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Display Rules Differ Between Positive Emotions: Not All That Feels Good Looks Good

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People do not always show how they feel; norms often dictate when to display emotions and to whom. Norms about emotional expressions—known as display rules—are weaker for happiness than for negative emotions, suggesting that expressing positive emotions is generally seen as acceptable. But does it follow that all positive emotions can always be shown to everyone? To answer this question, we mapped out context-specific display rules for 8 positive emotions: *gratitude, admiration, interest*, *relief, amusement, feeling moved, sensory pleasure*, and *triumph*. In four studies with participants from five countries (*n* = 1,181), two consistent findings emerged. First, display rules differed between positive emotions. Weaker display rules were found for *gratitude*, *interest*, and *amusement*, whereas stronger display rules were found for *sensory pleasure*, *feeling moved*, and to some degree *triumph*. Second, contextual features—such as expresser location and perceiver relationship—both substantially influenced display rules for positive emotions, with perceiver relationship having a greater impact on display rules than expresser location. Our findings demonstrate that some positive emotions are less acceptable to express than others and highlight the central role of context in influencing display rules even for emotions that feel good. In so doing, we provide the first map of expression norms for specific positive emotions.

Keywords: display rules, expression norms, intersubjective approach, positive emotions

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We do not always show others how we feel. We may feel triumphant after an important win yet be restrained in our victorious gestures, or we may feel relieved that a difficult experience is over yet hold back from sighing out loud. Whether we express our emotions is determined by both individual differences, like age and gender (Chaplin, 2015; Urry & Gross, 2010), and environmental features, such as cultural norms and contextual cues (Ford & Mauss, 2015; Kalokerinos et al., 2017). One key explanation for differences in emotional expressions is display rules: social norms about how appropriate the expression of a specific emotion is in a given culture and context (Ekman & Friesen, 1969; Ekman, 1992b).

Although much research has investigated display rules for negative emotions (e.g., Christoforou & Ashforth, 2015; Halberstadt et

al., 2013), little is known about display rules for positive emotions such as gratitude (McCullough et al., 2001), interest (Silvia, 2008), and being moved (Zickfeld et al., 2019). While display rules for joy have consistently been found to be weaker than those for negative emotions like anger or fear (Matsumoto et al., 2008), it does not necessarily follow that people believe *all* positive emotions should *always* be shown to *everyone*. Even for positive emotions, some expressions (e.g., victory smiles) may be downplayed in certain contexts (e.g., if the defeated party is watching; Kalokerinos et al., 2014; van Osch et al., 2019). However, there is a paucity in empirical work directly comparing between positive emotions, which limits our understanding of affective norms.

In the present research, we empirically test the hypothesis that display rules differ between positive emotions, and across social contexts. In doing so, we conduct the first systematic evaluation of social norms for expressions of specific positive emotions across contexts. Across four studies, we map out context-specific display rules for eight positive emotions in five western countries, providing an initial map of expression norms for specific positive emotions.

Expression Norms for Positive Emotion(s)

Display rules are collectively held cognitive schemas that represent beliefs about how normative the expression of a specific emotion is within a given context (Matsumoto et al., 2005). Norms surrounding the appropriateness of emotional displays are thought to be acquired early in socialization (Ekman, 1992b). Importantly, display rules are theorized to act as precedents for expressions

(Diefendorff et al., 2006; Hochschild, 1979), and there is evidence showing that display rules reliably predict expressions of emotion (Saarni, 1979; Zeman & Garber, 1996). Going beyond merely describing differences in emotional expressivity across situations, the empirical study of display rules contributes to understanding *why* emotional expressions are modified (Matsumoto et al., 2008).

Empirical findings on expression norms highlight a key point of contention. In the earliest work on display rules, a consistent pattern emerged: Expressions of joy are generally considered acceptable, at least when contrasted against the display of negative emotions. A wealth of research has found weaker display rules for joy as compared to a range of negative emotions (Matsumoto et al., 2008). This finding has surfaced across a variety of cultures (Safdar et al., 2009) and has been replicated across contexts ranging from workplace settings (Diefendorff & Greguras, 2009) to interactions to customer service staff (Grandey et al., 2010). However, an emerging literature demonstrates that even for positive emotions, expressions may be discouraged in particular contexts (Kalokerinos et al., 2014). For example, expressing schadenfreude by laughing at the misfortune of others may be perceived as unacceptable (Smith et al., 2009) and displays of triumph may also be deemed inappropriate, when the defeat is deemed relevant by the losing party (van Osch et al., 2019).

When viewed in concert, the above findings bring to light a disjuncture. Whereas displays of joy are in general considered appropriate (i.e., they are subject to weak display rules), expressions of positive emotions are not always considered acceptable. One possibility is that this reflects a distinction between the broad construct of happiness and specific positive emotions. To date, "happiness" remains the sole representative for all "feel good" emotions in the systematic study of expression norms (see Matsumoto et al., 2008). This current state of the field is informed by the earliest findings in affective science, where expressions of joy were initially thought to represent how all positive emotions may be displayed (Ekman, 1992a). However, an emerging line of work has established that multiple positive emotions are expressed and recognized through specific configurations of facial, bodily, and vocal cues (e.g., Cordaro et al., 2019; Cowen et al., 2019). Assuming that all positive emotions can be encapsulated by a unitary construct of joy may hence be obscuring important differences in display rules across a range of positive emotions (see Shiota et al., 2017). Congruent with this expanded understanding of the positive emotion space, the present research provides a much-needed update to the empirical literature on affective norms. We here aimed to map out display rules for multiple positive emotions, and relatedly address the question of whether equivalent display rules can be found across these emotions.

Sampling Positive Emotion Space

We first acknowledge that scholars may be divided on which emotions are considered most important to examine. Rather than relying on idiosyncratic judgments, we sought to contrast emotions that differ on key conceptual features. We hence used two existing theoretical frameworks to guide our selection of emotions: the arousal-engagement matrix (Kitayama et al., 2006; Tsai et al., 2006), and the emotion families approach (Sauter, 2017). The arousal-engagement framework points to underlying dimensions that can be used to classify emotions, and thereby emphasizes cross-cultural differences

(Boiger & Mesquita, 2012). Emotion families are informed by theorizing emphasizing specialized evolutionary functions for different emotions, which are postulated to be shared across human beings (Tooby & Cosmides, 2008). In both of these frameworks, and indeed in emotion research more broadly, emotions are considered to be multicomponential phenomena (e.g., subjective experience, nonverbal expressions, physiological changes) elicited by environmental antecedents, which last for a brief period of time as opposed to traits that endure (see Shiota et al., 2021). We first provide a brief overview of each of the abovementioned frameworks.

In combining the two distinct but complementary dimensions of physiological arousal (Tsai et al., 2006) and social engagement (Kitayama et al., 2006), the arousal-engagement matrix serves as one way to categorize positive emotions. *Arousal* denotes the degree to which an emotion elicits a heightened physiological response (Larsen et al., 1986). *Engagement* refers to the extent to which an emotion facilitates interpersonal closeness between people (Kitayama et al., 2000). Positive emotions could hence theoretically fit into one of four potential quadrants (high arousal, high engagement; high arousal, low engagement; low arousal, high engagement; low arousal, low engagement). We accordingly sampled emotions from each quadrant (see Figure 1).

The emotion families approach (Sauter, 2017; Shiota et al., 2017) proposes that positive emotions can tentatively be classified into one of four clusters that diverge in terms of evolutionary functions. *Epistemological* emotions involve a shift in one's knowledge state, *prosocial* emotions aid in fostering social relationships, *savoring* emotions stem from experiencing pleasant stimuli, and *agency-approach* emotions are characterized by a desire to obtain possible reward in the environment. We thus selected emotions that represent each positive emotion family. Figure 1 provides a visual representation of the positive emotion space and charts out where our selected emotions are potentially positioned. This list is by no means exhaustive; for example, our final set does not include *awe* (Keltner & Haidt, 2003), *hope* (Bruininks & Malle, 2005), or *compassion* (Goetz et al., 2010). Nonetheless, by selecting emotions based on theoretical criteria, our findings can be used as a springboard to make predictions about display rules for other emotions that share features with our set.

