EMOTIONS AROUND THE WORLD

A cross-cultural framework for emotion measurement

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IPSOS VIEWS

GAME CHANGERS

Ipsos

The Ipsos Emotion Framework provides a structured and scalable approach for capturing and quantifying emotional responses across countries and cultures. **"**

Due to its critical role in customer experience, advertising effectiveness, brand building and other drivers of business growth, great attention has been placed on emotions in recent decades. New advances in cognitive sciences and neuroscience have also ushered in new insights and approaches for their measurement.

During this time, researchers have explored different approaches to capture the emotional response of the consumer, including measuring physiological signals of respondents (i.e. physical bodily sensations) and looking at the brain's electrical responses. While valuable advances have been made, there is still a need for clarifying what is meant by emotions and how to capture this in valid, scalable cost-effective ways. The disruption of human lab studies during Covid accelerated progress on this front.

This paper provides an overview of the **Ipsos Emotion Framework** - which builds on academic research - and clarifies how we are approaching the domain of emotions, and how this can be measured in valid, comprehensive, scalable, and affordable ways. This framework can be applied to help us understand commonalities and differences between cultures and in turn help us predict reactions to marketing stimuli, as well as experiences and social events. Bringing these pieces together allows for planning more impactful action based on the insights around emotion.

IPSOS EMOTION FRAMEWORK

WHAT IS EMOTION?

Everyone has an understanding of what emotions are, but when we move to measuring them, it is revealed that each of us are viewing them differently from each other. This can be seen by comparing several definitions found in respected dictionaries.
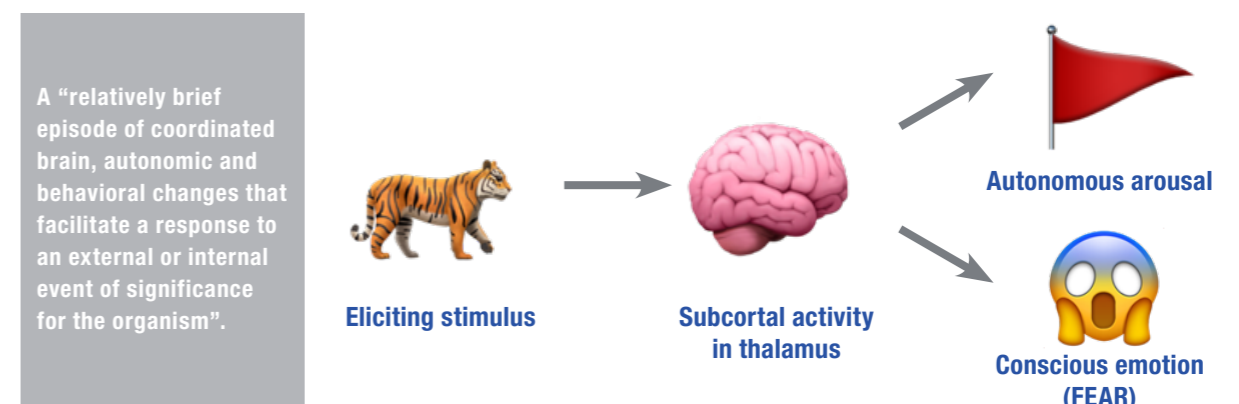
- The Oxford English Dictionary defines emotion as *"a natural instinctive state of mind deriving from one's circumstances, mood, or relationships with others"*.
- Merriam-Webster defines it as *"a conscious mental reaction (such as anger or fear) subjectively experienced as strong feeling usually directed toward a specific object and typically accompanied by physiological and behavioral changes in the body"*.
- The Cambridge English Dictionary says it's *"a strong feeling such as love or anger, or strong feelings in general'*.

Even across these three dictionaries, emotion is defined either as an instinctive state of mind, a conscious mental reaction, or directly as a feeling – three very different constructs.

