WHITE PAPER

Context Matters: Emotions & Ad Effectiveness

A closer look at the relationship between ad effectiveness and viewers' emotional responses to shows

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Context Matters: Emotions and Ad Effectiveness

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TELEVISION IS OUR MOST EFFECTIVE ADVERTISING MEDIUM

It yields the greatest return on investment to the advertiser, as compared to print, radio, online display, and outdoor media [15, 17]. Nevertheless, it is possible to improve on this already effective advertising platform.

Improving ad effectiveness starts with understanding that show emotions impact ad effectiveness because:
(1) ads elicit powerful and rich emotional responses;
(2) ad emotions influence their effectiveness; and
(3) the emotional relationship between ads and shows matters, even in the context of a single ad exposure.

Marketers can more effectively use TV's ability to connect with consumers by considering the emotional tonality of ads when selecting programming and networks in their media plans. The right message, delivered to the right viewer, and in the right emotional context, will yield the greatest return on advertising investment.

EMOTIONAL TONALITY AND AD RECEPTIVITY

There are several reasons to expect that emotions should impact ad effectiveness, including the fact that emotions affect many areas of human decision making, including moral reasoning, legal decisions, risk taking, economic decisions, cooperation, willingness to indulge, engagement with consumer brands, and personal choices, e.g., selecting a physician for health care [2,7].

In fact, the prevailing view within the field of Psychology is that emotions impact most, if not all, human decisions. Antonio Damasio, a leading expert on the connection between emotions and decision making, states:

"

The body and our emotions have a key role in the way we think and in rational decision-making—certain aspects of the process of emotion and feeling are indispensable for rationality—Emotion and feeling, along with the covert physiological machinery underlying them, assist us with the daunting task of predicting an uncertain future and planning our actions accordingly ... When making decisions, these physiological signals (or 'somatic markers') and their evoked emotion are consciously or unconsciously associated with their past outcomes and bias decision-making towards certain behaviors while avoiding others.

Table 1 on the following page illustrates how emotional context has captured the interest of the advertising industry over the past 25+ years. These studies looked for ways to improve viewers' response to ad messages; they were well executed, with a controlled set of ads and shows. The studies often included straightforward emotional distinctions, e.g., "happy" or "sad" as stark, clear-cut emotional categories. In each of these prior cases, there was evidence that congruence matters—that matching the ad to the show in which it airs should impact viewer reception of the ad message.

Prior work on emotions and decision making, and on context effects for advertising suggests that emotional context should and does matter. The present work advances this area by:

1. Bringing to bear a large, rich, and nuanced emotional dataset for shows.
2. Providing a systematic way of defining emotional.
3. Providing a statistical framework for testing the effects of emotional alignment.

TABLE 1 | PRIOR RESEARCH ON CONTEXT EFFECTS

Study	Finding	N	Ads	Shows/ Contexts
GOLDBERG & GORN (1987)	"Emotional" ads do better in "Emotional" shows.	160	4	2
KAMINS, MARKS, & SKINNER (1991)	Combining emotionally congruent ads and shows produced greater ad evaluation	174	2	2
WEINBURG & GULAS (1992)	Review of literature 16 studies between the years of 1940 and 1999	<1200	NA	NA
NORRIS & COLMAN (1993)	Suspenseful programs boost ad receptivity	90	41	3
PELSMACKE, GEUENS, ANCKAERT (2002)	For low-involvement audience, ads are better received in congruent contexts	314	12	3
DESTENO, ET. AL. (2004)	Emotional matching yields greater message receptivity (2 studies)	<100	2	2
MARCI (2006)	Ad effectiveness depends on level of engagement with show	27	2	2
PONCIN & DERBAIX (2009)	Ads effect other ads in sequence	500	4	0
PUCCINELLI, WILCOX, & GREWAL (2015)	People will spend less time watching ads that don't match the program's emotions (multiple studies)	<200	2	3
BELLMAN, WOOLEY, & VARAN (2016)	Confirmed Kamins et al. using Facial tracking software (informational vs. funny)	318	8	4

To demonstrate how ads, like television shows, elicit an emotional response from viewers we applied EmotionalDNA™, a proprietary research and analytic framework created by Magid. The framework aggregates viewers' emotional responses to thousands of Primetime TV shows to produce an EmotionalSignature™ for each show. To understand how and whether emotional context matters for ads, and whether aligning ads to show emotions improves ad receptivity, we defined emotional context as a show's EmotionalSignature™ from EmotionalDNA™.

STUDY OBJECTIVES AND PROJECT OVERVIEW

If emotional similarity produces superior advertising, then advertisers can optimize ad spend in two ways:

1. Identify shows that offer the best emotional context for their ad creative;
2. Create ads that match the emotional elements of existing programs that already attract their target customers. By buying time on emotionally matching programs, they can improve the effectiveness of their ads, not only in reaching the right target audiences, but reaching them while they are most receptive.

Networks and distributors can align with advertisers by developing programming that offers emotional context that matches the ad creative typically associated with brands. For example, if Coca-Cola® tends to use uplifting and inspiring ad creative, networks can focus on creating content that also uplifts and inspires, offering a more ideal ad delivery platform for Coca-Cola® as a prospective buyer. The study's three research phases are outlined in Table 2. The first is

To provide these benefits to both advertisers and networks, we set out to answer the following three questions:

1 Do ads elicit an emotional response?

2 Is there an association between ad performance and ad emotions?

Our final question provided the basis for ad optimization, the primary objective of this study:

3 Whether, and to what degree, does airing ads in emotionally similar shows impact their effectiveness?

EmotionalDNA™ which provides the emotional context information for shows. The second is a Pre-Test which assessed ad emotions and ad receptivity in isolation. The third is the Main Study which measured ad receptivity in the context of different shows.