Display Rules Per Positive Emotion

Our initial study was necessarily exploratory, although we made some predictions based on previous theory and research. *Gratitude* was expected to have the weakest display rules, given its importance for forging reciprocity norms (Nowak & Roch, 2007). For three emotions, all of which are high in physiological arousal, we expected comparatively stronger display rules based on the logic that highly intense expressions are generally seen as inappropriate (Cheshin et al., 2018; Warner & Shields, 2009): *feeling moved*, *sensory pleasure*, and *triumph*. We were unable to form emotion specific predictions regarding the display rules of the four remaining positive emotions: *admiration* (expressivity may depend on individual status: Sweetman et al., 2013), *interest* (norms depend on the topic being discussed: Niehoff & Oosterwijk, 2020), *relief* (expressions may depend on impression management: Bourdage et al., 2015), and *amusement* (norms are dependent on the seriousness of social context: Kastendieck et al., 2021). In the ensuing section, we elaborate on each of these emotions in detail and outline how they

Figure 1
The Selected Eight Positive Emotions Situated Along the Dimensions of Arousal and Social Engagement, and Clustered According to Emotion Families
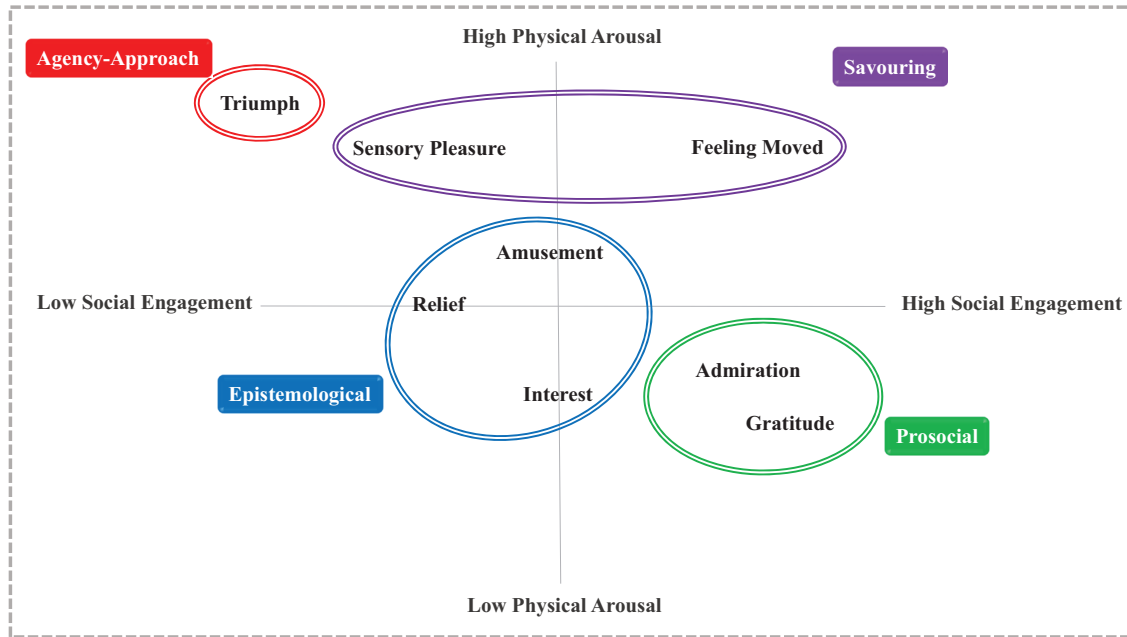
Note. See the online article for the color version of this figure.

differ on conceptual attributes, which were broadly used to inform our hypotheses.

Gratitude is the feeling of thankfulness that arises from the positive contributions of another person or group (McCullough et al., 2001). It can be conceptualized as a low-arousal emotion and is mostly expressed using words (Williams & Bartlett, 2015). Gratitude is a high-engagement emotion that promotes interpersonal closeness (Algoe et al., 2013). Communicating gratitude fosters social bonds through norms of reciprocity, and is hence thought to be a prosocial emotion (Sauter, 2017). Open expressions of gratitude are mostly encouraged, and a growing body of research demonstrates that ungratefulness is deemed punishable (Emmons & Shelton, 2002). Based on these considerations, we expected weaker display rules for gratitude than for the other emotions.

Admiration is defined as the feeling that occurs when someone looks up to another person because of their qualities (Onu, Kessler, & Smith, 2016). Like gratitude, admiration is a low-arousal, high-engagement, prosocial positive emotion (Algoe & Haidt, 2009). However, an important distinction exists between the two: Whereas being the beneficiary of aid in some form is a prerequisite for experiencing gratitude, admiration can be experienced even when people do not directly stand to gain from the target (Onu, Kessler, Andonovska-Trajkovska, et al., 2016). Given that displays of admiration do not serve reciprocity functions, communicating admiration may highlight the asymmetrical power dynamic between the expresser and the target (Sweetman et al., 2013).

Interest is the feeling that arises when novel, relevant stimuli are observed in the environment (Silvia, 2008). Interest is a low-arousal positive emotion, and its expression most frequently occurs through vocal cues and words (Banse & Scherer, 1996). In terms of social engagement, interest could be classified as

malleable. Being interested in a topic can draw a person's focus inward toward their own thoughts (Sung & Yih, 2016), yet shared interests with other people can catalyze engagement with others (Yoon et al., 2012). Given the shift in knowledge state that occurs when interest is experienced, it is classified as an epistemological emotion (Sauter, 2017).

Relief is the feeling of respite that is experienced when an unpleasant situation, either ongoing or expected, comes to an end (Weisberg & Beck, 2012). Although the experience of relief is positive, it is felt in response to the cessation of a negative antecedent (Izard, 1992). Moreover, the arousal level of relief may depend on the intensity of the negative situation or threat, and as such displays of relief could depend on how amenable an expresser is to show they were in a difficult situation to start with. Relief is a low-engagement emotion, in that cognitive focus is drawn toward one's own situation rather than others. Like interest, relief is an epistemological positive emotion that involves an updated knowledge state.

Amusement is the feeling experienced when encountering humorous stimuli (Sharpe, 1975). It is a high-arousal positive emotion, usually expressed with laughter (Shiota et al., 2003). The literature on contagious laughter points to how jokes are typically shared and how laughter aids in the forging and maintaining of social bonds (Scott et al., 2014), thereby indicating that amusement may be a socially engaging emotion. In some cases, however, the amused person's focus may be directed toward the object of humor rather than other people (Giuliani et al., 2008), and laughter can also be used to exclude others (Szameitat et al., 2009), hence suggesting that the engagement level of amusement may be malleable.

Feeling moved is an emotion that is triggered when partaking in or observing communal sharing relationships, such as an unexpected reunion (Menninghaus et al., 2015). It is thought to be mixed in valence, such that mainly positive but also some negative feelings are invoked when feeling moved (Strick & Van Soolingen, 2018). It is a high-arousal emotion, often expressed with moist eyes or goosebumps (Schubert et al., 2018), and is considered a high-engagement emotion, given the focus on interpersonal connections (Zickfeld et al., 2019). Feeling moved is thought to be a savoring positive emotion, primarily driven by a desire to experience pleasurable social cues in the environment. Given the expression of feeling moved may involve tears, the expresser could be perceived as vulnerable, overwhelmed, or distressed (Hendriks & Vingerhoets, 2006). Based on the logic that most people refrain from crying openly, we expected stronger display rules for feeling moved as compared to the other emotions.

Sensory pleasure is experienced when stimuli from the environment cause enjoyment through one or multiple modalities (Berridge, 2003). Like feeling moved, sensory pleasure is a high-arousal, savoring positive emotion (Aydede, 2014), but it differs in that it is a low-engagement emotion; the experience of pleasure draws focus inward, toward one's own senses (Oishi et al., 2001). Displaying sensory pleasure may hence make an expresser look self-absorbed and indulgent (Veenhoven, 2003), thereby potentially hampering interpersonal relationships. As such, we predicted stronger display rules for sensory pleasure than for the other positive emotions.

Triumph is the feeling elicited upon winning or success (Matsumoto & Hwang, 2012). It is a high-arousal emotion, commonly characterized by an expansive body posture (Tracy & Matsumoto, 2008). Triumph is a low-engagement emotion, given that feeling victorious draws attention toward one's own achievements, and it demonstrates agency and is characterized by approach tendencies toward reward (Sauter, 2017). Triumph displays can hence be perceived as signals of dominance (App et al., 2011), and a substantial body of work demonstrates the negative interpersonal consequences of a closely related positive emotion: pride (see Wubben et al., 2012). Yet a key feature that distinguishes triumph from pride, is that triumph expressions are the result of an actual victory, meaning that displays are more authentic and not hubristic (see Tracy & Robins, 2007). As such, expressers may be thought of as conceited and arrogant, but also likely as highly competent (Shariff & Tracy, 2009). These ambivalent social perceptions toward triumph displays are further dependent on context (van Osch et al., 2019). Consequently, we expected stronger display rules for triumph as compared to the other positive emotions, but not to the same degree as should be observed for feeling moved or sensory pleasure.

Hypothesis 1

We predicted a main effect of emotion on display rules, whereby some emotions should be associated with stronger display rules as compared to others. The weakest display rules were expected for *gratitude*, and the strongest display rules were postulated for *feeling moved* and *sensory pleasure* (H1).

Display Rules Depend on Social Context

Contextual features have been demonstrated to influence both emotional expressions and norms related to these expressions (Greenaway et al., 2018). For example, people report greater intentions to laugh (i.e., to express amusement) when a close friend shares a joke, as compared to a stranger (Zaalberg et al., 2004), which may point to stronger display rules in the company of distant others. Specific features of the physical environment may also influence emotion displays; people are less restrained in their triumphant expressions when afforded privacy (Friedman & Miller-Herringer, 1991), thereby suggesting stronger display rules when in public. To evaluate the generalizability of context effects on display rules for a range of positive emotions, we examine the roles of two key context factors: *expresser location* (where they are) and *perceiver relationship* (who they are with).