Moving to a common scientifically-based definition can avoid confusion about the concept and provide a sound foundation to build from. We use the academic definition adopted by The Advertising Research Foundation, from Professors Davidson, Scherer and Goldsmith which states that *"emotion refers to a relatively brief episode of coordinated brain, autonomic/ interoceptive and behavioral changes that facilitate a response to an external or internal event of significance for the organism"*.[1] Emotional labels or constructs, such as anger or fear, then define the subjective representation of the emotional experience. We therefore build from influential theories of emotion in psychology and neuroscience that demonstrate that we first experience a physiological response to a stimulus (emotion), and then interpret that emotional experience as defined by an emotional construct. For instance, you may notice an increase in heart rate and sweaty palms, and then interpret those sensations as fear[2].

Figure 1: What is emotion?

A "relatively brief episode of coordinated brain, autonomic and behavioral changes that facilitate a response to an external or internal event of significance for the organism".

Eliciting stimulus → Subcortical activity in thalamus → Autonomous arousal / Conscious emotion (FEAR)

ARE EMOTIONS UNIVERSAL?

Emotions are defined not only by physiological experiences, but also by our evaluations and the meaning we attribute to them. Part of the reason emotions are so difficult to define is because the physiological experience is not necessarily specific to only one emotion and may be common across several emotions. For example, physical changes, such as increased heart rate, may be similarly present in the emotional experience of fear or surprise.

Once we evaluate and interpret these physical changes, we attribute meaning to them in the form of an emotional construct or label. These emotional constructs or labels, such as *happy, angry*, or *frustrated,* are strongly dependent on context and culture. The construction of emotion is so connected to the cultural experience that, even for emotional constructs that were once

believed universal, such as fear and anger, it is not clear if they have the same meaning across languages. In addition, some constructed emotional concepts, such as *schadenfreude* in Germany, *awumbuk* in Papua New Guinea, *gezelig* in the Netherlands etc., are known to be unique to a culture and a language.

Interestingly, recent research[3] has found supporting evidence for significant differences in emotional concepts across families of languages, with the closer the languages, the greater the similarities. Critically though, this research demonstrates a universal structure to define all emotional labels within all language families, differentiating emotions primarily based on core underlying dimensions, the main ones being Valence, Arousal, and Control.
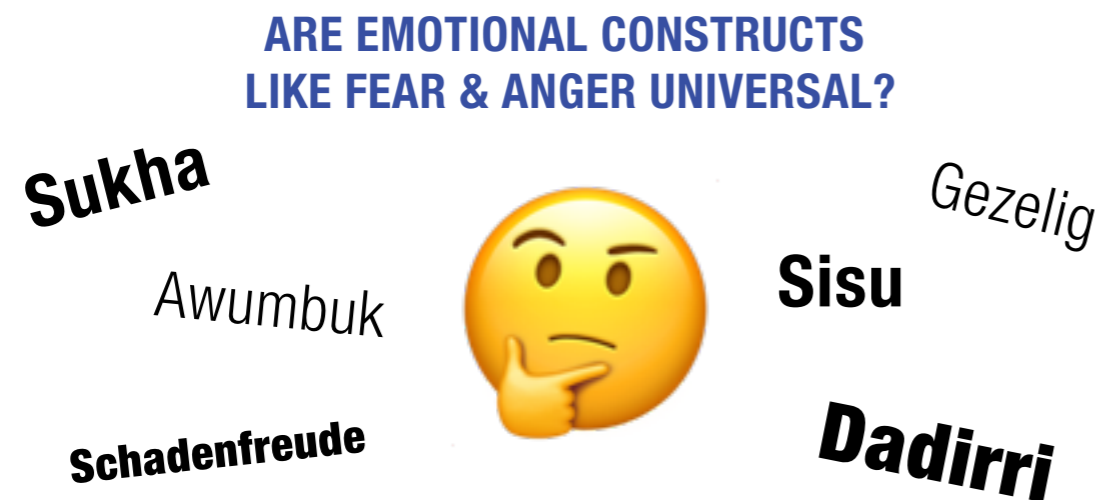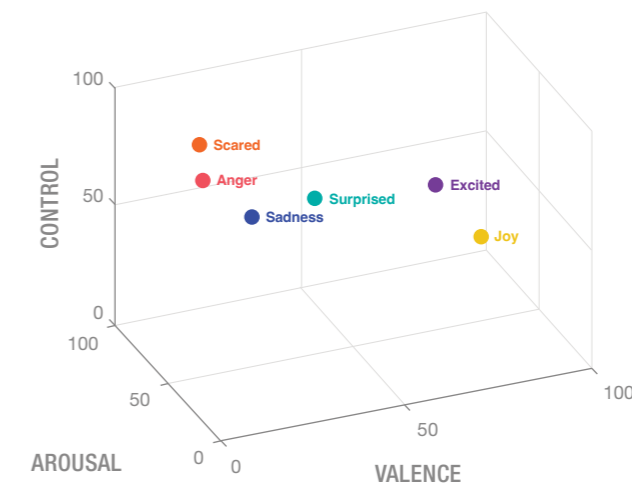
Figure 2: Universality of emotions