TABLE 2 | **THREE RESEARCH PHASES**

	Online Studies	Field Period	Sample Size*	Respondent Ages**	Primary Measure	Tested
1	EmotionalDNA™	May 2014 – continuous	140,000	12-64	36 emotional attributes	2,500 shows 160 network brands
2	Pre-Test	May 2017	938	18-64	36 emotional attributes; 6 measures of ad receptivity	100 ads tested in isolation; 8 ads per respondent
3	Main Study	July 2017	6,193	18-64	36 emotional attributes; 6 measures of ad receptivity	31 shows; 60 ads tested in total; 2 ad pods; 6 ads per respondent; 1,860 ad-show pairs

*Census matched to age, gender, and ethnic distributions
**All respondents watch at least 1 hour of TV per day

PHASE 1: EmotionalDNA™

EmotionalDNA™ measures the emotional associations viewers have with shows on Primetime TV, including Dramas, Comedies, Unscripted, Sports, E-sports, Docu-series, and News programming. The dataset also includes shows outside of Primetime, including late night and SVOD originals. Data are collected using self-reported emotional and behavioral metrics gathered from a large representative sample of viewers. Then, composite emotional profiles are generated for each show. All data are collected within the same framework so that emotional profiles of different shows are comparable.

At the time of data collection for the study, EmotionalDNA™ contained the EmotionalSignature™ of over 2,500 different programs, fielding every 6 months from 2014 through 2017.

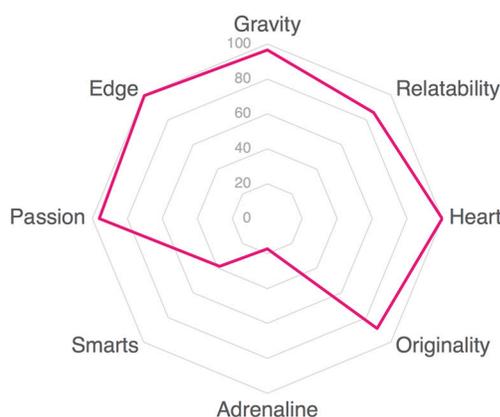FIGURE 1 | *THIS IS US* EmotionalSignature™

Figure 1 shows the EmotionalSignature™ for *This Is Us* on NBC. The values are the percent of shows in Primetime that score lower than *This Is Us* on each dimension. The results indicate the show is highly unusual in the landscape; it is in the 99-100th percentile for Gravity, reflecting that the show is sad, deep, and touching, and tends to avoid being fun or funny to most viewers. The show is also just under the 90th percentile in Originality, because it is perceived to be fresher and more imaginative than most of the shows in Primetime. *This Is Us* also scores higher than about every show on Heart with a score of 100th percentile, reflecting that it is more uplifting and inspiring than just about any show on Primetime. The show's Passion and Edge scores are all near 100th percentile because it is perceived to be both romantic, and outrageous/unpredictable. On the other hand, the show is low on Adrenaline, at 17th percentile, reflecting a relatively slow and relationship-based plot. Its Smarts score is at 38th percentile—typical for dramas—lacking informative or educational material. Finally, the Relatability score is well above average at 86th percentile, since the show does not have fake, unrelatable, mean, or shallow elements.

The following process captured each show's emotional profile:

1

Viewers identify the shows they watch from a list.

2

They then choose from a list of 36 research-derived attributes to assign to those shows.

3

These attributes form 8 statistically derived groups of dimensions (factors) that we use to summarize a show's emotional impact.

4

The EmotionalSignature™ indicating how the show scores on each emotional dimension in percentile form (compared to all of Primetime). The position of these scores is determined by attributes.

The EmotionalSignature™ summarizes viewers' emotions associated with the shows they watch. Being high or low on any one dimension is not necessarily good or bad. Rather, the specific configuration of values on all 8 dimensions combine to produce a show's multi-dimensional signature. Shows that are extremely high or low on dimensions represent unique emotional experiences within the Primetime TV landscape. Having extreme values (greater than 80th or less than 20th percentile) indicate uniqueness within the television landscape.

PHASE 2: AD TESTING
An independent group of viewers assigned the same 36 attributes used with television, but now applied to specific 30-second ad spots.

SELECTING ADS
We selected one hundred nationally-airing ads from a variety of product categories and brands.

TABLE 3 | **PREDETERMINED EMOTIONAL CATEGORY WITH AD INDUSTRY CATEGORY**

Ad Category	Exciting	Funny	Informative	Sexy	Uplifting	Total
AUTO	3	1	4	3	4	15
BEV	3	1	-	-	-	4
BEV-ALCOHOL	3	2	2	1	-	8
BRAND	-	-	3	-	-	3
CPG	2	3	-	4	3	12
FIN-INSUR	-	3	2	-	2	7
QSR	-	4	2	1	3	10
RETAIL	4	1	3	5	5	18
TECH	3	3	3	-	3	12
TRAVEL	1	1	1	1	-	4
WIRELESS	2	3	1	-	1	7
TOTAL	**21**	**22**	**21**	**15**	**21**	**100**

We collected ads with a wide array of emotions, not only to make our findings generalizable, but also to generate a range of emotional similarities between ads and shows for Phase 3. Among the hundreds of candidate ads reviewed, we selected those with dominant emotional characteristics in one of five categories. We balanced the emotions across the full set of ads, with roughly one in five ads falling into each bucket.

Besides emotions, we also wanted a wide range of ad categories to ensure that our results would not merely reflect the idiosyncrasies of one or two product categories. Table 3 on the previous page provides the assignment of ads to categories. Covering the ad space meant including a large number of brands; in fact, the 100 ads represented 84 distinct brands.

THE EXPERIMENTAL TASK

Once ads were selected, we recruited respondents for an online study with the same screening criteria used in EmotionalDNA™ (viewers of TV who watch at least one hour of TV per day—marketers excluded). Each respondent was exposed to a sequence of eight, 30-second ads chosen at random from the set of 100. All ads appeared evenly and randomly across shows, ad positions, and ad pods.

