Application of the K-State Emoji Scale Across Age Groups

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The K-State Emoji Scale

Introduction

In recent years, there has been interest in the use of emojis for measuring consumers' emotional response to food products. Emojis are ubiquitous globally and do not require translation making them a valuable tool for international research and research among populations with low literacy, such as children.

The Sensory and Consumer Research Center at Kansas State University – Olathe has been working to develop an emoji-based scale. The current scale, the K-State Emoji Scale, has been validated with children in the US and China with verbal and tasted stimuli. From this research, agreement on emoji order was achieved, the scale was deemed suitable for measuring emotional response, and it was determined it can be used as a viable alternative to more traditional hedonic scales.

Objectives

- Evaluate suitability of scale for measuring emotional response
- Compared scale usage between countries and across age groups

Methodology

Central location tests on flavored potato chips were held in both Shanghai, China and Olathe, Kansas with children and and adults, respectively. Participants in China were recruited by Vantage Market Research and by the Sensory and Consumer Research Center in the United States. Each panelists scored five different samples with both the K-State Emoji Scale and a 9-point hedonic scale; kids used the P&K (super good/super bad) scale and adults used a typical 9-point scale (like extremely/dislike extremely). Samples were served on white paper plates labeled with three-digit codes and randomized across participants. Panelists were also asked about their technology and emoji use. All results were collected using Compusense Cloud and analyzed with JMP 13.

USA – Potato Chip Flavors	China – Potato Chip Flavors
Sour Cream and Onion	Tomato
Cheddar and Sour Cream	Barbeque
Sweet Southern Heat Barbeque	Seaweed
Dill Pickle	Spicy
Salt and Vinegar	Cheese

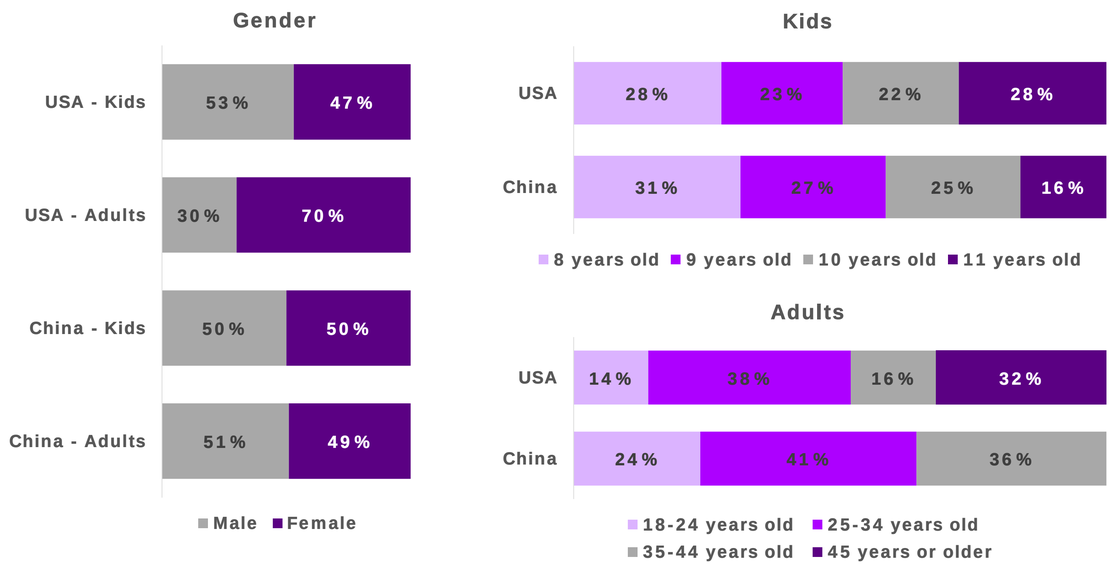
Recruit:

Children
- Ages 8-11
- Flavored potato chip consumers
- Consent of legal guardian