ARE EMOTIONAL CONSTRUCTS LIKE FEAR & ANGER UNIVERSAL?

Sukha

Awumbuk

Gezelig

Sisu

Schadenfreude

Dadirri

Figure 3: Emotional constructs mapped onto three dimensions Valence, Arousal and Control

Source: Ipsos Emotion Cross-Cultural Research

The three main dimensions are:

1. **Valence** categorises the positive versus negative direction of an emotional response, ranging from extreme pain or unhappiness at one end to extreme happiness or ecstasy at the other end. For example, an ad story could leave us with positive emotions, and a frustrating customer experience could place us on the negative end of that spectrum.

2. **Arousal** refers to the intensity of an emotional response, the physiological and psychological degree of alertness, excitement, or engagement, ranging from sleep, through intermediate states of drowsiness, and followed by alertness, with frenzied excitment at the opposite extreme. For example, an easy user experience could make us feel calm, but both an exhilarating, fun rollercoaster ride and a public policy we disagree with, could both elicit intense emotions, and would thus constitute states of high arousal.

3. **Control** relates to the degree to which a person feels they have an influence over the situation, ranging from feelings of total lack of control to the feeling in complete control. An example might be consumers' experiences with financial products. When something is unusual or hard to understand, this would illicit a feeling of a lack of control.

Using these three dimensions, we can map the emotional constructs people describe and get a better understanding of what they mean when they say they feel a certain way (see Figure 3).

While Valence and Arousal are the main dimension for all language families and most contexts we have explored, Control adds important insights in some areas, like customer experience, healthcare and specific industries. According to these definitions, "emotion" does not merely include occasional passionate states. Rather, a person is viewed as being in some emotional state at all times, a state that can be described as a region within the

INSIGHTS FROM IPSOS ORIGINAL RESEARCH ON EMOTION MEASUREMENT

We move now from the conceptual discussion to practical findings from our research on research and insights gained on the measurement of the emotion dimensions. Substantial research on the creation of survey measures and their validation was conducted resulting in scalable items that tap the underlying dimensions accurately and can be incorporated into many survey and other studies. The simplicity and scalability of this approach, combined with its strong scientific rigour, makes it an appropriate tool to capture the emotional response of citizens and consumers.

Additionally, we conducted research across six different markets and languages, namely the United States, Mexico, Brazil, France, Saudi Arabia, and China, as part of the validation and to evaluate consistency of the dimensions across cultures and languages. This also provides the foundations for a database of emotional constructs that are mapped to VAC in native languages. While the use cases span practical business studies, across each market, the validation leveraged Ipsos's ground truth database of images (Ipsos Database of Emotional Pictures)[4] that has been used for surveys as well as multichannel neuroscience validation[5].