Hypotheses 2a and 3a

Expresser location was based on definitions of psychological ownership of space (Pierce et al., 2001): *private* spaces are claimed as one's own domain, whereas *public* spaces are shared with others. When people are in familiar spaces, they tend to be more comfortable with expressing themselves (Minam & Tanaka, 1995). In line with this logic of expressive comfort, weaker display rules for joy have been reported in private as compared to public settings (Koopmann-Holm & Matsumoto, 2011). Based on these findings, we predicted a main effect of location on display rules, such that stronger display rules would apply when in public rather than private settings (H2a).

Perceiver relationship was based on the literature on dependence and interconnectedness (Aron et al., 1992): *close others* belong to one's innermost social circle, whereas *distant others* are acquaintances or people with whom one has a superficial relationship. People most freely express their emotions when in the company of others with whom they feel connected and trust (Berscheid et al., 1989; Hess & Fischer, 2013). Weaker display rules for joy have been found when interacting with close as compared to distant others (Matsumoto et al., 2005). We hence postulated a main effect of relationship on display rules, with stronger display rules predicted when people are in the company of less close, as compared to very close, others (H3a).

Hypotheses 2b and 3b

Social context has been found to play a particularly pronounced role in shaping display rules for emotions that are thought to be generally unacceptable to express: anger and sadness in the case of negative emotions (Fischer & Manstead, 2016). For example, anger expressions toward one's boss are more strongly regulated when one is afraid of professional repercussions (Geddes et al., 2020), and displays of sadness are often only deemed appropriate when in the company of family members or close friends who can be trusted to not take advantage of one's vulnerable state (Zeman & Garber, 1996). We expected a similar pattern for positive emotions as well, where social context should be especially important for emotions that have the strongest display rules in general.

We hence hypothesized an interaction effect between emotion and location. Public (rather than private) settings should elicit stronger display rules for positive emotions that are deemed the least acceptable to display (H2b). Applying the same logic, we predicted an interaction effect between emotion and relationship. Being in the company of less close others (as opposed to very

close others) should be predictive of stronger display rules, particularly for emotions that are considered the least appropriate to show (H3b).

Research Aims and Overview

The current set of studies sought to answer two key questions. First, do all positive emotions have equivalent display rules? Second, what is the role of social context in display rules for positive emotions? To address these questions, we conducted four studies that mapped out display rules for eight distinct positive emotions: *gratitude*, *admiration*, *interest*, *relief*, *amusement*, *feeling moved*, *sensory pleasure*, and *triumph*. Display rules for each emotion were examined in four social contexts, varying by expresser location (*private* vs. *public*) and perceiver–expresser relationship (*close other* vs. *distant other*). Across all four studies, we tested the roles of emotion specificity (H1) and social context (H2 & H3) in influencing display rules for positive emotions.

We first exploratorily tested our hypotheses with native English speakers in the United States (Study 1a) and thereafter conducted a preregistered replication study with a separate sample of U.S. respondents (Study 1b). We then sought to test the generalizability of our findings in two Western European samples that spoke similar languages to English: Dutch (Study 2) and German (Study 3). Finally, we examined two additional relationship contexts of theoretical significance (*when alone*, and *with strangers*) in two English speaking samples outside of North America: Australia and England (Study 4).

Statement on Transparency, Openness, and Ethics

All studies received ethical approval from the University of Amsterdam (Psychology Department). Fully anonymized data, analytic code, and study materials are available here: https://osf.io/5hqap/?view_only=fb920369c60d4ab18ca480d8e5cc9ba2. We report how sample sizes were determined for all studies and include relevant links to preregistrations.

Study 1a: Exploratory Analyses in the United States

The purpose of Study 1a was to exploratorily test our hypotheses as described above.

Method

Participants

Two hundred four U.S. citizens[1] (61.8% men, 38.2% women; 81.4% White, 8.8% Black, 6% Asian, 3.8% Hispanic and Other) were recruited via Amazon Mechanical Turk (age range 20–64 years; $M_{age} = 33.9$, $SD_{age} = 9.91$). Participants were paid US$1 each. Sample sizes for all studies were established by applying a stringent rule of thumb of a 1:10 predictor to participant ratio for each cell (Maxwell, 2004). Sensitivity analyses using G*Power Version 3.1.9 (Faul et al., 2009) indicated our sample size to be sufficiently powered at 80% for detecting small effects of emotion ($f = .10$) in our ANOVA models. We also conducted power analyses specific to repeated-measures designs where interaction effects involve factors that are both nested and crossed (PANGEA: see also Westfall, 2014). Given the exploratory nature of our work, we

expected a small effect size ($d = .2$), and our sample was well powered at 99% to detect interaction effects between modeled predictors (e.g., emotion by location).

Materials

Participants were first shown a list of the eight positive emotions and provided with definitions for each emotion. To prompt them to focus on emotional expressions, rather than felt experience, they were then asked to *think about how Americans in general would express* each positive emotion and were asked to select options denoting various modalities of expressions (e.g., *on the face, with the voice, using words*).[2]

Participants then answered items relating to expression norms. Several measures of display rules exist in the literature (e.g., Christoforou & Ashforth, 2015; Matsumoto et al., 2005; Rimes & Chalder, 2010; Stephan et al., 1996). Although these research tools have been valuable for mapping out expression norms for the so-called basic emotions, they are unsuitable for studying positive emotions whose displays can be quite similar to one another, and in some cases may differ in terms of degree rather than type (Mortillaro et al., 2011). To this end, we developed the Display Rules Assessment for Positive Emotions (DRAPE). The DRAPE adapted the intersubjective approach for measuring norms (Chiu et al., 2010). For the sake of completeness, the initial version included both descriptive and injunctive norms (Kallgren et al., 2000).[3] Apart from being highly face valid, the DRAPE was found to have good internal reliability and test–retest reliability (scale psychometrics in online supplemental materials H).

Using the DRAPE, participants rated how appropriate (1 = *very inappropriate*, 9 = *very appropriate*) *Americans in general find the expression* of each emotion to be in four contexts: private with very close others, private with less close others, public with very close others, and public with less close others. All responses were reverse coded, so that higher values on the DRAPE denote stronger display rules.

Procedure

Participants judged each of the eight positive emotions separately. The order of emotions was randomized, and within each emotion, the order of presentation for the four contexts was counterbalanced (order for *location* was randomized, while order for *relationship*

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[1] We conducted additional data quality analyses by excluding participants who gave incoherent answers to an open-ended question embedded in our survey ($n = 10$). Our pattern of results remained unaltered and significance levels unchanged regardless of whether these participants were excluded.

[2] Items measuring *how* positive emotions are thought to be expressed (through various modalities) are part of a larger dataset, which are published in an article addressing a different research question to the present research: https://doi.org/10.1007/s10919-021-00376-0.

[3] Distinctions have been made in the social norms literature between injunctive and descriptive norms (Jacobson et al., 2011). In our preliminary studies, we therefore included both injunctive norm endorsements (that denote acceptability (*appropriateness*) of expression), and descriptive norm endorsements (that reflect frequency (*likelihood*) of expression). We did not have a priori hypotheses concerning differences between these two types of norms but included them in our initial design for completeness. The effects of Norm Type are reported (where applicable) in online supplemental materials B.

remained constant).[4] Hence, each participant completed a total of 32 items. Finally, demographic information was collected.[5]

Results and Discussion

An 8 × 2 × 2 repeated-measures analysis of variance (ANOVA) was conducted with the following factors modeled: Emotion (8; within-subjects), Location of expresser (Private vs. Public; within-subjects), and Relationship to perceiver (Close vs. Distant; within-subjects). We accounted for multiple comparisons by Bonferroni-correcting p value thresholds for eight comparisons, one per emotion ($p < .006$).[6] We first report all regression statistics across studies (see Table 1) and elaborate on the findings relating to each of the hypotheses in the text.

H1: Emotion

The main effect of Emotion was significant, demonstrating that display rules differed between positive emotions (see Figure 2 for means and standard deviations, and Table 2 for cross-emotion comparisons). As expected, the weakest display rules were indicated for gratitude. Relatively weaker display rules were also surfaced for interest and amusement as compared to most other emotions. In contrast, the strongest display rules were found for sensory pleasure and feeling moved. Stronger display rules were also observed for triumph as compared to some other emotions.

H2a and H3a: Location of Expresser and Relationship to Perceiver

As predicted significant main effects of Location and Relationship were found. Stronger display rules were found for public ($M = 3.21$, $SD = 1.11$) than for private settings ($M = 2.83$, $SD = 1.09$), and stronger display rules were indicated when in the company of distant others ($M = 3.44$, $SD = 1.27$) as compared to close others ($M = 2.60$, $SD = 1.17$).