After exposure to all eight ads, we collected emotional attribute responses using the EmotionalDNA™ battery of 36 attributes. Emotional attribute data from Phase 2 produced emotional dimensions for each of the 100 ads using the EmotionalDNA™ dimension analytical framework, so that ads and shows can be compared using the same emotional metrics. Ads and shows can now be described as congruent or dissonant, and to varying degrees.

INITIAL AD EMOTIONS RESULTS

Figure 2 shows the EmotionalSignature™ for each of the 100 ads tested in the study:

FIGURE 2 | **EMOTIONAL PRE-TEST OF 100 ADS**
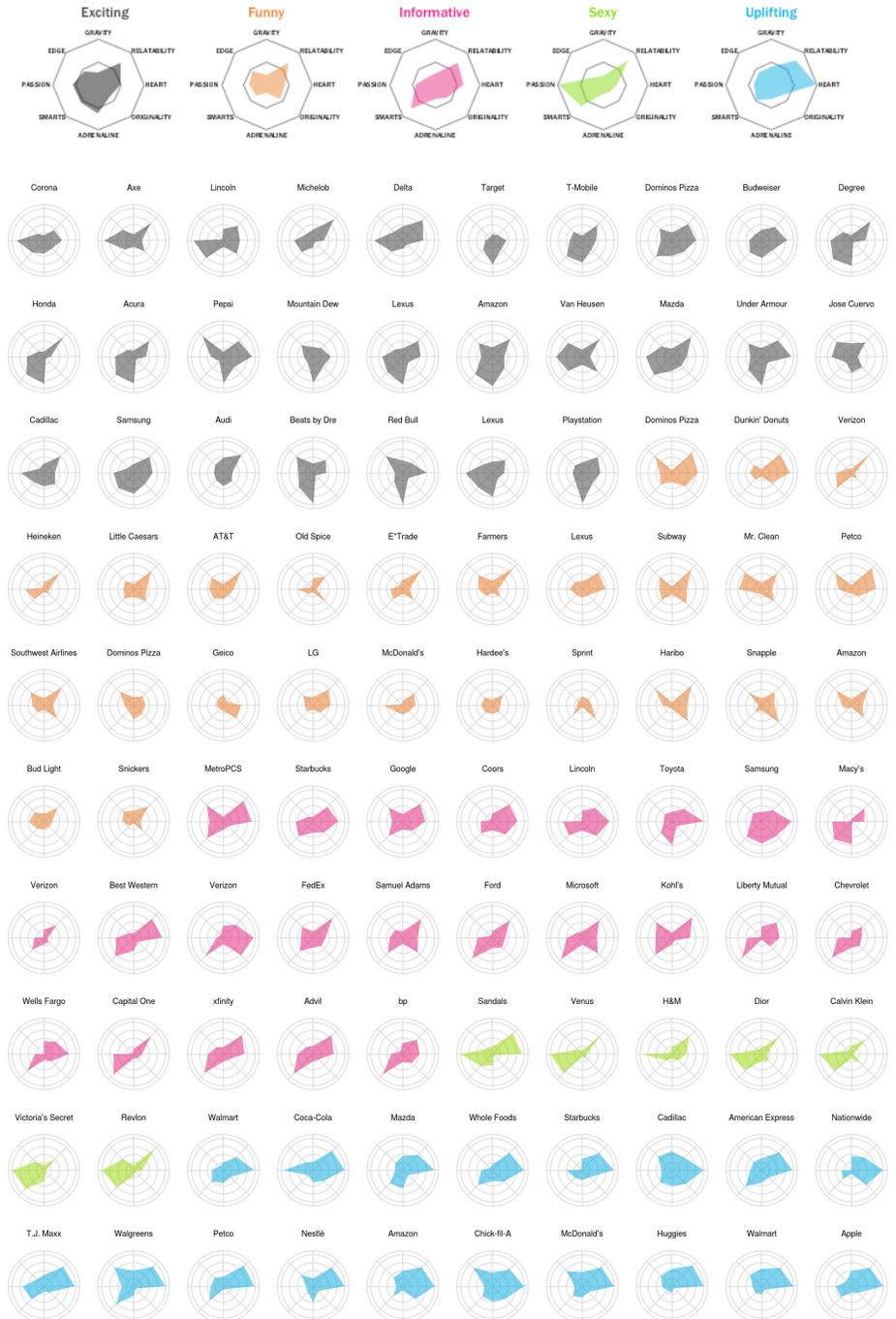
Phase 2 served as our baseline ad receptivity. We had six primary measures—all on five-point scales.

(1) Likeability
Compared to other commercials you've seen recently, how much did you like the [AD TITLE] ad?

(2) Relevance
Is what they advertised in the [AD TITLE] ad relevant to you?

(3) Grabs Attention
If you saw the [AD TITLE] commercial while watching TV, how likely would you be to pay attention to it?

(4) Purchase Intent
Do you think you would purchase what was advertised in the [AD TITLE] ad?

(5) Brand Affinity
Overall, what is your opinion of [AD TITLE]?

(6) Brand Recommendation
This commercial would: Make you more/less likely to recommend the brand

Where, [AD TITLE] is the brand name for the ad, e.g, TJ Maxx.

The larger radar charts represent the five emotional categories. Below the larger charts are individual ads placed into one of five emotional categories, coded by color but defined through statistics—k-means clustering[8]. There was a high degree of consistency between the categories we intended to produce and what we found statistically.

FIVE EMOTIONAL CLUSTERS
The categories were in line with our initial predetermined emotional classification, and reveal a multi-dimensionality of emotional response, with both commonalities and distinctions.

Exciting ads were well balanced across the eight emotional dimensions, with relatively high levels of the Adrenaline emotion.