THE QUESTIONS YOU ASK MATTER

The first insight of the measurement seems to be obvious: the wording of the questions asked matters. However, we found that even measures used in academic literature could have issues and the need for testing and validating in each language is important for accuracy. For instance, the wording of the Arousal scale (the intensity of the emotion), could bias the response

toward either positive or negative Valence. We found consistently across three languages that some specific survey wording could generate language-driven correlations between these two dimensions, either on a negative bias (wording 2), or a V-shaped distribution (wording 3) as seen in the Brazil tests over the page.

three-dimensional space created by these core underlying dimensions. Emotional experiences, states and constructs can be mapped onto these three dimensions.
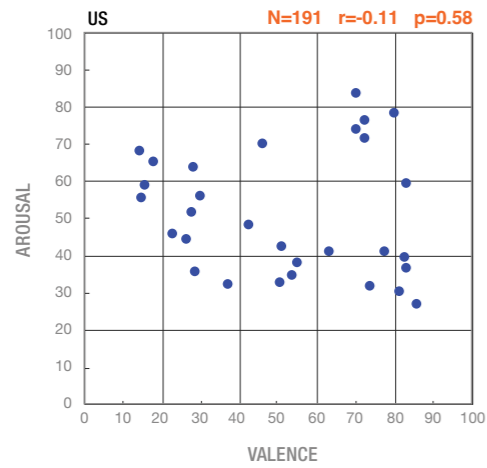
Since emotional constructs are heavily driven by context and culture, we are not aiming here to present an exhaustive list of them. However, it is very valuable to map constructed emotional labels onto empirically measured emotional dimensions. This classification provides a good understanding of the underlying emotion and an empirical framework where different complex emotional constructs can be measured and compared. The measurement of Valence-Arousal-Control (VAC) is comparable to a postal code; while it might present some variability on the precise location of the emotional construct, it does provide an accurate picture of the region they are in.

Once we were able to map emotional constructs against the three dimensions, we then further developed our framework in order to measure and leverage these constructs. This involved:
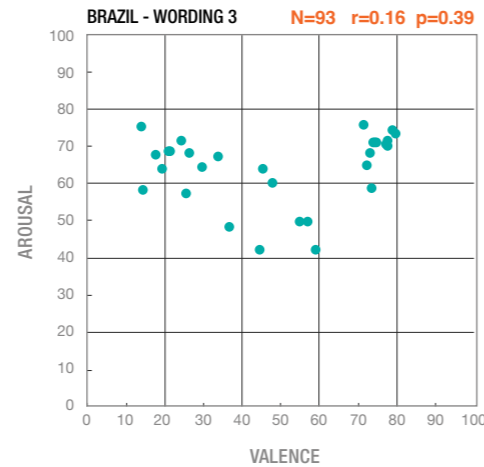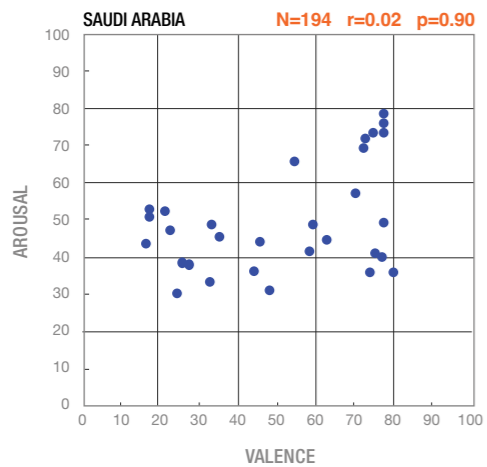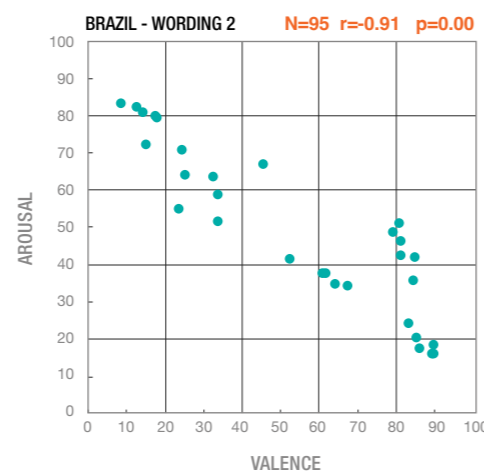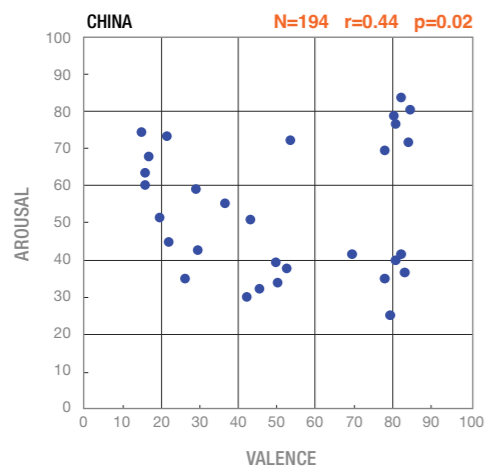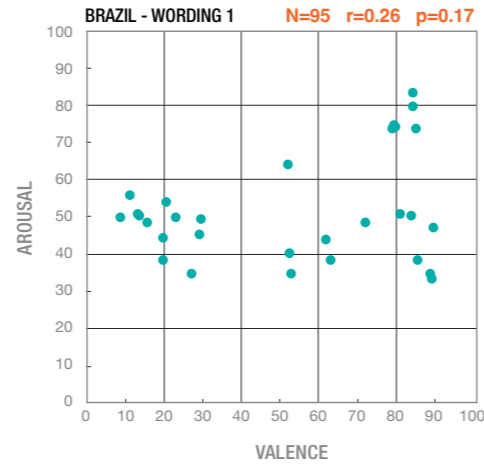
- developing a science-based, scalable, and affordable approach to measure emotion consistently across cultures and applications, based on VAC dimensions.
- developing a database of emotional constructs generated culture, and measurable and comparable across cultures, that could allow the empirical measurement of emotional constructs through text analytics, i.e., detecting sentiment of open-ended answers, social media posts, customers reviews, etc.
- Use of this cross-cultural empirical approach to measure emotional responses based on the VAC dimensions to develop predictive models for behaviours and attitudes.