H2b and H3b: Emotion by Location, and Relationship

The interaction effects between Emotion and Location of expresser (as well as Relationship to perceiver) were found to be significant, demonstrating that the effects of Location and Relationship on display rules were dependent on the specific positive emotion being expressed. As predicted, the difference in display rules between public and private setting was most pronounced for sensory pleasure and feeling moved. Similarly, the difference in display rules between close versus distant others was greatest for feeling moved and sensory pleasure. For the other positive emotions, the effects of Location and Relationship were less strong. For figures visualizing contextual differences per emotion and associated pairwise contrasts, see online supplemental materials C.

Study 1b: Replication Without Emotion Definitions in the United States

In Study 1a, participants were provided with emotion definitions. This may have unintentionally guided their judgments, for example, by indicating expression strength (e.g., the mention of tears for being moved). In Study 1b, we sought to replicate Study 1a without participants being provided with emotion definitions, thereby ruling out this potential alternative explanation for our results. Study 1b was preregistered at https://osf.io/j8bdc/?view_only=e53ed6a4116e4e0882966821025d0d12.

Method

Participants

Two hundred eighty-five U.S. citizens were recruited via Prolific. Five participants failed a preregistered attention check (final $n = 280$), and their data were thus not included in the final sample. Participants (46.8% men, 51.8% women, 1.4% undisclosed or other; 80% White, 20% Black, Asian, Hispanic and Other; age range 18–75 years; $M_{age} = 35.8$, $SD_{age} = 11.8$) were paid US \$4.40 each. Sensitivity analyses indicated our sample size to be sufficiently powered at 80% for detecting small effects of emotion ($f = .08$) and highly powered at 99% to detect small effects of interaction terms ($d = .2$).

Materials and Procedure

We used identical materials as Study 1a, with the only difference being the removal of emotion definitions. To keep the study length short, DRAPE items were blocked together in four-emotion clusters (block 1: gratitude, feeling moved, interest, triumph; block 2: amusement, relief, admiration, sensory pleasure; emotion order randomized within each block) and administered at two separate time points 7–8 weeks apart.

Results

Identical analyses to Study 1a were conducted: an 8 × 2 × 2 repeated-measures ANOVA with Bonferroni corrections to account for multiple comparisons ($p < .006$).

H1: Emotion

As reported in Table 1, the main effect of Emotion was significant, demonstrating that display rules differed between positive emotions. Replicating the results from Study 1a, the weakest display rules were found for gratitude, and the strongest display rules for sensory pleasure and feeling moved. In addition, relatively weaker display rules were reported for amusement as compared to some other emotions, whereas relatively stronger display rules were found for triumph (Figure 2 for means, and Table 2 for contrasts).

H2a and H3a: Location of Expresser and Relationship to Perceiver

As expected, significant main effects of Location and Relationship were found. Stronger display rules were indicated for public

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[4] We additionally examined whether order effects influenced our results. Location Order Effect was thus included as a between-subjects factor; its effect was not significant, $F(1, 197) = 0.09$, $p = .770$, $\eta_p^2 < .001$. For all subsequent studies, we therefore used a fixed order of presentation for the DRAPE items, within each emotion.

[5] In all studies except Study 1b, we measured individual differences in emotion regulation strategies (Gross & John, 2003) and life satisfaction (Diener et al., 1985), just prior to demographics. These scales were included to test for predictive validity of the DRAPE, and all statistics are reported in online supplemental materials H.

[6] As ancillary analyses, we also modelled the influence of demographic variables, that potentially influence emotion regulation: ethnicity (Matsumoto, 1993), age and gender (Zimmermann & Iwanski, 2014). The inclusion of these variables did not alter the relationships reported. These results are detailed in online supplemental materials B.

Table 1

Influence of Key Predictors on Display Rules, Across All Four Studies

Predictor	Study 1a: U.S. (Exploratory)	Study 1b: U.S. (Replication)	Study 2: The Netherlands	Study 3: Germany	Study 4: Australia and England
H1: Emotion	$F(5.85, 1,187.30) = 25.49$ $p < .001$ $\eta_p^2 = .112$	$F(5.78, 1,613.24) = 132.86$ $p < .001,$ $\eta_p^2 = .323$	$F(6.17, 876.48) = 63.04$ $p < .001,$ $\eta_p^2 = .307$	$F(4.81, 702.07) = 25.28$ $p < .001,$ $\eta_p^2 = .148$	$F(6.44, 2,595.48) = 104.63$ $p < .001,$ $\eta_p^2 = .206$
H2a: Location	$F(1, 203) = 70.92$ $p < .001$ $\eta_p^2 = .259$	$F(1, 279) = 633.16$ $p < .001$ $\eta_p^2 = .694$	$F(1, 142) = 429.93$ $p < .001$ $\eta_p^2 = .752$	$F(1, 146) = 583.38$ $p < .001$ $\eta_p^2 = .800$	$F(1, 403) = 96.25$ $p < .001$ $\eta_p^2 = .193$
H3a: Relationship	$F(1, 203) = 91.76$ $p < .001,$ $\eta_p^2 = .311$	$F(1, 279) = 664.99$ $p < .001,$ $\eta_p^2 = .704$	$F(1, 142) = 778.35$ $p < .001,$ $\eta_p^2 = .846$	$F(1, 146) = 546.84$ $p < .001,$ $\eta_p^2 = .789$	$F(2.20, 887.42) = 554.38$ $p < .001,$ $\eta_p^2 = .579$
H2b: Emotion × Location	$F(5.99, 1,215.41) = 4.80$ $p < .001,$ $\eta_p^2 = .023$	$F(5.91, 1,649.86) = 41.54$ $p < .001,$ $\eta_p^2 = .130$	$F(6.36, 903.34) = 19.36$ $p < .001,$ $\eta_p^2 = .120$	$F(5.27, 769.35) = 6.53$ $p < .001,$ $\eta_p^2 = .043$	$F(6.44, 2,595.48) = 7.11$ $p < .001,$ $\eta_p^2 = .017$
H3b: Emotion × Relationship	$F(6.48, 1,314.41) = 12.03$ $p < .001,$ $\eta_p^2 = .056$	$F(5.92, 1,652.24) = 36.42$ $p < .001,$ $\eta_p^2 = .115$	$F(6.47, 918.42) = 30.08$ $p < .001,$ $\eta_p^2 = .175$	$F(5.77, 843.06) = 10.06$ $p < .001,$ $\eta_p^2 = .064$	$F(13.76, 5,544.31) = 52.19$ $p < .001,$ $\eta_p^2 = .115$

Note. Degrees of freedom are corrected for sphericity assumptions.

($M = 3.37$, $SD = 1.00$) than for private settings ($M = 2.43$, $SD = .82$), and stronger display rules were found when in the company of distant others ($M = 3.58$, $SD = 1.14$) as compared to close others ($M = 2.22$, $SD = .75$).

H2b and H3b: Emotion by Location and Relationship

The interaction effects between Emotion and Location of expresser and Relationship to perceiver were found to be significant, again

Figure 2

Means (and Standard Deviations) of Display Rules per Emotion, for Study 1a (Top Left), Study 1b (Bottom Left), Study 2 (Top Center), Study 3 (Bottom Center), and Study 4 (Top Right for Australia, Bottom Right for England)
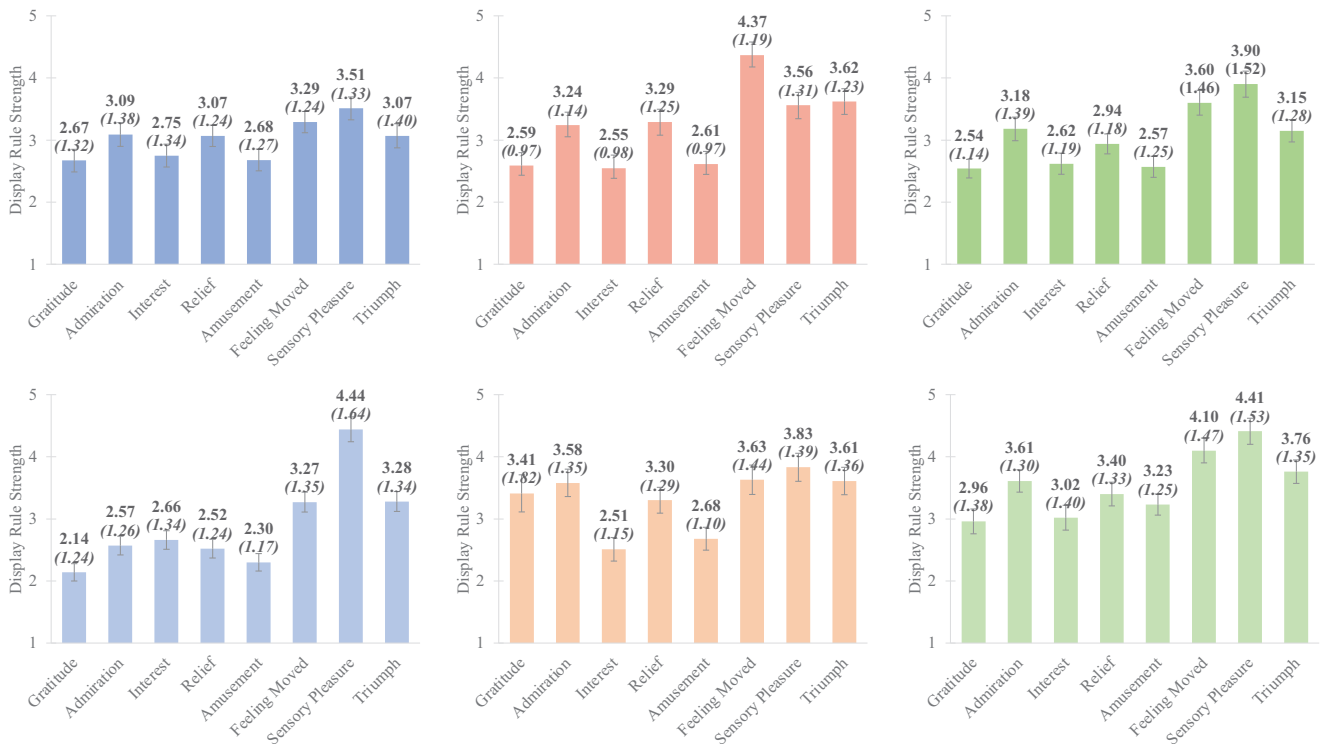
Note. Error bars reflect confidence intervals. See the online article for the color version of this figure.

