**Supplemental Figure 1**. **Images shown to participants at the start of their survey to provide context for where the warning labels would be placed. Actual brands shown during the focus group have been blurred. Participants were told that gray boxes indicate warning label placement.**

 

**Supplemental Figure 2. Sample of participant design ideas for a graphic that would be posted on or near sugary beverages in a college setting to discourage SSB consumption**

| **Theme** | **Sample of designs** | |
| --- | --- | --- |
| **Sugar content of SSBs** |  |  |
|  |  | **[Text at top:** “Visually show sugar content (average).”  **Text below each beverage:** “# amount (tsp or tbsp).”  **Text at bottom:** “Show the amount of sugar in the form of sugar cubes or a pile of sugar in a serving size.”] |
| **Health conse-quence** |  |  |
| **Health conse-quence (cont’d)** |  |  |
| **Warning or hazard symbol** |  |  |
|  |  |  |
| **Water promotion** |  |  |
| **Other** |  |  |

**Supplemental Table 1. Image and icon mock-ups and exemplary quotes from focus group discussions evaluating the mock-ups**

| **Themes** | **Mock-ups shown in focus group** | **Quotes: Positive appraisals** | **Quotes: Critical appraisals** |
| --- | --- | --- | --- |
| Sugar with cup, bottle, or can | b  a  a  a | Cup of sugar cubes:   * When I think of Coke or a lemonade, I think…that's refreshing, not a liquid form of [sugar] cubes; that's kind of disgusting. * It is more visual. It’s literally showing you are drinking a cup of sugar.   Can pouring out sugar:   * Because you can visualize how much sugar is in a can. I think it does take an effect because the action of pouring out the sugar makes you think about the intake of sugar.   Bottle next to sugar cubes:   * It shows you exactly how much was in there. it's not an exaggeration. It's telling you exactly with the amount next to it. | Cup of sugar cubes:   * [When] I first saw it, I didn't realize it was just sugar. I thought it was a glass of ice. * I thought they were ice cubes.   Sugar cubes in general:   * I thought the sugar cubes…were tofu. I think icons are easy to misinterpret if they are not super clear. |
| Warning triangle | b  a | * I like the ambiguity to it. I see the exclamation mark—it’s a warning, so I go, “what is it trying to tell me?” I am already super aware there is sugar in it, so I would ignore the sugar sign. But I see the warning sign, it is more likely to catch my attention. * if I see a bunch of words, I'm mostly going to look at the symbol. And I think [the triangle with exclamation], that would grab my attention the most. * I like the triangle ones the most because they remind me of the labels in the chemistry labs. I thought “toxic” in my mind. * I think the exclamation point and the verbiage go well together. | None |
| Octagon | a | * It's in an octagon so people would stop and think. * [Rethink your drink] is catchy. It’s nice to read or nice to put on stickers to hand out. * [Regarding all octagons with words,] I'm not going to read the entire [label text] on a regular basis, and just the words will remind me, unless I am able to like associate that icon itself to the specific message. | None |
| Daily limits | a | * It helps you visualize how much you're actually consuming versus how much you should be consuming. | * Wingstop has the same thermometer, and so I don’t understand how to read it. * They don’t tell you what [the daily sugar limit] is * You would have to figure out what it means rather than just looking at a picture. |
| Sugar | b | Sugar packets:   * I think seeing 17 packets of sugar laid out, I’m like, “wow, I’m about to drink that?” I think it’s very eye opening. | Spoons with sugar:   * Concept was cute, but with no context; it’s confusing   Sugar packets:   * There's a lot going on in the picture. It's like 17 packets of sugar, but that's something I want to see big and in my face. And if it were on a little bottle, it would be too much in that sense. But overall it is really effective, and when you see all that sugar, it at least makes me stop and think “that’s a lot.” But yeah more so on a billboard when I'm driving or something. |
| Health Consequences | b | Decayed Tooth:   * Decayed tooth: the tooth decay [was effective]. Nobody wants to have cavities * I feel like I've seen it a lot before, so it feels familiar, and like honestly people are vain. So if you tell them it'll make your teeth bad, they'll care maybe. * I think about my teeth a lot so it makes me think.   Blood sugar monitor:   * For me, the insulin was most effective for me, because last year I had really bad habits in the dining hall and I had really high blood sugar. When I went to the doctor, they were like “oh you have high blood sugar, you have prediabetes, so just watch what you are eating so you don’t reach a diagnosis.” | Decayed Tooth:   * The tooth one is harder to catch attention and makes me think of a dentist rather than nutrition.   Blood sugar monitor:   * I know for some people, that might not resonate because they don't know what you have to do if you are a diabetic…. That [icon] is just for people who are on the edge, who kind of already know what health risks there are. * I thought it was a dentist’s hand. |
| Health symbols | b  b |  | * They just don’t give me a clear image or one way to think about it. * The plus sign and the stethoscope for me is just confusing…Like I understand that it's a health-related issue, but for me it's not a medical issue…when I see this red cross, I think of Red Cross. That image is firmly branded into me, and so for me to associate [the cross] with like, “oh I need to drink healthy,” is not going to work for me. * The one’s with heart and the stethoscopes made it look like a healthy choice. * It did not make it look like it was unhealthy. It made it look like it was doctor approved soda. |
| Emojis | ba | * It’s kind of cute, and people will remember it more. People will take pictures or something. * I think this whole emoji culture is going to catch your eye more…A child isn’t going to get something they can’t read…but they can understand the facial expressions. | * I didn’t know it was a sugar cube I thought it was food or something. * They just seem so silly, and I just can't take them seriously. * They are taking the weight of the problem away. You would see this in elementary school. * When I see a heart, it just looks happy. When I saw it, I thought that it was supposed to be healthy. |
| Shapes and exclamation marks | b  b  b  b  ba    b |  | Circle:   * This would be used for tag instead of a warning. |
| General comments about icons/images |  | People are pretty lazy and don’t want to read words all the time, and if you see a graphic—something that's dangerous looking—they’ll know it’s a warning and don't necessarily have to read it. Or maybe [it will] make them more inclined to read it. |  |

aIndicates individual icons and images ranked as “most effective” ≥5 times

bIndicates icons and images that were not ranked by any participants as “most effective”