The first insight of the measurement seems to be obvious, that the wording of the questions asked matters. "

4A - US, KSA, CHINA

4B - BRAZIL

US   N=191   r=-0.11   p=0.58

BRAZIL - WORDING 1   N=95   r=0.26   p=0.17

CHINA   N=194   r=0.44   p=0.02

BRAZIL - WORDING 2   N=95   r=-0.91   p=0.00

SAUDI ARABIA   N=194   r=0.02   p=0.90

BRAZIL - WORDING 3   N=93   r=0.16   p=0.39

Source: Ipsos Emotion Cross-Cultural Research

# VAC DIFFERENCES AND COMMONALITIES ACROSS COUNTRIES

After developing and testing the measurement scales in each language and market, we are able to compare the results across them. Comparing the results across the different markets, we were able to identify nuances in ratings across countries for Valence, Arousal and Control. This shows the impact of culture and language on the experienced emotional construct for each dimension with the greatest consistency on Valence and reinforces the value of measuring all three dimensions.
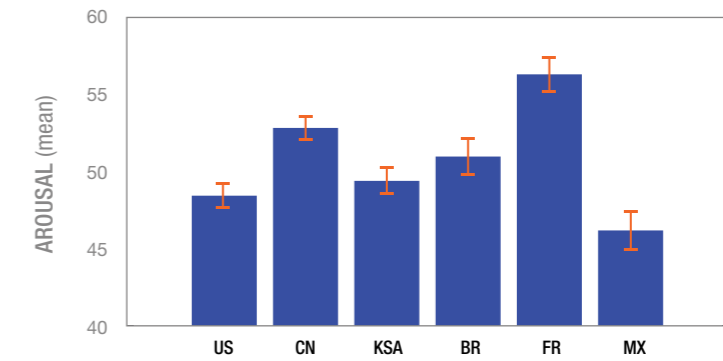
Figure 5: VAC across cultures