Table 2

Cross-Emotion Comparisons in Study 1a (Bottom Diagonal) and Study 1b (Top Diagonal)

Emotion	Gratitude	Admiration	Interest	Relief	Amusement	Feeling moved	Sensory pleasure	Triumph
Gratitude	—	**B = .44, SE = .08** [.17, .70] **p < .001**	**B = .52, SE = .08** [.27, .77] **p < .001**	**B = .39, SE = .08** [.12, .65] **p < .001**	B = .16, SE = .08 [−.08, .40] p = .983	**B = 1.13, SE = .08** [.87, 1.40] **p < .001**	**B = 2.31, SE = .11** [1.95, 2.66] **p < .001**	**B = 1.14, SE = .09** [.86, 1.43] **p < .001**
Admiration	**B = −.42, SE = .08** [−.67, −.17] **p < .001**	—	B = .08, SE = .09 [−.20, .37] p = 1	B = −.05, SE = .07 [−.28, .18] p = 1	**B = −.27, SE = .07** [−.51, −.04] **p = .007**	**B = .70, SE = .09** [.41, .99] **p < .001**	**B = 1.87, SE = .10** [1.54, 2.20] **p < .001**	**B = .71, SE = .09** [.42, 1.00] **p < .001**
Interest	B = −.08, SE = .08 [−.32, .16] p = 1	**B = .34, SE = .08** [.08, .60] **p = .001**	—	B = −.13, SE = .09 [−.41, .14] p = 1	**B = −.36, SE = .09** [−.64, −.08] **p = .002**	**B = .61, SE = .09** [.34, .89] **p < .001**	**B = 1.79, SE = .11** [1.44, 2.14] **p < .001**	**B = .62, SE = .09** [.35, .90] **p < .001**
Relief	**B = −.40, SE = .07** [−.60, −.19] **p < .001**	B = .02, SE = .07 [−.21, .25] p = 1	**B = −.32, SE = .07** [−.55, −.09] **p = .001**	—	**B = −.23, SE = .07** [−.44, −.01] **p = .032**	**B = .75, SE = .09** [.46, 1.04] **p < .001**	**B = 1.92, SE = .10** [1.59, 2.25] **p < .001**	**B = .76, SE = .09** [.47, 1.04] **p < .001**
Amusement	B = .00, SE = .08 [−.24, .24] p = 1	**B = .42, SE = .09** [.14, .69] **p < .001**	B = .08, SE = .07 [−.14, .30] p = 1	**B = .40, SE = .08** [.16, .64] **p < .001**	—	**B = .97, SE = .09** [.69, 1.26] **p < .001**	**B = 2.14, SE = .11** [1.80, 2.49] **p < .001**	**B = .98, SE = .08** [.72, 1.25] **p < .001**
Feeling Moved	**B = −.62, SE = .09** [−.91, −.33] **p < .001**	B = −.20, SE = .08 [−.46, .05] p = .373	**B = −.54, SE = .10** [−.86, −.22] **p < .001**	B = −.22, SE = .08 [−.47, .03] p = .139	**B = −.62, SE = .10** [−.92, −.32] **p < .001**	—	**B = 1.17, SE = .11** [.81, 1.53] **p < .001**	B = .01, SE = .08 [−.25, .27] p = 1
Sensory Pleasure	**B = −.84, SE = .10** [−1.14, −.53] **p < .001**	**B = −.42, SE = .09** [−.71, −.13] **p < .001**	**B = −.76, SE = .09** [−1.06, −.46] **p < .001**	**B = −.44, SE = .09** [−.71, −.17] **p < .001**	**B = −.84, SE = .09** [−1.13, −.55] **p < .001**	B = −.22, SE = .08 [−.49, .05] p = .275	—	**B = −1.16, SE = .11** [−1.52, −.80] **p < .001**
Triumph	**B = −.39, SE = .09** [−.68, −.11] **p < .001**	B = .02, SE = .08 [−.23, .28] p = 1	**B = −.32, SE = .09** [−.59, −.04] **p = .011**	B = .00, SE = .08 [−.25, .25] p = 1	**B = −.39, SE = .08** [−.66, −.13] **p < .001**	B = .23, SE = .10 [−.08, .53] p = .603	**B = .44, SE = .09** [.15, .74] **p < .001**	—

Note. Significant differences are bolded, and squared brackets denote 95% confidence intervals.

demonstrating that the effects of Location and Relationship on display rules depended on the specific positive emotion being expressed. As in Study 1a, the difference in display rules between public and private setting was most pronounced for sensory pleasure and feeling moved. Similarly, the difference in display rules between close versus distant others was largest for feeling moved and sensory pleasure (see online supplemental materials D for visualization and pairwise contrasts).

Discussion: Display Rules for Positive Emotions in the United States

Taken together, Studies 1a and 1b demonstrate differences in display rules between positive emotions. As expected, the weakest display rules were found for gratitude, and the strongest display rules were indicated for sensory pleasure and feeling moved. In addition, relatively weak display rules were also found for amusement and interest, while relatively strong display rules were indicated for triumph. A second consistent finding was that social context (such as location and relationship closeness) influenced display rules for positive emotions in general. When in public (rather than private), or in the company of distant others (as opposed to close others), stronger display rules were reported.

We next aimed to examine the generalizability of our initial findings by running the study in two other languages than English: Dutch and German. Specifically, we sought to test the reproducibility of our results in a Dutch student sample and a German community sample. Given the similarity in language family, we expected a similar pattern of results as in Study 1.

Study 2: Dutch Student Sample

Method

Participants

As in Study 1, we expected small sized effects for our a priori predictions. One hundred forty-three Dutch-speaking undergraduates (86.7% women, 13.3% men) from a large European university participated for research credits (M_{age} = 20.15, SD_{age} = 3.70, age range 17–53 years). Sensitivity analyses indicated our sample size to be sufficiently powered at 80% for detecting small effects of emotion (f = .12), and highly powered at 96% to detect small interaction effects (d = .2).

Materials and Procedure

Using the team translation approach (Douglas & Craig, 2007), all materials were adapted into Dutch by two native Dutch speakers. All measures and the procedure were otherwise identical to Study 1a. To keep the study instructions as specific as possible—which is an important practice when translating scales across languages (see Sperber et al., 1994)—we included emotion definitions as in Study 1a.

Results and Discussion

The analytical approach was identical to that of Study 1a, including the corrected Bonferroni p-value thresholds ($p < .006$).

H1: Emotion

As reported in Table 1, the main effect of Emotion was significant, demonstrating that display rules differed between positive emotions. Weaker display rules were indicated for gratitude—but also for amusement and interest—as compared to the remaining emotions. In contrast, feeling moved was associated with the strongest display rules. Moreover, relatively strong display rules were also observed for triumph and sensory pleasure as compared to some other emotions (see Figure 2 and Table 3).

H2a and H3a: Location of Expresser and Relationship to Perceiver

As predicted, significant main effects of Location and Relationship were found. Stronger display rules were indicated for public (M = 3.70, SD = .85) than for private settings (M = 2.76, SD = .65), and stronger display rules indicated when in the company of distant others (M = 3.98, SD = .88) as compared to close others (M = 2.47, SD = .66).

H2b and H3b: Emotion by Location and Relationship

Significant interaction effects between Emotion and Location of expresser as well as Relationship to perceiver were found. Similar to Study 1, the difference in display rules between public and private setting was most pronounced for feeling moved. The difference in display rules between close versus distant others was greatest for feeling moved as well. Strong contextual differences also manifested for triumph and sensory pleasure (see online supplemental materials E).