Funny ads had a different shape with most dimensions scoring below average. Gravity was especially low, reflecting the fact that these ads tend to be funnier, fun, and lighter in tone compared to the others.

Informative ads excelled in Smarts, Heart, and Relatability, and were low in Gravity.

Sexy ads had high Passion, reflecting their sex appeal and glamour.

Uplifting ads have extreme levels of Heart, revealing an ability uplift and inspire the viewer.

ANSWER TO QUESTION 1:
DO ADS ELICIT AN EMOTIONAL RESPONSE? » YES.
The multi-dimensionality and strength of emotional response to ads confirms our basic premise—that ads elicit an emotional response that can be measured similarly to how we measure the emotions for shows. The groupings of the ad categories were consistent with how the authors imagined the ads should be grouped, and populations of viewers were often in agreement. The emotions associated with ads reflect how they are in many ways a form of video entertainment, and the emotions they evoke can differ quite meaningfully from one another both in strength and quality.

Ad Receptivity
As a convenient summary of the receptivity of ads, we calculated a 7th summary metric we call Overall Receptivity, the simple average of the 6 measures.

Figure 3 on the next page graphs the Overall Receptivity of the 100 ads in the study, organized by the 11 industry ad categories we used, and color coded by the emotional category the ad was statistically assigned to. There was a substantial range in performance. Some ads performed well below 3.0 average Overall Receptivity, while others received a score as high as 3.9.

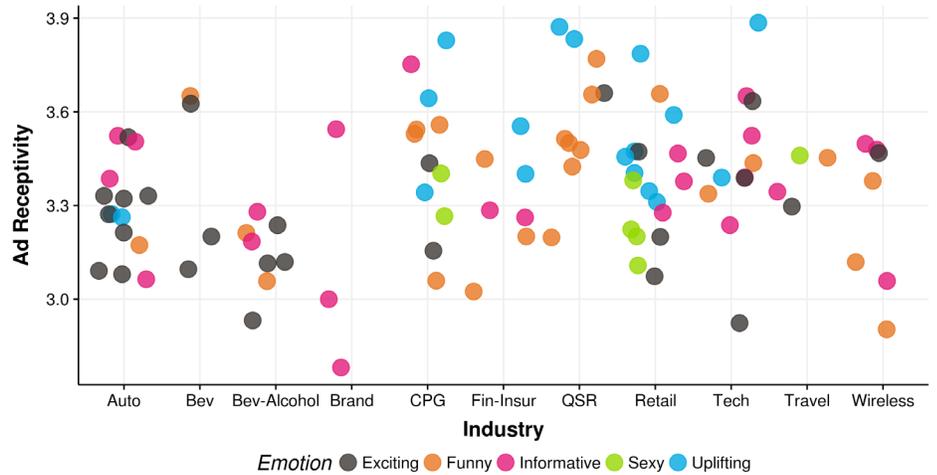FIGURE 3 | **BASELINE AD RECEPTIVITY ACROSS CATEGORIES**

Figure 3 averages the performance of all ads within each emotional category. You can see that, in fact, the highest performing emotional category was the *Uplifting* category. Apparently, an ad's ability to inspire, to be *Uplifting* and wholesome, all the while maintaining a high degree of Relatability, also produces the highest levels of ad receptivity.

FIGURE 4 | **AD RECEPTIVITY BY EMOTIONAL CATEGORY**
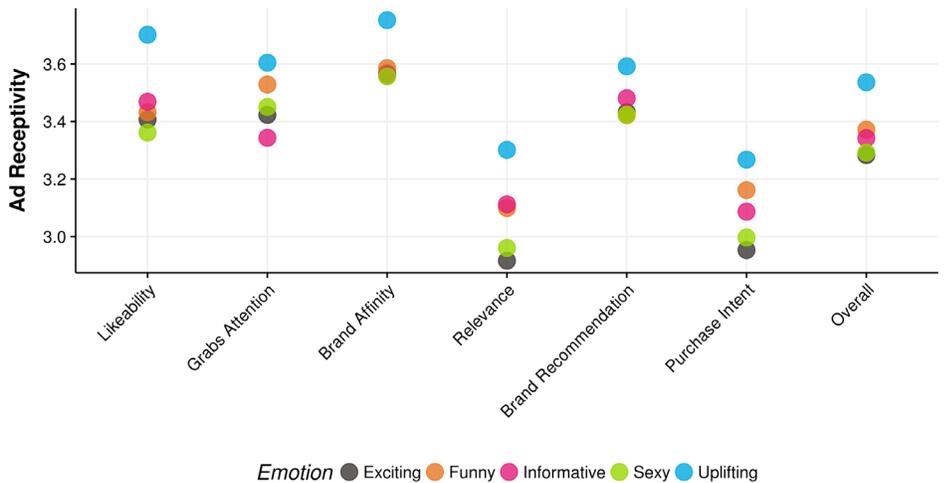
While *Uplifting* ads in our study were the top performers, other emotional categories also performed well. The *Funny* category performed second highest across the ad receptivity measures and was especially competitive with the *Uplifting* ads in their ability to grab attention from the viewers.

Figure 5 characterizes how independent ad emotions relate to ad receptivity by graphing the weights (and 95% confidence intervals of those coefficients/weights) resulting from a multivariate linear regression analysis on Overall Receptivity and purchase intent. Relatability, Originality, and Heart had the strongest positive relationship to ad receptivity, whereas Gravity had the strongest negative relationship. This mirrors the finding that *Uplifting* ads produced greater ad receptivity across all metrics, since *Uplifting* ads are also high in Relatability, Originality, and Heart. *Funny* ads, are by definition low in Gravity.