VAC ratings differed across countries for Valence, Arousal and Control, showing an impact of culture and language on the experienced emotion for each dimension with the most consistency on the Valence dimension
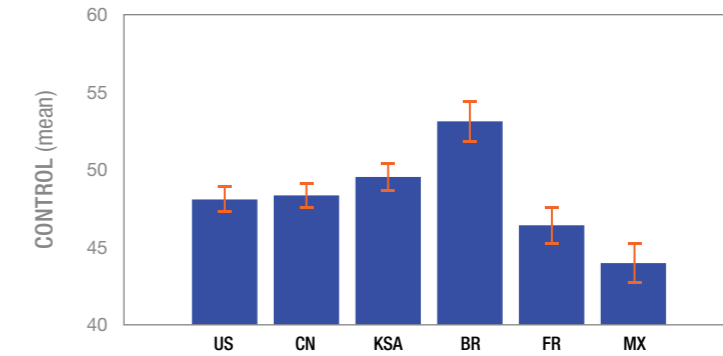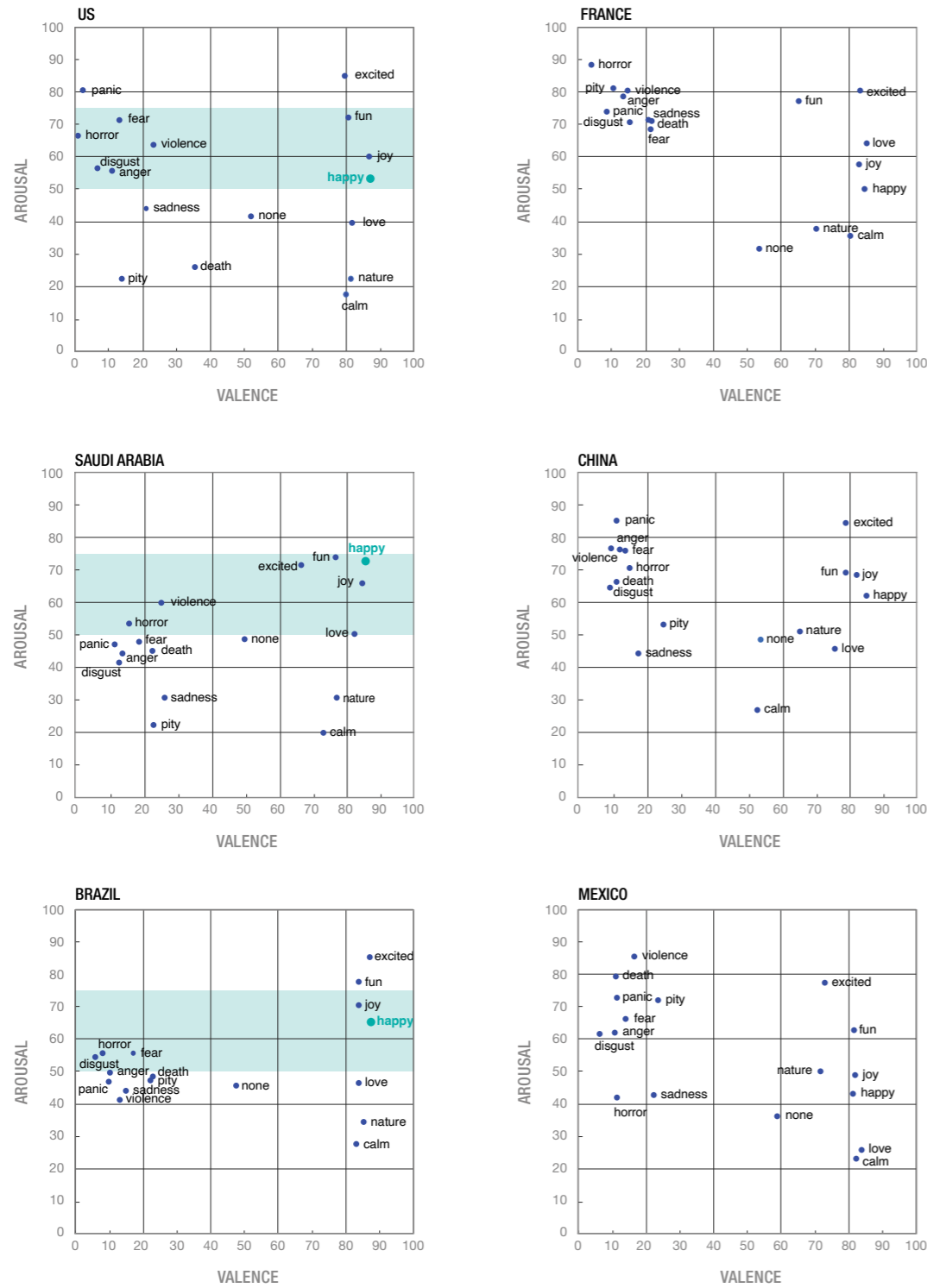
VALENCE
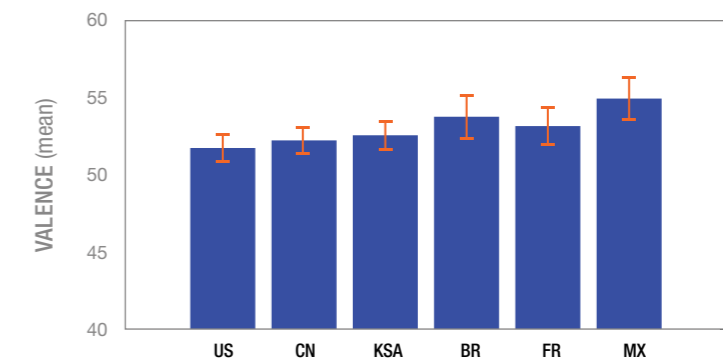
AROUSAL