Study 3: German Community Sample

Method

Participants

Data were collected via Prolific from a community sample of German nationals, paid 1.50 Euros each. One hundred forty-seven participants (66.0% men, 33.3% women, 100% White) were recruited (M_{age} = 28.62, SD_{age} = 8.43, age range 18–59 years), based on the expectation of small sized effects for our a-priori predictions. Sensitivity analyses indicated our sample to be sufficiently powered at 80% for detecting small effects of emotion (f = .11), and highly powered at 96% to detect small interaction effects (d = .2).

Materials and Procedure

All items were translated from English to German using the team-translation approach as in Study 2. Materials and procedures mirrored Study 1a.

Results

An identical analytical approach was employed to the previous studies: repeated measures ANOVA with Bonferroni corrected comparisons.

Table 3
Cross-Emotion Comparisons in Study 2 (Bottom Diagonal) and Study 3 (Top Diagonal)

Emotion	Gratitude	Admiration	Interest	Relief	Amusement	Feeling moved	Sensory pleasure	Triumph
Gratitude	—	B = .17, SE = .13 [−.26, .59] p = 1	**B = −.90, SE = .14 [−1.34, −.46] p < .001**	B = −.12, SE = .15 [−.59, .35] p = 1	**B = −.73, SE = .14 [−1.17, −.29] p < .001**	B = .22, SE = .20 [−.42, .86] p = 1	B = .41, SE = .17 [−.11, .94] p = .364	B = .20, SE = .18 [−.38, .77] p = 1
Admiration	**B = −.65, SE = .10 [−.97, −.34] p < .001**	—	**B = −1.07, SE = .11 [−1.43, −.71] p < .001**	B = −.28, SE = .11 [−.65, .08] p = .424	**B = −.90, SE = .11 [−1.26, −.53] p < .001**	B = .05, SE = .15 [−.42, .52] p = 1	B = .25, SE = .13 [−.17, .66] p = 1	B = .03, SE = .14 [−.43, .49] p = 1
Interest	B = .03, SE = .09 [−.25, .31] p = 1	**B = .68, SE = .10 [.35, 1.01] p < .001**	—	**B = .79, SE = .11 [.45, 1.12] p < .001**	B = .17, SE = .10 [−.14, .48] p = 1	**B = 1.12, SE = .13 [.70, 1.55] p < .001**	**B = 1.32, SE = .11 [.96, 1.67] p < .001**	**B = 1.10, SE = .12 [.70, 1.49] p < .001**
Relief	**B = −.71, SE = .10 [−1.02, −.39] p < .001**	B = −.06, SE = .11 [−.42, .31] p = 1	**B = −.74, SE = .10 [−1.07, −.41] p < .001**	—	**B = −.61, SE = .11 [−.95, −.28] p < .001**	B = .34, SE = .13 [−.07, .74] p = .252	**B = .53, SE = .12 [.16, .90] p < .001**	B = .31, SE = .13 [−.09, .71] p = .429
Amusement	B = −.03, SE = .09 [−.31, .26] p = 1	**B = .63, SE = .10 [.31, .95] p < .001**	B = −.06, SE = .09 [−.35, .24] p = 1	**B = .68, SE = .11 [.33, −1.03] p < .001**	—	**B = .95, SE = .13 [.54, 1.36] p < .001**	**B = 1.14, SE = .12 [.77, 1.52] p < .001**	**B = .93, SE = .13 [.52, 1.33] p < .001**
Feeling Moved	**B = −1.78, SE = .11 [−2.13, −1.43] p < .001**	**B = −1.13, SE = .12 [−1.50, −.76] p < .001**	**B = −1.81, SE = .12 [−2.18, −1.44] p < .001**	**B = −1.07, SE = .12 [−1.44, −.71] p < .001**	**B = −1.75, SE = .13 [−2.15, −1.35] p < .001**	—	B = .20, SE = .14 [−.24, .63] p = 1	B = −.02, SE = .13 [−.42, .37] p = 1
Sensory Pleasure	**B = −.97, SE = .12 [−1.35, −.60] p < .001**	B = −.32, SE = .13 [−.75, .10] p = .482	**B = −1.01, SE = .12 [−1.38, −.63] p < .001**	B = −.27, SE = .12 [−.66, .13] p = .983	**B = −.95, SE = .12 [−1.34, −.56] p < .001**	**B = .81, SE = .13 [.40, 1.21] p < .001**	—	B = −.22, SE = .13 [−.64, .20] p = 1
Triumph	**B = −1.04, SE = .11 [−1.39, −0.69] p < .001**	B = −.39, SE = .12 [−.78, .00] p = .057	**B = −1.07, SE = .11 [−1.44, −.70] p < .001**	B = −.33, SE = .12 [−.70, .04] p = .140	**B = −1.01, SE = .12 [−1.38, −.64] p < .001**	**B = .74, SE = .11 [.40, 1.08] p < .001**	B = −.06, SE = .13 [−.48, .36] p = 1	—

Note. Significant differences are bolded, and squared brackets denote 95% confidence intervals.

H1: Emotion

As demonstrated in Table 1, the main effect of Emotion was significant, indicative that display rules differed between positive emotions. The weakest display rules were found for amusement and interest—but not for gratitude in this sample (see Figure 2 and Table 3). The strongest display rules were indicated for sensory pleasure, feeling moved, and triumph.

H2a and H3a: Location of Expresser and Relationship to Perceiver

Significant main effects of Location and Relationship were found. As hypothesized, stronger display rules were indicated for public (M = 3.93, SD = 1.01) than for private settings (M = 2.71, SD = .82), and when in the company of distant others (M = 4.10, SD = 1.09) as compared to close others (M = 2.54, SD = .80).

H2b and H3b: Emotion by Location and Relationship

The interaction terms between Emotion and Location of expresser and Relationship to perceiver were found to be significant. The difference in display rules between public and private setting was most pronounced for sensory pleasure. The difference in display rules between close versus distant others was also greatest for sensory pleasure. For the other positive emotions, including feeling moved, contextual effects were less strong (see online supplemental materials A).

Discussion: Display Rules in the Netherlands and Germany

The pattern of results from Study 1 was mostly replicated in Studies 2 and 3 with Dutch and German speaking samples. Relatively strong display rules emerged for sensory pleasure, feeling moved, and triumph, whereas weaker display rules were found for amusement, interest, and gratitude (but not in Germany: see Ksenofontov & Becker, 2020). The influence of context was robust across our samples: display rules were stronger when in public than in private, and when in the in the company of distant others as compared to close others.

Study 4: Extending Contextual Differences in Display Rules

The primary aim of Study 4 was to map out display rules for two additional social contexts: when people are alone, and with complete strangers. Display rules have been conceptualized as culturally acquired expression norms that may manifest even when alone (Ekman & Friesen, 1969), and we sought to empirically examine this possibility here. Furthermore, because increased social distance begets stronger display rules (see Matsumoto et al., 2008), we expected the strongest display rules to apply when with complete strangers. In addition, we sought to test the generalizability of our findings with native English speakers in two more countries beyond the United States, hence collecting data from Australia and England. Study 4 was preregistered: https://osf.io/sde3c/?view_only=bba83d95e5464db5b081dcc09ab4f2d9.

Method

Participants

Two hundred eight Australian (48.6% men, 51.0% women, .4% undisclosed or other; 100% White; M_{age} = 32.8, SD_{age} = 11.9, age range 18–82 years) and one hundred ninety-nine English (37.7% men, 62.3% women; 100% White; M_{age} = 37.8, SD_{age} = 13.3, age range 19–77 years) participants were recruited via Prolific and paid an equivalent of 2.50 Euros in their local currency. Sensitivity analyses indicated our final sample size to be sufficiently powered at 80% for detecting small effects of emotion in each sample (f = .10), and well powered at 88% to detect small interaction effects (d = .2) between modeled predictors (e.g., emotion by relationship). A full set of power analyses and predictions are reported in the preregistration.

Materials

With the addition of two new social contexts, each participant was asked to judge four relationship contexts: when alone, with very close others, with less close others, and with complete strangers. Each of these items was framed within the context of a location (either in private or in public); participants responded to only one location version. All other DRAPE items were identical to Study 1a.

Procedure

Participants were randomly assigned to either the private or public version of the DRAPE. Display rule items were presented next, and the study ended with demographic measures, debriefing, and payment.

Results and Discussion

A mixed-design 2 × 8 × 2 × 4 ANOVA was conducted with the following factors modeled: Country (Australia vs. England; between-subjects), Emotion (8; within-subjects), Location of expresser (Private vs. Public; between-subjects), and Relationship to perceiver (Alone vs. Very Close vs. Not so Close vs. Stranger; within-subjects). Given our measurement of eight positive emotions in two countries (n = 16), we accounted for multiple comparisons by Bonferroni correcting p-value thresholds ($p < .003$).

A significant main effect of Country was found, $F(1, 403)$ = 26.85, $p < .001$, η_p^2 = .062, with stronger display rules reported by the English (M = 3.56, SD = .97), as compared to the Australians (M = 3.06, SD = .97). However, Country did not significantly interact with any other modeled predictor. We hence report the statistics for both countries together, as indicated in the preregistration, but plot the effects separately for Australia and England (see Figure 2). For further analyses of cross-country differences, see online supplemental materials H.

