bogged down evaluating specific words or small details.

Please flip over the other stack of documents in front of you. The document on top of the stacks says, "Ideas for How to Develop Warning Labels." Under it, there are [x] different ideas. For each idea, we will read it together and then I want you to take a few minutes to complete the [c o l o r] Rating Worksheet [Moderator holds up worksheet]. Each worksheet has the following questions:

- For #1, grade the idea. Just like in school, "A" means awesome, you really like the idea and "F" means it failed, you didn't like the idea at all.

- For #2, select how the idea made you feel. If there is something missing from the list, you have the space to write it in.

- For #3, answer a few questions to tell us about your reactions to the idea. Just check the box that answers how much you agree or disagree with each statement.

After you finish the worksheet, we will discuss your reactions to the idea as a group. Later, after we have seen all the ideas, we will then compare them to each other.

[The moderator will introduce the first idea and allow time for participants to complete the Rating Worksheet, at least a couple of minutes. The moderator will then lead a group discussion about the idea].

Initial Reactions	• What are your initial thoughts about this idea? • What did you like about this? • What did you dislike about this?
Main Point/Take Away	• What is this idea trying to say? • To what extent does this idea match your existing knowledg about infant sleep safety? • What, if anything, is confusing or unclear about the idea?
Relatable	• How relevant does this idea feel to you? • What would you change to make this feel more relevant to you?

Believable/Compelling	• How true or believable is this idea? What are some reasons you feel that way?
	
	    ▪ What, if anything, would you change or add to make it more believable?
	
	• How compelling is this idea?
	
	    ▪ What are some reasons you feel that way?
	
	    ▪ What, if anything, would you change or add to make this idea more compelling?

Grab Attention/Memorable	• How likely is it that this idea would grab your attention? How so? ▪ How easy would it be for you to not pay attention to this idea?

	• How likely would you be to remember this idea? ▪ What about it would stick with you?
Segment-Specific Probes	Parents: • For those who have other children—how do your past experiences influence your thoughts on this idea? • Are there any elements of this idea that are new or surprising? Grandparents: • What elements of this idea are familiar to you? In what way? • How similar or different are elements of this idea to messages you heard when you were a new parent?

Intentions	• Would this idea make you more or less likely to follow the instructions on the warning label?
	
	• How much, if at all, did this idea change the way you think about sleep safety?
	
	• How much, if at all, did this idea make you want to learn more about infant sleep safety guidelines?
	
	    ▪ Where would you go to look for more information?
	
	• How likely would you be to share this idea with others?
	
	    ▪ How would you share it?
	
	    ▪ What would you share?

• Idea-Specific Probes	

Section IV: Comparison of Ideas (10 min)

Now, I'd like for us to compare the different ideas that we walked through together and would like you to complete this [color] Ranking Worksheet [holds up worksheet].

- The first question asks which idea was your favorite.
- The second asks which would stick with you the most, even if it is not your favorite.
- The third question asks which idea would make you most likely to follow the instructions on a warning label.

[Review Responses] Who would like to share which idea they selected for…?

Outside of the ideas we shared, are there other ways that you think warning labels could be developed that could motivate people like you to pay more attention to them and follow the instructions on them?

Section V: Imagery Activity (15 min.)

As you may have guessed from the ideas that we just walked through, our goal is to understand how to better develop and present sleep product warning labels.

I'd like your input on how you envision these ideas coming to life. To help us out, I have a worksheet I would like you to complete. I'd like you to imagine that we are going to be developing a new warning label to place on an infant sleep product, for the sake of consistency, let's say a [product].

- In the Box #1, please write the letter that you wrote as your answer to number 3 on the Ranking Worksheet you just completed. This is the letter of the idea that would make you most likely to follow the instructions on a warning label).
- In Box #2, please write down any words/phrases you think would fit well with this message idea. If you were creating a warning label based on this idea, what words or phrases would be on it? What introduction sentence would really grab your attention?
- In Box #3, please write where you think this should be placed on the [product] (e.g., if this idea was eventually used to develop a warning label, where should the warning label go?)
- In Box #4, I'd like you to write down any colors you think should be included in the label, and write or draw any images or visuals that you think should be included to help convey the message.

Section VI: Closing (5 min.)

[TIME PERMITTING: MODERATOR FALSE CLOSE] I appreciate your feedback. Before we wrap up, I am going to consult with my colleagues to see if there is anything I missed to ask or if there are any follow-up questions. [ASK ANY ADDITIONAL PROBES]

[THANK AND CLOSE] Thank you for taking the time to speak with me today and participate in this focus group.

Do you have any questions for me or is there anything that you would like to share that you didn't have the chance to share yet?

Before you go, we have a couple resources here about infant sleep safety if you are interested in learning more.

Thank you again for your participation. Enjoy the remainder of your day.

Messaging Ideas

Negative Consequences

1. Death (/serious injury/suffocation/strangulation) to your child can occur if you do not follow all of the instructions on the warning label.

2. X number of children have died (/suffered from serious injury /strangulation/suffocation) as the result of not following all of the instructions on the warning label.

Positive Consequences

3. Keep your child safe. Follow all of the instructions on the warning label.

Self-Efficacy

4. You can protect your child by following all of the instructions on the warning label every time you use the product.

Social Norms

5. Responsible parents like you follow all of the instructions on the warning label to keep their child safe.

Infant Sleep Behaviors

Category		Places infant to sleep on their back	Ensures sheets fit snug around mattress	Swaddles infant	Places a blanket under or over the infant in the sleeping area	Places infant to sleep on their side	Co-sleeps with infant
Race	American Indian or Alaska Native (*n* = 14)	93%	93%	29%	43%	29%	14%
	Asian (*n* = 25)	88%	64%	44%	32%	16%	20%
	Black or African American (*n* = 58)	71%	66%	38%	45%	28%	34%
	Native Hawaiian or other Pacific Islander (*n* = 3)	100%	67%	67%	67%	33%	33%
	White (*n* = 582)	83%	75%	39%	31%	18%	18%
	Some other race (*n* = 19)	68%	58%	32%	21%	26%	42%
Ethnicity	Hispanic/Latino (*n* = 59)	78%	66%	32%	42%	25%	39%
	Not Hispanic/Latino (*n* = 619)	82%	74%	40%	31%	19%	17%
Income	Below $30,000 (*n* = 106)	78%	64%	31%	32%	20%	31%
	$30,000-$49,999 (*n* = 121)	79%	69%	32%	32%	18%	21%
	$50,000-$99,999 (*n* = 260)	84%	78%	40%	33%	18%	17%
	$100,000-$149,999 (*n* = 109)	83%	72%	48%	38%	20%	16%
	$150,000 or more (*n* = 57)	84%	82%	46%	25%	23%	12%
Education	Did not graduate high school (*n* = 24)	83%	58%	21%	46%	21%	25%
	High school graduate or GED (*n* = 135)	74%	68%	40%	35%	21%	21%
	Some college (*n* = 141)	82%	71%	33%	33%	17%	21%
	2-year college or technical training (*n* = 102)	80%	75%	36%	26%	17%	18%
	Bachelor's degree (*n* = 185)	86%	79%	44%	31%	18%	16%
	Master's or other advanced degree (*n* = 89)	85%	78%	45%	33%	26%	20%