CONTROL

Source: Ipsos Emotion Cross-Cultural Research

Figure 6: Common constructs across countries

VALENCE - AROUSAL

Source: Ipsos Emotion Cross-Cultural Research

DATABASING EMOTIONAL CONSTRUCTS FOR DEEPER CROSS-CULTURAL UNDERSTANDING

Digging into the database of results by market and image, we are able to go deeper and uncover more insight in the nuances that VAC identifies. Interestingly, emotional constructs that were once believed to be universal, might present meaningful differences across cultures. No emotional construct is believed to be as universal as "happy". However, when we look at the comparison between US English and KSA Arabic, we see that while "happy" and "سعيد" ("happy" in Arabic) are rated equally on Valence, they differ meaningfully on Arousal. Particularly for global organisations, it is critical to be able to capture these differences when measuring the emotional response of customers and citizens.

This system is thus capable of showcasing important conceptual differences on similar or translated emotional constructs across cultures and languages. We can, thus, capture differences across cultures, unlike existing databases which have been developed using translations, generally from US English.

A cross-cultural database also provides the ability to identify cultural differences in the reaction to individual stimuli. An interesting example was the picture of a graveyard, which evoked different emotional responses across cultures. As you can see in Figure 7, while Chinese respondents rated the picture on a negative Valence / low Arousal space with terms like solemn, desolate, mourning, French respondents used a wider distribution across Arousal, and US respondents rated the picture on a narrower range especially across Arousal, with terms like calm, peaceful, quiet.

Figure 7: Cultural variation across countries

Similar stimuli could evoke very different emotional responses in different markets

