



SELF ASSESSMENT MANIKIN

Self-Assessment Manikin (SAM): a non-verbal pictorial assessment technique that directly measures the pleasure, arousal, and dominance associated with a person's affective reaction to stimuli; in other words, how motivated or empowered a consumer feels.

Determining the **role of emotion on predicting consumer intent** is a challenging issue. Researchers grapple with several methodologies and measurement tools, ranging from psychological questionnaires to neurological assessments, in an effort to find the best way to support analyzing if thoughts or feelings drive consumer intent. Affective (emotional) reactions to stimuli can be tricky to accurately measure for many reasons, further complicating choosing the best tools.

For example, language can potentially bias results. A common way to assess emotion is through emotional batteries (lists of emotional words – happy, sad, irritated, etc. – for the consumer to choose from). However, these words may not fully capture what the participants are experiencing and often do not account for variations in intensity of their emotions. Non-verbal measures (measures that do not use words) such as the self-assessment manikin, SAM, prove to be a direct and quick way to measure consumer emotional reactions without introducing bias, and account for intensity. The SAM methodology is a validated measure of psychological, emotional responses to stimuli that can include images, videos, colors, sounds, and words. Having the freedom and flexibility to explore so many mediums makes SAM an ideal methodology for assessing non-cognitive emotional responses.

What is SAM? How was it developed?

SAM applies both valence (positive to negative emotion) and arousal (mild to excitement) to common dimensions that describe human reactions. Developed by Bradley and Lang in the 1980s, it utilizes graphic (picture-based) scales based on the PAD (Pleasure-Arousal-Dominance) theory of affective response. According to the PAD theory, all emotional states can be summarized through a combination of the three basic emotions within the PAD acronym that is used in SAM (Morris, Woo, Geason, & Kim, 2002). Multi-dimensional mood maps, as seen in Figure 1, are used to graphically display multiple descriptors of the three dimensions employed by PAD. **[If you are interested in learning more about HCD's patented Mood Map, check out our webinar here: <https://bit.ly/3e9Kb5k>]** This visual map provides insight into how the three dimensions can be used to represent the entire spectrum of emotional experience.

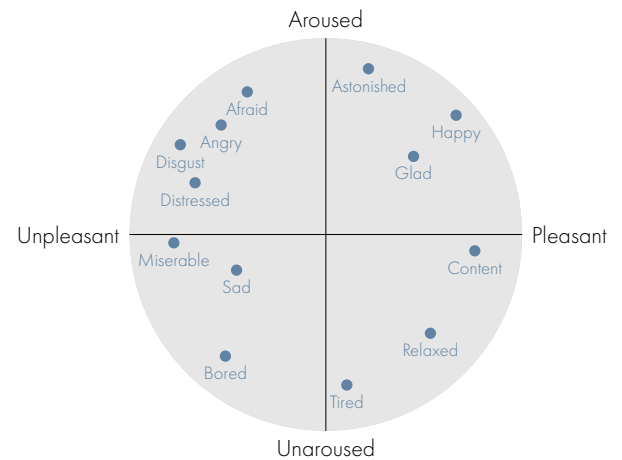
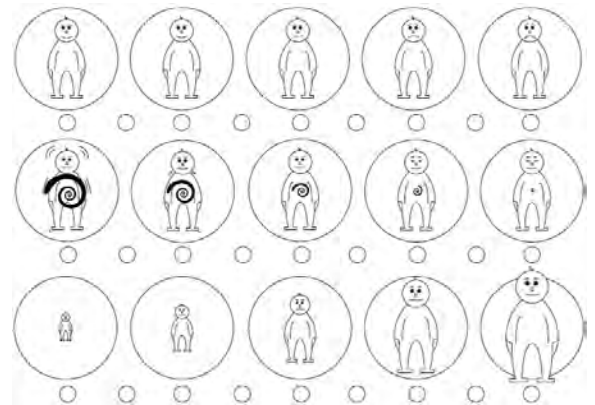


Figure 1
2D Emotional Mood map based on PAD. For example, when you feel aroused and pleasant, you could be described as "glad," "happy" or "astonished."

A third (not pictured) dimension of dominance helps to further describe and differentiate emotional states. For example, when feeling aroused and unpleasant, you could be described as feeling fear or anger. The third dimension of dominance (or motivation) reveals that you feel more dominant or motivated to act when angry, while less in control or motivated when afraid.