FIGURE 5 | **REGRESSION WEIGHTS PREDICTING AD RECEPTIVITY**
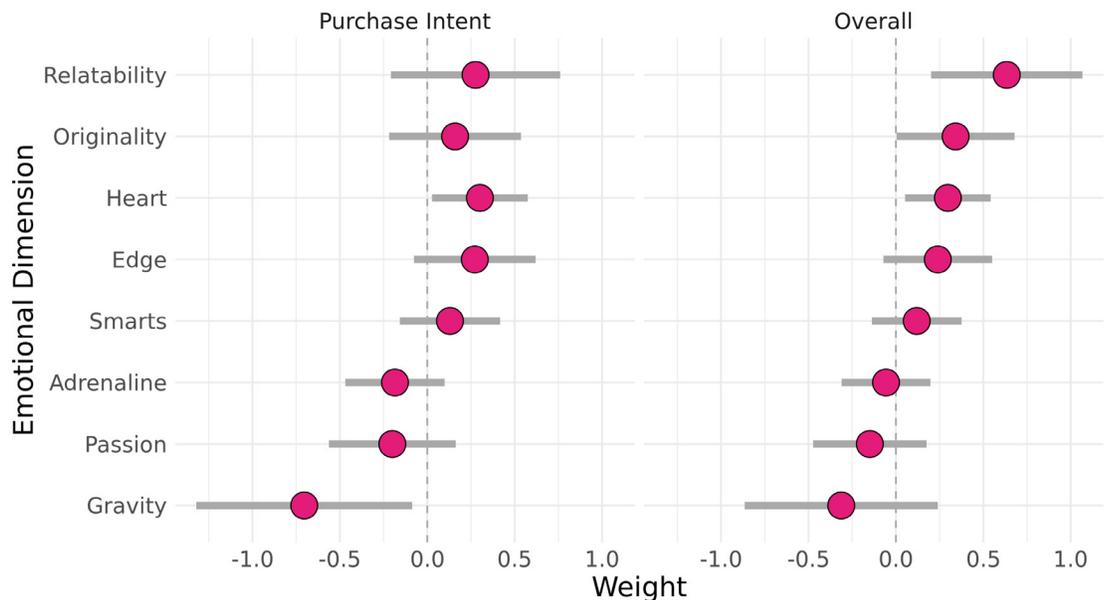
ANSWER TO QUESTION 2.

IS THERE AN ASSOCIATION BETWEEN AD PERFORMANCE AND AD EMOTIONS? » YES.

Both the performance of emotional combinations (e.g., the *Uplifting* category), and tests of independent relationships between emotions and ad performance show that ad performance depends on the emotions the ads evoke. Emotions associated with inspiration, uplift (Heart) as well as lighter fun and funny material (low Gravity) combine to produce higher ad receptivity.

TABLE 4 | PHASE 3 SHOW LIST

Show	Network
House Hunters	HGTV
American Restoration	History
60 Minutes	CBS
Diners, Drive-Ins and Dives	Food
The Profit	CNBC
Anderson Cooper 360	CNN
The Simpsons	FOX
The Big Bang Theory	CBS
Superstore	NBC
America's Funniest Home Videos	ABC
Saturday Night Live	NBC
Chrisley Knows Best	USA
NCIS	CBS
Deadliest Catch: Dungeon Cove	Discovery
Blindspot	NBC
Queen of the South	USA
The Expanse	Syfy
American Ninja Warrior	NBC
Counting On	TLC
Undercover Boss	CBS
This Is Us	NBC
Born This Way	A&E
The Fosters	Freeform
The Voice	NBC
The Bachelorette	ABC
America's Next Top Model	The CW
Mistresses	ABC
Basketball Wives	VH1
The Real Housewives of Atlanta	Bravo
The Royals	E!
Sunday Night with Megyn Kelly	NBC

PHASE 2 SUMMARY

Phase 2 was successful in confirming that:

a. Ads elicit an emotional response.
b. Ads are well described by the same emotions we use to describe television shows.
c. Specific emotional combinations seem to work well in producing greater ad receptivity performance.

Phase 2 provided a baseline level of receptivity performance for a wide variety of ads across different industry categories, with differing emotional tones. The next phase of the study focused on the impact that different show contexts can have on ad receptivity depending on whether shows provide similar or different emotions compared to those generated by the ad creative.

PHASE 3: WITHIN-SHOW TEST OF AD RECEPTIVITY AND AD EMOTIONS

Phase 3 approximated natural linear television viewing, wherein people select shows and are served ads. Since the study was programmed online, we also had control over the set of ads shown to each viewer. We presented ads with varying degrees of emotional congruence relative to the television program We used 60 out of the 100 ads from Phase 2 to increase the number of respondents per ad-show pairing.
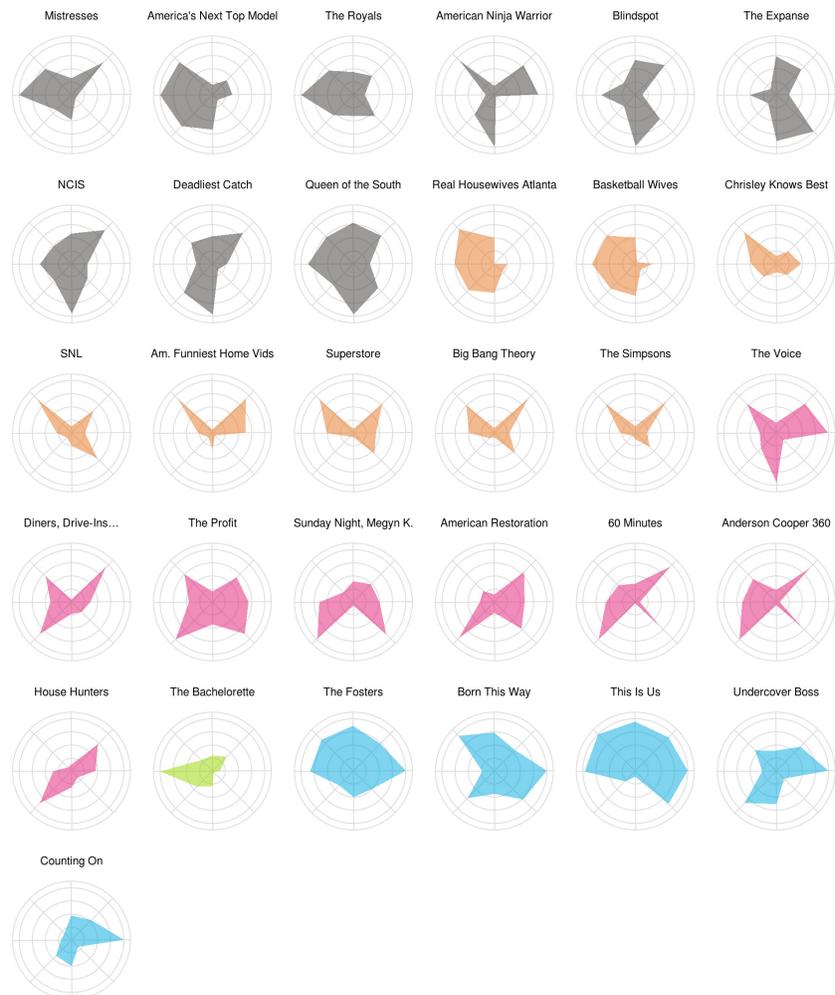
SHOW SELECTION