H1: Emotion

As reported in Table 1, the main effect of Emotion was significant. Display rules differed between positive emotions, replicating results from our previous studies. This pattern was observed in both Australia and England (see Table 4).

Table 4
Cross-Emotion Comparisons in Study 4 (Bottom Diagonal for Australia, Top Diagonal for England)

Emotion	Gratitude	Admiration	Interest	Relief	Amusement	Feeling moved	Sensory pleasure	Triumph
Gratitude	—	**B = .65, SE = .09** [.35, .94] p < .001	B = .06, SE = .10 [−.26, .39] p = 1	**B = .44, SE = .10** [.14, .74] p < .001	B = .27, SE = .09 [−.01, .54] p = .065	**B = 1.13, SE = .11** [.78, 1.49] p < .001	**B = 1.45, SE = .12** [1.07, 1.83] p < .001	**B = .80, SE = .10** [.48, 1.12] p < .001
Admiration	**B = −.65, SE = .09** [−.93, −.36] p < .001	—	**B = −.58, SE = .09** [−.88, −.29] p < .001	B = −.20, SE = .09 [−.50, .09] p = .886	**B = −.38, SE = .08** [−.64, −.11] p < .001	**B = .49, SE = .10** [.17, .81] p < .001	**B = .80, SE = .11** [.46, 1.15] p < .001	B = .15, SE = .10 [−.15, .46] p = 1
Interest	B = −.09, SE = .08 [−.34, .17] p = 1	**B = .56, SE = .08** [.29, .83] p < .001	—	**B = .38, SE = .10** [.06, .70] p = .006	B = .21, SE = .09 [−.07, .48] p = .490	**B = 1.07, SE = .12** [.69, 1.45] p < .001	**B = 1.39, SE = .11** [1.02, 1.75] p < .001	**B = .74, SE = .11** [.39, 1.08] p < .001
Relief	**B = −.41, SE = .09** [−.68, −.13] p < .001	B = .24, SE = .09 [−.05, .53] p = .233	**B = −.32, SE = .08** [−.58, −.06] p = .004	—	B = −.17, SE = .09 [−.45, .10] p = 1	**B = .69, SE = .09** [.40, .98] p < .001	**B = 1.01, SE = .11** [.65, 1.36] p < .001	**B = .36, SE = .10** [.04, .67] p = .012
Amusement	B = −.03, SE = .09 [−.31, .25] p = 1	**B = .62, SE = .10** [.29, .94] p < .001	B = .06, SE = .08 [−.21, .32] p = 1	**B = .38, SE = .09** [.08, .67] p = .002	—	**B = .87, SE = .10** [.56, 1.17] p < .001	**B = 1.18, SE = .10** [.85, 1.51] p < .001	**B = .53, SE = .09** [.24, .82] p < .001
Feeling Moved	**B = −1.07, SE = .10** [−1.38, −.75] p < .001	**B = −.42, SE = .09** [−.71, −.13] p < .001	**B = −.98, SE = .10** [−1.29, −.67] p < .001	**B = −.66, SE = .10** [−.97, −.35] p < .001	**B = −1.04, SE = .11** [−1.38, −.69] p < .001	—	B = .31, SE = .12 [−.05, .68] p = .204	**B = −.34, SE = .10** [−.66, −.02] p = .028
Sensory Pleasure	**B = −1.37, SE = .10** [−1.70, −1.04] p < .001	**B = −.72, SE = .10** [−1.03, −.41] p < .001	**B = −1.28, SE = .10** [−1.60, −.96] p < .001	**B = −.96, SE = .10** [−1.28, −.65] p < .001	**B = −1.34, SE = .11** [−1.68, −1.00] p < .001	B = −.30, SE = .11 [−.65, .04] p = .171	—	**B = −.65, SE = .11** [−1.00, −.31] p < .001
Triumph	**B = −.62, SE = .10** [−.92, −.31] p < .001	B = .03, SE = .10 [−.28, .34] p = 1	**B = −.53, SE = .09** [−.82, −.23] p < .001	B = −.21, SE = .09 [−.48, .06] p = .459	**B = −.58, SE = .09** [−.86, −.31] p < .001	**B = .45, SE = .10** [.15, .75] p < .001	**B = .75, SE = .11** [.40, 1.11] p < .001	—

Note. Significant differences are bolded, and squared brackets denote 95% confidence intervals.

H2a: Location of Expresser

A significant main effect of Location was found. As hypothesized, stronger display rules were indicated for public (*M* = 3.78, *SD* = .97) than for private settings (*M* = 2.84, *SD* = .97), in both countries.

H3a: Relationship to Perceiver

A significant main effect of Relationship was also found. As predicted, display rules for positive emotions were strongest when with complete strangers (*M* = 4.57, *SD* = 1.39), less strong when with distant others (*M* = 3.42, *SD* = 1.07, *B* = 1.15, *SE* = .04, *p* < .001), even weaker when with close others (*M* = 2.08, *SD* = .95, *B* = 2.49, *SE* = .07, *p* < .001), and somewhat weaker when alone (*M* = 3.18, *SD* = 1.45, *B* = 1.39, *SE* = .07, *p* < .001). Identical to our previous findings, stronger display rules were reported when in the company of distant others than when with close others (*B* = 1.35, *SE* = .04, *p* < .001), but also as compared to being alone (*B* = .24, *SE* = .07, *p* = .003). The weakest display rules were hence indicated when in the company of close others, with comparatively stronger display rules indicated when alone (*B* = 1.11, *SE* = .07, *p* < .001).

H2b and H3b: Emotion by Location and Relationship

The interaction terms between Emotion and Location of expresser as well as Relationship to perceiver were found to be significant. The difference in display rules between public and private setting was most pronounced for sensory pleasure, and to a lesser degree for triumph, in both Australia and England. As in Study 1, the difference in display rules between close versus distant others

was greatest for feeling moved and sensory pleasure. For the other positive emotions, contextual effects were less strong (contrasts for each country in online supplemental materials G).
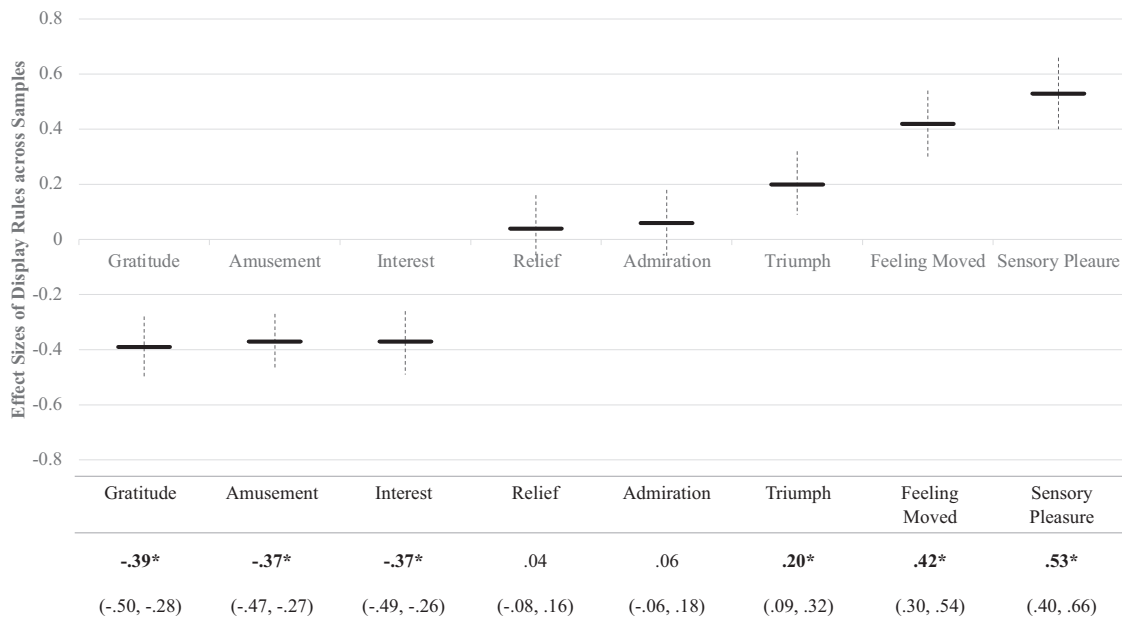
Combined Analyses

Across our studies, two key results were consistently found. Display rules differed across positive emotions, and between social contexts (locations and relationships). We next aimed to test the robustness of these results by applying a meta-analytic approach to our combined dataset across the five countries (*n* = 1,181).

Effects of Emotion

To yield an estimate of the strength of display rules for each positive emotion, we first calculated effect size estimates (Cohen's *d*s) for each positive emotion, based on pairwise cross-emotion contrasts (seven comparisons made per emotion across six data sets, hence *k* = 42 for each emotion). Using these effect size estimates, we then computed random effects models (one per emotion) via the Major module for meta-analyses (Hamilton, 2018). Figure 3 maps out these summative results across samples.