SAM eliminates any problems (such as bias, limited scope, and even illiterate populations) associated with verbal measures by using pictorial scales (Morris et al., 2002). This methodology makes research more inclusive for non-English speakers, children, and participants with a language disorder or clinical syndromes. SAM also can be used regardless of cultural differences as well as globally due to the exclusion of words. The pictorial approach directly links the experience to the perception stage, minimizing opportunity for any outside influence.

The simplicity of SAM makes it very easy for participants to use –participants typically complete ratings in less than 15 seconds (Morris et al, 2002). Working with such a quick time frame allows for numerous stimuli to be tested and less participant wear out. The fast pace of responses keeps the participant attentive which is another major advantage. This proves to be a strong, non-cognitive approach suitable for reporting on intuitive emotions.



Are there any disadvantages of SAM? 🗑️

Specific emotions are not measured or differentiated with this approach but rather the intensity of the different underlying dimensions. Other critiques regarding SAM include focused sample size. The number of participants used in academic SAM studies have been criticized for being too small, though there are no restrictions on using larger samples. Academic SAM studies have also received criticism for using predominantly college students, and therefore not generalizable (Bradley, M. M., & Lang, 1994). HCD has the ability recruit the population desired for each study; however, all researchers should be cautious going forward to be sure to recruit the proper size and population specific for each study.

How is SAM administered?

SAM uses graphic representations for behaviors. Rather than words, images are used to represent general emotional states. When using SAM, there are three rows with five different images that illustrate levels of an emotion (Bradley et al., 1994). Underneath the pictures are a point scale (typically 9 points) for participants to respond where his or her emotion would best align. For example, pleasure in the SAM model ranges from a smiling face to a frowning face. The images for arousal go from a picture of a body being very awake to asleep. Dominance grows from a small to a large figure to represent control. These images, as seen in Figure 2, have been proven to be scientifically valid in conveying various types of emotional behavior.

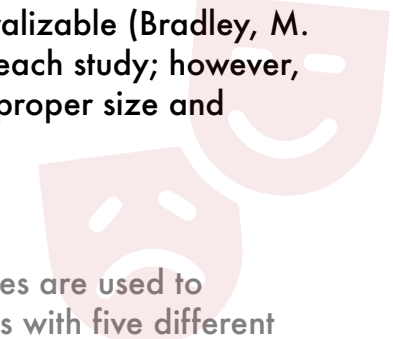


Figure 2

Self-Assessment Manikin (SAM).
Pleasure (Top), Arousal (Middle) and
Dominance (Bottom) SAM.

Emotional Impact Composite

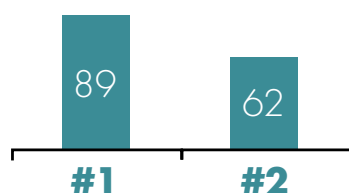
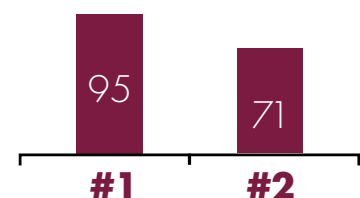


Figure 3

Examples of the Emotional Impact Composite (Top) and the Empowerment Score (Bottom) that are commonly used to report SAM results.

Empowerment



The results of SAM studies can be presented with both individual and combined data. Perceived Emotional Impact demonstrates the reporting for the overall sample studied, while individual findings are expressed in ways such as the Empowerment Score. Statistical and comparative tests help provide evidence for showing the impact of the stimulus. **The analysis can identify unique differences among similar experiences**, thus providing a better understanding of the participant's response and reaction. By determining the right tools for the right question, there can be a lot of information gained from intuitive research.

Applications of SAM can provide insight into a product's positioning, a creative strategy and evaluate success of brand harmony.

IF YOU HAVE ANY ADDITIONAL QUESTIONS ABOUT HOW TO IMPLEMENT SAM INTO YOUR RESEARCH QUESTIONS, **PLEASE CONTACT INFO@HCDI.NET OR CALL 908.788.9393.**

CITATIONS

Bradley, M. M., & Lang, P. J. (1994). Measuring emotion: the self-assessment manikin and the semantic differential. *Journal of behavior therapy and experimental psychiatry*, 25(1), 49-59.

Morris, J. D. (1995). Observations: SAM: the Self-Assessment Manikin; an efficient cross-cultural measurement of emotional response. *Journal of advertising research*, 35(6), 63-68.

Morris, J. D., Woo, C., Geason, J. A., & Kim, J. (2002). The power of affect: Predicting intention. *Journal of Advertising Research*, 42(3), 7-17.