A total of 31 shows were selected for Phase 3. The criteria for selecting the shows included emotional proximity to the five emotional categories of ads, so all the shows selected for the study had corresponding EmotionalDNA™ data. We endeavored to achieve ~6 shows per emotional category among shows that were likely to be of interest to the average television viewer. We included dramas, comedies, and unscripted shows from broadcast and basic cable networks according to Table 4.

Figure 6 displays the EmotionalSignature™ for each of the 31 shows we selected for Phase 3 whose selection was based in part on being assigned to one of the emotional categories of ads, but also in using our own judgment so that we had enough shows across specific networks of interest to the authors.

FIGURE 6 | **31 SHOWS AND THEIR EmotionalSignature™**

We calculated the probability of assigning each of the shows to the statistically derived emotional categories generated for the ads in Phase 2 and used those probabilities as part of the show selection process, identifying popular shows with high assignment probabilities to one of the ad categories. Show selection achieved good coverage of the emotional categories of ads, providing a wide range of emotional pairings for ads and shows.

SAMPLE

A total of 6,193 respondents completed the study in 38 minutes on average (including ~20 min of show viewing). Respondents were asked to provide ad receptivity ratings for remembered ads, so the number of total respondents per ad was 619 (ranging 609 to 627) on average and ranged between 320 respondents for ads least likely to be recalled and 536 for ads recalled by most people.

With 31 shows and 60 ads, we had 1,860 unique combinations of ad-show pairings, divided among the 6,193 respondents, each unique combination was seen ~20 times across the full sample.
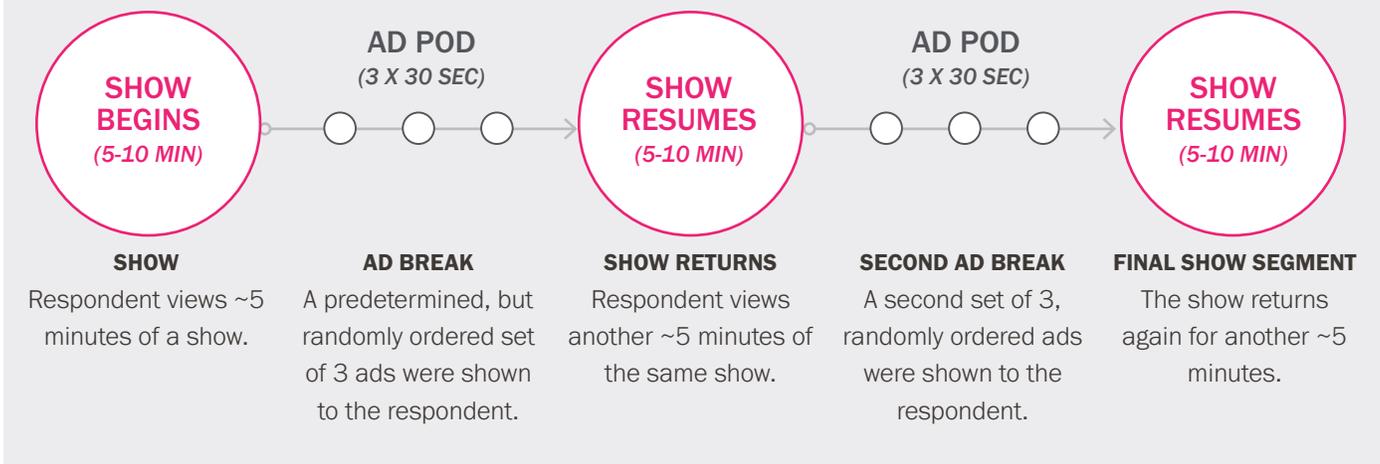
THE EXPERIMENTAL TASK

Respondents were provided with a random selection of 15 out of the 31 shows, and were asked to:

"Consider selecting a television show to watch, right now in this moment. Please rank your interest in watching the following shows."

To simulate natural viewing, the top ranked show was provided to the viewer as the show they would watch in the study. However, because some shows were more popular than others, we used a "least-fill" algorithm to occasionally provide the next highest ranking show as the show they would view.

FIGURE 7 | **STUDY DESIGN SCHEMATIC**

SHOW BEGINS *(5-10 MIN)*

AD POD *(3 X 30 SEC)*

SHOW RESUMES *(5-10 MIN)*

AD POD *(3 X 30 SEC)*

SHOW RESUMES *(5-10 MIN)*

SHOW
Respondent views ~5 minutes of a show.

