Supplementary Materials

FaceReader (Noldus Information Technology, Inc., Leesburg, VA) has been used to automatically code facial affect in scientific studies and consumer behavior and marketing research (Bekendam, Mommersteeg, Kop, Widdershoven, & Vermeltfoort, 2020; Danner, Sidorkina, Joechl, & Duerrschmid, 2014; Garcia-Burgos & Zamora, 2013; Lewinski, Fransen, & Tan, 2014; Yu & Ko, 2017). Therefore, there has been a strong need for validation efforts to ensure adequate validity and accuracy. Below we detail these validation efforts.

In terms of cross-validation efforts, FaceReader has been compared to the Facial Action Coding System (FACS) (Ekman, Friesen, & Hager, 2002), a gold standard for human coding of emotional facial expressions. This comparison was specifically chosen because human coding is time-consuming, which may impede its usage. Therefore, if validated, automated facial coding software can eliminate this time burden by providing valid emotion classification in an automated fashion. Recent versions of FaceReader achieved 80-95% correct classifications compared to the master coding sets used to determine FACS certification (with 16.7% representing chance performance) (Lewinski, den Uyl, & Butler, 2014; Loijens & Krips, 2016; Skiendziel, Rösch, & Schultheiss, 2019; Terzis, Moridis, & Economides, 2013). Further, studies using facial electromyography have shown that FaceReader's characterization of positive affect is positively correlated with zygomaticus activity, which characterizes activity in cheek muscles responsible for smiling, (r = .72) and that various types of negative affect are positively correlated with corrugator activity, which characterizes activity in brow muscles responsible for frowning and brow furrowing, (rs ranging from .42 to .55) (D'Arcey, 2013). Together, these studies suggest that FaceReader's classification can be rated as valid, compared to human coders and objective physiological indices.

Further, because our participants wore eye tracking glasses throughout the Hot Topics discussion, it was important to consider the effect of glasses on the sensitivity of FaceReader in categorizing facial affect. Although there is some evidence that older versions of FaceReader have experienced minor difficulties classifying facial affect for users wearing glasses (Alitalo, 2016), our concerns were assuaged for several reasons. First, research has shown that FaceReader does not display difficulty in differentially classifying the affect types used in the current study when participants are wearing glasses (Alitalo, 2016), which suggests that the use of wearable eye tracking glasses would not impact our analyses examining maternal affect as a moderator. Second, research has also shown that some of the difficulties related to the wear of glasses are due to the glare of ambient light on the lenses of the glasses (Alitalo, 2016). Because our eye tracking glasses did not have lenses, this was not a problem in the current study. Finally, and most importantly, the newest version of FaceReader (v7.1; Noldus Information Technology, Inc., Leesburg, VA) modified its classification algorithms specifically to improve its sensitivity in classifying affect when participants are wearing glasses. As detailed in the main manuscript, FaceReader now employs a second classification algorithm that does not exclusively rely on facial coding software, which means that participant characteristics such as glasses should not impede classification (Loijens & Krips, 2016).

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