■ China
■ USA
■ France
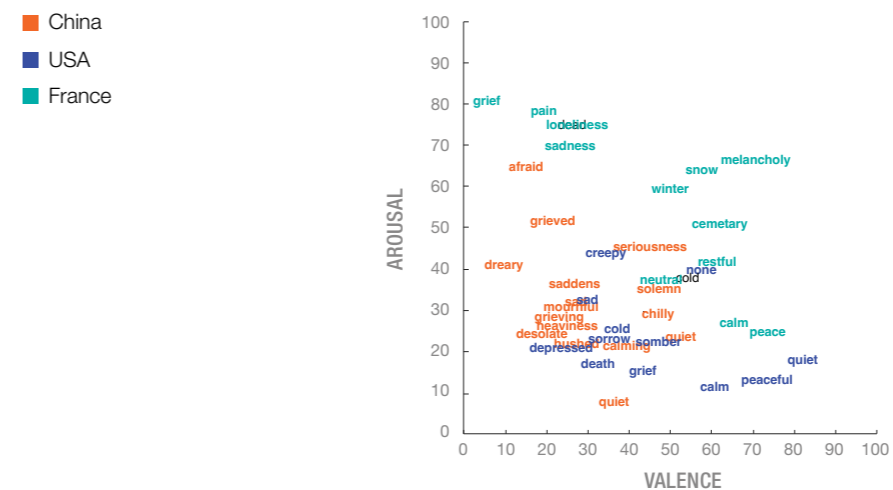
Source: Ipsos Emotion Cross-Cultural Research

THE VALUE OF MEASURING EMOTIONAL CONSTRUCTS IN PRACTICE

These are some practical business examples where we found that using VAC and user-generated emotional labels (in their language and context) provides extraordinary value for the understanding of citizens and consumers. Since this scalable approach is so easy to implement, there are many additional applications where it can also produce actionable insights.

CUSTOMER EXPERIENCE

In a cross-market study, this framework helped assess how customers felt at various moments during their experience with products and services (i.e., customer experience) and how their feelings impact overall perceptions of the brand and brand-related behaviour and attitudes. This identified opportunities to most effectively improve the experience and better fulfil customers' needs at key moments.

KEY BENEFITS TO CUSTOMER EXPERIENCE:

- The Ipsos Emotion Framework allows capturing emotional response to identify the strength of their predictive power on customer outcomes (attitudinal and behavioural).
- It can be used diagnostically to understand how to improve an experience at various points in the customer journey.

> We found that VAC and especially Valence could help further understand why some people reject specific brands, and identify the drivers, particularly the emotional ones, that bring consumers closer to a brand. "

ADVERTISING TESTING

Applying this framework to advertising executions provides additional information in the context of the emotional response elicited by marketing communication. Moreover, it can help identify and predict short and long-term impact of the communication strategy on the consumer.

KEY BENEFITS TO ADVERTISING RESEARCH:

- The Ipsos Emotion Framework allows capturing the emotional response to ads which is strongly predictive of advertising effectiveness and the communication strategy through key indicators such as recall and brand effects.
- It also provides a powerful diagnostic role to understand the impact of the campaign on the customer, by providing the user-generated emotions elicited by the campaign, as well as the emotional drivers of success.

BRAND REJECTION

This framework has also been applied to better understand brand equity and explain the drivers for brand consideration and brand rejection. We found that VAC and especially valence could help further understand why some people reject specific brands, and identify the drivers, particularly the emotional ones, that bring consumers closer to a brand.

KEY BENEFITS TO BRAND PERFORMANCE:

- The Ipsos Emotion Framework provides additional value to explain brand rejection as well as drivers of brand consideration and equity.
- It provides diagnostic value for important strategic issues of brand consideration, equity and explicit brand rejection.

CONCLUSION

Moving from a muddled approach to understanding what emotions are, to a systemic framework with clear simple measurement has value. Further, this has allowed us to demonstrate the clear predictive power of emotions on business questions ranging from customer experience to brand equity and advertising effectiveness to the explicit rejection of brands.

Emotional constructs are not universal but can be mapped onto emotional dimensions (Valence, Arousal, Control) and integrated with the measurement of the emotional experience to systematically address business questions.

There are clear insights from the validation and development of this framework that are worth noting. Not surprisingly, the words you use in your questions matter a lot, and testing to avoid word-driven bias is particularly important. VAC ratings show interesting similarities and differences across cultures when databasing emotional constructs, mapped onto VAC ratings, and there is great value in exploring cultural transferability of emotional measurement and constructs across markets.

Consider the foundational dimensions and leverage VAC and mapped emotional constructs for predictive modelling. This framework helps bring simplicity to the substantive insights and helps clients to be sure about the role and value of emotions in the brands, products and services.

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