AD BREAK
A predetermined, but randomly ordered set of 3 ads were shown to the respondent.

SHOW RETURNS
Respondent views another ~5 minutes of the same show.

SECOND AD BREAK
A second set of 3, randomly ordered ads were shown to the respondent.

FINAL SHOW SEGMENT
The show returns again for another ~5 minutes.

Across respondents all ads appeared evenly and randomly across:

(1) shows;
(2) ad positions (i.e., first, second, or third within the ad pod); and
(3) ad pods where each ad appeared an equal number of times in the first ad pod versus this second ad pod.

The EmotionalDNA™ attribute battery and the ad receptivity questions were then asked in the same way they were asked in baseline, but this time after watching the show, and only if the ad was remembered according to the memory test. (Memory test results across experimental conditions were null.)

EMOTIONAL SIMILARITY

We used the below definition of emotional similarity, which is based on the Euclidean distance calculation, where q and p represent to different entities. For example, q might be a show and p might be an ad, and the distance is calculated over the dimension values corresponding to each of 1 through n emotional dimensions. Euclidean distance is similar to a total average difference between a show and ad.

$$d(p, q) = \sqrt{(q_1 - p_1)^2 + (q_2 - p_2)^2 + \ldots + (q_n - p_n)^2}$$

We converted the Euclidean distance to similarity using the equation below, which produces a score that ranges between 0% not at all similar to 100% which means the emotions are identical.
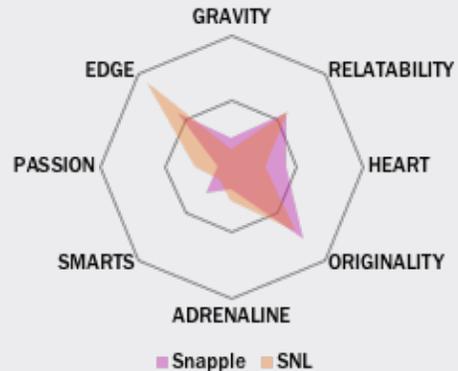
$$Similarity = 1/(1 + d)$$

We tested memory according to the following protocol.

(1) Free Recall

Viewers type in the ads they remember from the show.

(2) Aided Recall

We subsequently showed viewers the full list of 60 ads presented to all respondents, of course, only 6 of those had actually been shown during the show, and we asked them to select the ads they recall from that list.

(3) Recognition

We showed the 6 of the presented ads and they were asked to select the ads they remembered.

An example of a low-similarity ad-show pairing is the Sprint ad and the show This Is Us

The emotions displayed in the radar chart reflect two dissimilar entities. At 37% similarity according to our calculations above, the ad and the show belong to two different emotional categories. Our prediction was that, in general, this level of match would not produce a strong ad receptivity lift for the Sprint ad.

An example of two entities that are on the higher end of the similarity scale:

SNL and the Snapple ad share many emotions in common, yield an emotional similarity score of 76%, and fall into the same emotional category (for ads). If our hypothesis is correct, high similarity scores like this should produce a relatively high ad receptivity lift for the Snapple ad.

AD RECEPTIVITY LIFT

The 100 ads in Phase 2 differed in their baseline ad receptivity. Some were more persuasive or attention-grabbing than others and had higher Overall Receptivity. To account for basic differences in ad performance, lift was calculated for each respondent relative to the average baseline score received by each ad during Phase 2:

$$M_{lift} = \frac{M_{show}}{M_{baseline}} - 1$$

If an ad received a 3.3 purchase intent score on average in isolation, but a respondent rated the ad as a 4, then that respondent's lift for that ad was calculated as

$$lift = \frac{4}{3.3} - 1 = 0.21$$

or a 21% purchase intent lift. A lift score was calculated for each of the six ad receptivity measures, but also for the Overall Receptivity score.

ANSWER TO QUESTION 3:

WHETHER, AND TO WHAT DEGREE, DOES AIRING ADS IN EMOTIONALLY SIMILAR SHOWS IMPACT THEIR EFFECTIVENESS? » ADS DO BETTER IN SHOWS THAT MATCH EMOTIONALLY. THE GREATER THE EMOTIONAL MATCH BETWEEN AD AND SHOW, THE GREATER THE RECEPTIVITY.

This analysis is the culmination of three phases of data collection, including collecting show emotions in Phase 1, assessing isolated receptivity and ad emotions in Phase 2, and in-show receptivity in Phase 3. If ads benefit in receptivity from airing within emotionally similar shows, then the lift over baseline should be higher than when ads air in emotionally dissimilar shows.

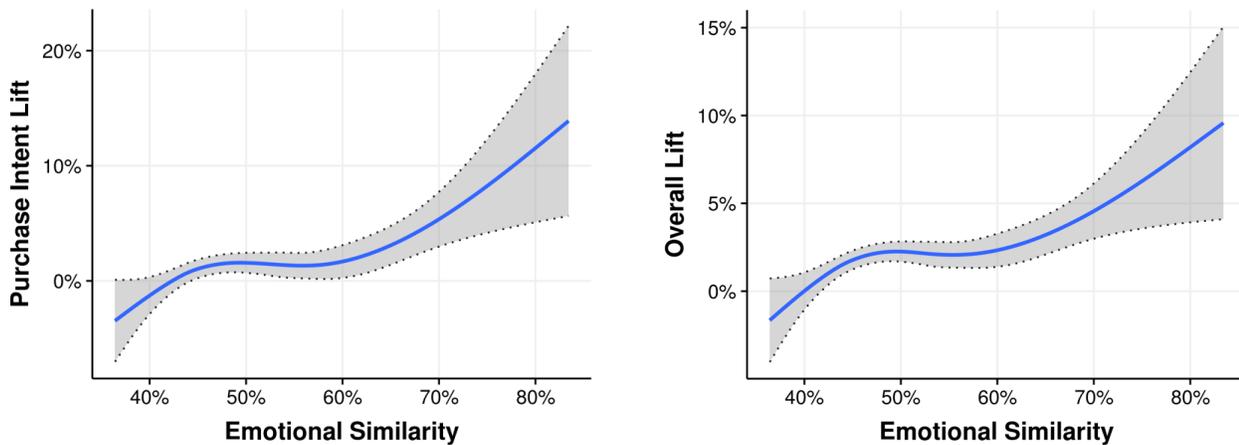FIGURE 8 | **PREDICTED LIFT OF AD IN SHOW**