As shown in Figure 3, effect sizes for display rules differed between positive emotions. Gratitude, interest, and amusement were found to have consistently *weaker* display rules than the others (small to moderate effect sizes). In contrast, *stronger* display rules were found for feeling moved (small to moderate effect), sensory pleasure (moderate effect), and triumph (small effect). These indices demonstrate that across studies, we find

Figure 3

Mean Effect Sizes per Emotion Across Samples

	Gratitude	Amusement	Interest	Relief	Admiration	Triumph	Feeling Moved	Sensory Pleasure
	-.39*	**-.37***	**-.37***	.04	.06	**.20***	**.42***	**.53***
	(-.50, -.28)	(-.47, -.27)	(-.49, -.26)	(-.08, .16)	(-.06, .18)	(.09, .32)	(.30, .54)	(.40, .66)

Note. Error bars denote 95% confidence intervals. Exact effect sizes and CIs for each emotion are reported beneath emotion names. * *p* < .001.

support for the notion that not all positive emotions are seen as equally appropriate to express.

Effects of Location and Relationship Closeness

We used a similar meta-analytic approach to evaluate the robustness of location and relationship effects on display rules. For each emotion per dataset ($k = 48$), we first obtained two effect size estimates (Cohen's ds): one for location (contrast between private and public), and one for relationship closeness (contrast between close others and distant others). Using these effect sizes, we then computed two random effects models (one per social context) via the Major module for meta-analyses (Hamilton, 2018).

On average, a moderate effect of location was found on display rules, $b = .66$, $SE = .05$, $z = 12.88$, $p < .001$, 95% CI [.56, .76], whereas a large effect of relationship closeness was found on display rules, $b = .96$, $SE = .05$, $z = 19.93$, $p < .001$, 95% CI [.87, 1.06]. While both social context variables significantly impacted display rules for positive emotions, the effect of relationship closeness was comparatively larger.

General Discussion

We demonstrate that even for emotions that involve feeling good, not all are considered appropriate to show everywhere and to everyone. Comparisons of eight positive emotions in six samples from five countries point to one central finding: Display rules differ between positive emotions. Expressions of gratitude—and to some extent amusement and interest—were generally considered acceptable, thus characterized by weak display rules, whereas stronger display rules emerged for expressions of feeling moved, sensory pleasure, and to a lesser degree triumph (see Figure 3). In addition, our results highlight the roles of specific social contexts in systematically determining when people judge it to be appropriate to express positive emotions, demonstrating that *who* an expresser is with (relationship to perceiver) is a more important predictor of display rules than *where* someone is (location of expression). These findings firmly establish that context matters *even* for the expression of emotions that are deemed generally acceptable to display (Greenaway et al., 2018).

Implications and Contributions

The present work charts out display rules for distinct positive emotions—to our knowledge, the first systematic attempt to do so. We furnish extensive evidence for how norms about positive emotion expressions differ between eight emotions and four social contexts across five countries. These findings not only add to the existing literatures on emotion management (Gross, 2015) and social norms (Hareli et al., 2015) but also contribute to the larger fields of affective science and social psychology, both of which increasingly distinguish between displays of different positive emotions (Cowen & Keltner, 2017; Shiota et al., 2017). We did not intend for the list of positive emotions in this study to be exhaustive, but instead sought to provide an initial map of display rules for the positive emotion space.

Because our selection of emotions was theoretically motivated, it may allow for speculation about the display rules for other positive emotions that have shared characteristics with our current set.

For example, weak display rules can be expected for *hope*, which is similar to *interest* in that it is epistemological in nature and typically involves low physiological arousal (Bruininks & Malle, 2005). In contrast, strong display rules could be postulated for *compassion*, which, like *feeling moved*, can be mixed in valence and potentially involves high intensity expressions (Goetz et al., 2010). Moderate display rules can be predicted for *awe*, which like *relief* involves accommodating a sudden shift in knowledge state; in both cases, display rules may depend on how intense the elicitor is (Keltner & Haidt, 2003). Our current findings could thus serve as a navigation tool for further work in this area.

Most importantly, our findings add nuance to the assumption that positive emotions are broadly characterized by lenient display rules and can be freely expressed regardless of context. We included a range of positive emotions, taking into account their functions, arousal levels, and social implications (Kitayama et al., 2006; Sauter, 2017; Tsai et al., 2006). Our findings of more pronounced display rules for some positive emotions, and the important role of social context, fits within the broader literature on the interpersonal consequences of emotional expressions (see Fischer & Manstead, 2016). Given that emotional expressions communicate social information to perceivers (Van Kleef, 2009), the signaling value of an emotion would be likely to play a role in determining its perceived appropriateness for display (Hareli & Hess, 2012). For example, affiliative gestures may generally elicit weak display rules as they signal an inclination to cooperate with others (see also App et al., 2011). This could include giving thanks when grateful, laughing when amused, nodding to emphasize shared interests, and even smiling when one feels generally positive (Ekman, 1992a). Together, these types of positive emotional expressions may reflect our present understanding of why "joy" expressions are mostly encouraged; they feel good to experience, and generally have *positive* interpersonal consequences.

In contrast, expressions of emotions whose displays may hold *negative* interpersonal consequences for an expresser (e.g., making one look vulnerable, indulgent, or possibly conceited) appear to be characterized by stronger norms. The expression of *feeling moved* often involves tears and goosebumps (Schubert et al., 2018), which can signal being overwhelmed, vulnerable, or distressed (but also see Zickfeld et al., 2021). Displaying *sensory pleasure* may make an expresser look self-absorbed and indulgent (Veenhoven, 2003), which may also hamper interpersonal engagement. Displays of triumph can be perceived as signals of dominance (App et al., 2011), meaning that expressers could be thought of as arrogant or lacking humility (see also van Osch et al., 2019). The present research thus lends support to the view that not all pleasant feelings lead to pleasant consequences (Cohen-Chen et al., 2020), potentially explaining why display rules diverge even between positive emotions.

Caveats and Future Directions

We point to the role of interpersonal outcomes as an added dimension that influences display rules, beyond emotion valence (Matsumoto et al., 2005) but also expressive intensity (Cheshin et al., 2018). Differences in norm stringency were surfaced even between high arousal emotions, that are usually expressed in an intense manner. *Amusement* expressions typically involve high arousal cues such as laughter (Szameitat et al., 2009), yet systematically weak display rules were indicated. *Triumph* expressions

are arguably the most intense of positive emotion displays (see meta-analysis on expansive gestures: Elkjær et al., 2020), yet the strongest display rules instead emerged for *feeling moved* and *sensory pleasure* (see Figure 3). We here speculate that outcome valence (e.g., the extent to which an emotional expression relates to positive or negative social consequences) may explain cross-emotion differences in display rules; but future research is needed to empirically unpack the underlying mechanisms, for example by contrasting multiple explanations against one another (Warner & Shields, 2009).

Although some positive emotions are considered less appropriate than others to display, none were thought to be outright unacceptable to express: Display rules across positive emotions were generally indicated to be lower than scale midpoints—even for feeling moved, sensory pleasure, and triumph. However, it is worth noting that our research was conducted in Western societies where affective autonomy and open expressions of positive feelings are often encouraged (Soto et al., 2011). Whether similar results would be obtained in countries where restraint in emotion displays are expected—such as face cultures in East Asia (see Mesquita et al., 1997) or honor cultures in Latin America (Leung & Cohen, 2011)—is an open question that merits empirical scrutiny.

Display rules could become manifest through a variety of regulatory behaviors, which we did not examine in the present research. For example, strong display rules for feeling moved could be reflected through masking (e.g., hiding ones' face with the hand) or neutralization (e.g., holding back all expression), whereas weak display rules for gratitude could mean expression (e.g., saying thanks) or amplification (e.g., returning the favor with a gift). Although such distinctions between expressive behaviors are beyond the scope of the present work, it presents an avenue for future research. We expect the link between display rules and regulatory behaviors to be emotion-specific (e.g., amplification could mean the use of specific words for interest, but more laughter for amusement) and context-specific (e.g., how triumph is masked may depend on who is watching).

Moreover, it will be important to examine how display rules, expressivity patterns and subjective experience relate to one another (see the literature on feeling rules: e.g., Hochschild, 1979). The extent to which different components of emotion correlate is a contentious question (Reisenzein et al., 2013), and the link between felt experience and expressed emotion may depend on a variety of factors (e.g., gender differences in crying: Van Hemert et al., 2011). Display rules have been theorized to be one of many such moderators (Ekman, 1992b; Gross, 2015), and future work can empirically test this possibility by incorporating the DRAPE in experimental paradigms where emotion is elicited (e.g., Kalokerinos et al., 2014).

Conclusion

By comparing context-specific display rules for eight positive emotions in five countries, we provide a preliminary map of expression norms that contributes to an empirical foundation for theory building. We also introduce the DRAPE, a psychometrically valid measure of display rules, which accounts for the multiple modalities through which positive emotions are often expressed. Most importantly, the present research illustrates that positive emotions diverge in display rules: not all that feels good is equally acceptable to show.

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