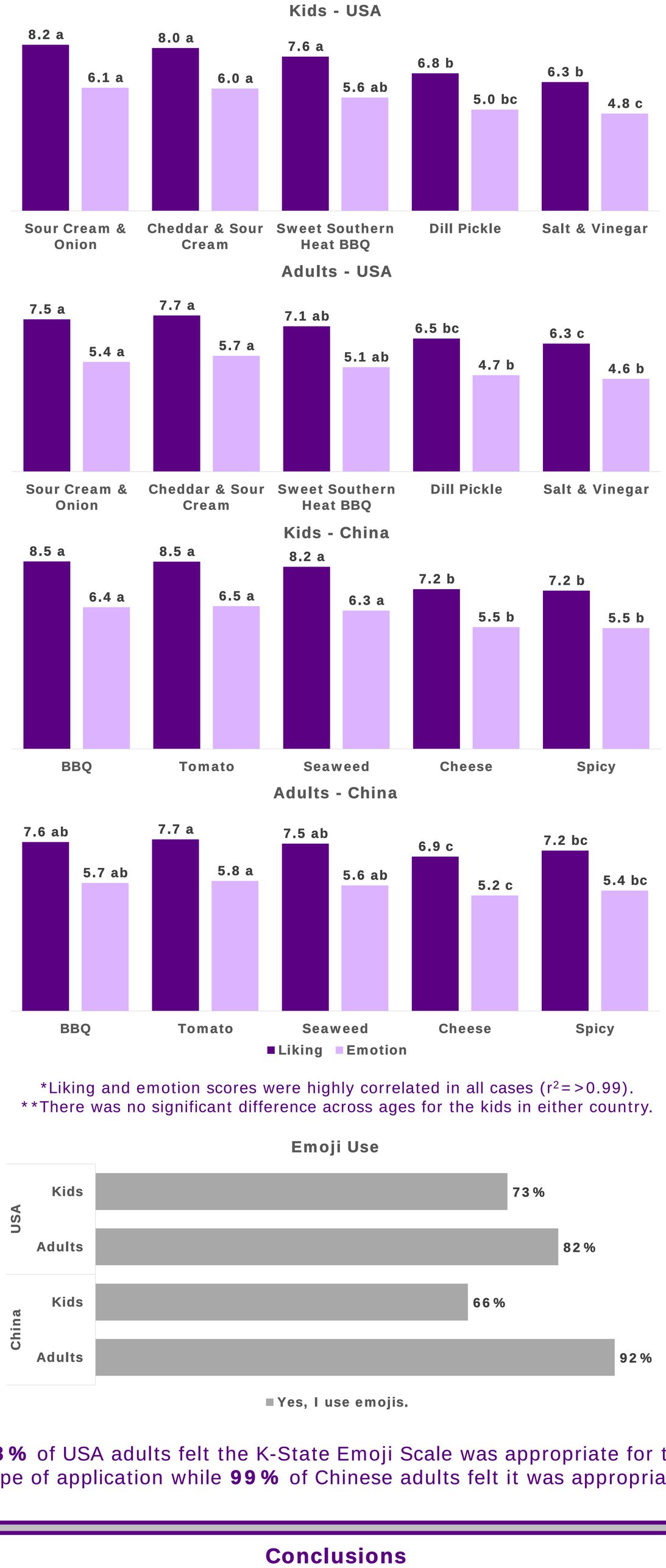
Adults
- Ages 18-65
- Flavored potato chip consumers

Compusense

Demographics



Results



*Liking and emotion scores were highly correlated in all cases (r^2=>0.99).
**There was no significant difference across ages for the kids in either country.

Emoji Use

78% of USA adults felt the K-State Emoji Scale was appropriate for this type of application while **99%** of Chinese adults felt it was appropriate.

References

1. Gallo, K. E., Swaney-Stueve, M., & Chambers, D. H. (2017). Comparing visual food images versus actual food when measuring emotional response of children. *Journal of Sensory Studies*, *32(3).*
2. Gallo, K. E., Swaney-Stueve, M., & Chambers, D. H. (2017). A focus group approach to understanding food-related emotions with children using words and emojis. *Journal of Sensory Studies*, *32(3).*
3. Swaney-Stueve, M., Jepsen, T., & Deubler, G. (2018). The emoji scale: a facial scale for the 21st century. *Food Quality and Preference, 68,* 183-190.

Conclusions

- The K-State Emoji Scale is suitable for measuring emotional response to tasted samples in both kids and adults in the USA and China.
- Participants used the scale in a similar manner in both countries and across ages.
- The scale discriminated across chip flavors in both countries and all age groups.
- The majority of participants reported using emojis outside of the study, and the majority of adults felt the emoji scale was appropriate for this application.