Figure 8 shows the predicted lift percent as a function of emotional similarity between the ad and the show. The prediction line is a spline smoothing model (R mgcv library) with individual respondents' lift scores as the unit of analysis. The figure shows that respondents' lift increased with higher emotional similarity between the ad and the show. So, for example, low similarity scores, around 40% produced lift values of around 0%, where essentially the ads performed more or less just as well as they did in baseline. In the 45% to 58% range the predicted lift increases to around 2.5% for Overall and to around 1.5% lift for the Predicted Purchase Intent measure. After 60% similarity, both Overall and Purchase Intent saw another increase in lift to ~5% lift at 70% similarity for both measures. At the highest level of similarity, around 80% observed in the study, lift was ~15% for Purchase Intent, and just under 10% for Overall. Similarity scores below 40% produced a negative lift, meaning the ads performed worse than baseline. The gray shaded region around the line represents the 95% confidence interval for the predicted smoothed value for each of the curves, reflecting the uncertainty in the exact lift value. The effects were statistically significant using a wide variety of linear tests for both measures, $p < .05$.

IMPLICATIONS

We set out to understand how emotional context impacts ad effectiveness and found that the greater the similarity between the emotional context of the show and the ad, the more receptive the viewer is to the message. Thus, getting the greatest return for ad dollars depends not only on delivering the right message to the right viewer—but also, that message needs to be delivered in the right emotional context.

Our focus on ad and show emotions doesn't erase the importance of properly targeting consumers; the value of buying media on the basis of consumer targets is already well established. But while the use of current algorithms and optimizers make it easier to find consumer targets, it isn't necessarily easier to get the consumer to be receptive to the message. The results of our work demonstrate that there's additional value in aligning ad and show emotions, and it's the combination of targeting, scale, and emotional connection that can yield the greatest impact and, therefore, the greatest return on ad spend. We've shown that it's possible to optimize a media plan for each ad creative by testing creative and identifying the shows and networks that deliver the greatest level of emotional matching.

Besides matching, we also found that *Uplifting* ads—those perceived to be inspiring, wholesome, calming, uplifting, and relatable—produced the greatest baseline receptivity. *Funny* ads were another set of ads that produced relatively high ad receptivity. Note that such findings may not represent indelible truths since desired emotions for ads will follow trends, or may depend on socio-political contexts. The result does underscore the value of knowing which emotions are currently resonating the most with audiences, and for which industries. White space within an emotional landscape may present opportunities to advertisers willing to take a risk in generating ad creative that matches emotional need.

DISCUSSION

This section clarifies possible limitations of the study and highlights where it may be beneficial to advance what we've learned.

EFFECT SIZE

We tested emotional congruity effects from a single exposure to the ad and the show, and found modest effect sizes. We saw that moderate levels of emotional similarity between ad and show produced 1-3% lift, and higher with higher levels of similarity. While modest, consider that most ad campaigns expose populations to the same set of ads dozens of times, and each advertiser is deploying several ad creatives simultaneously within the same campaign. There is potentially large cumulative effect of this observed lift over many exposures to the same ad.

PSYCHOLOGICAL SIMILARITY

Our calculation of emotional similarity assumes that all emotional dimensions are equal—that, for example, Adrenaline doesn't matter more than Passion in how

people compare the experience of ads and shows. More work can be done to get closer to the true psychological similarity carried out in the minds of viewers. Most likely, our results provide a lower boundary on the positive effects of matching the ad and the show, since psychologically correct models of ad-show similarity should decrease the level of noise, making it easier to see the true effect of emotional matching.

On a related note, there were few ad-show pairs at the high end of the similarity scale, so our modeling had less certainty around the upper end of the scale. There was, however, a consistent positive trend throughout the scale, suggesting that the more similarity the better the lift. Moreover, the ads selected in the study were of the highest perceived quality available. The results are, if anything, a conservative estimate of the value of emotional matching of shows to ads.

MEASURES OF EMOTION

There are two types of emotion that could have been studied in the context of television viewing. The first type is our focus here and can be considered *anticipated* or *associated* emotion. These are the emotions that a viewer would expect from a television experience—what they recall emotionally from the show, what they are likely to associate with the programming from marketing efforts, and from what's discussed socially. The time frame of this type of emotional association takes a relatively long time.

The second type of emotions includes those that are experienced during viewing that might be measured using, e.g., facial expression analysis, Galvanic Skin Conductance, or EEG. Our results do not reflect what people experience emotionally while viewing. Emotional matching at this level may produce similar or different results from what we measured, and while one type of measurement is no more or less valid than the other, the two have different potential implications and applications for the ad industry.

CREATIVE ELEMENTS

Besides emotions, various creative elements, e.g., musical, editing style, celebrity, presence of different ethnicities, age of actors, pets, graphics, etc. can all influence ad receptivity and the effect of matching an ad to a show. A more complete model of how ads and shows interact will include these creative elements, and possibly show how specific creative elements can magnify or reduce the effects of matching ads and shows on an emotional level.

CONCLUSION

In a world where many marketers are being challenged to do more with less (or the same), optimizing performance by creative is a tremendous opportunity. Not only will it provide more return on ad spend, it will also help bridge the gap between creative and media placement teams.

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