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ORIGINAL PAPER

Self-reported expression and experience of triumph across four countries

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Abstract Recent studies have suggested the existence of the emotion of triumph by documenting how its nonverbal signals are displayed and identified across cultures. The current study contributes to this literature by providing additional convergent evidence about the expression of triumph by examining self-reported expressions of triumph from participants from Japan, Russia, Serbia, and the U.S. Self-reported behavioral expressions of triumph were consistent with three factors previously found to be associated with the triumph expression (Expansion, Aggression, Attention), with the exception of a finding on one scale in one country. The Japanese were prone to report greater regulation compared to the experience of triumph, whereas Americans and Serbians reported relatively greater experience compared to regulation. Across countries, Aggression was positively correlated with self-reported experience. The self-reported expressions of triumph partially corresponded with nonverbal reactions that had been identified as triumph in previous research.

Keywords Nonverbal behavior · Aggression · Culture · Dominance · Triumph

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Introduction

Dominance is often a dyadic variable in which an individual attempts to maintain control of others by creating a 'one-up' and 'one-down' situation (Rogers-Millar and Millar 1979; Dunbar and Burgoon 2005). Dominance theorists believed that "the competitive struggle for behavioral dominance is a primary basis of influence in groups" (Driskell and Salas 2005, p. 4). For this reason dominance cues play a major role in that they help individuals recognize and accept their place in a hierarchy (de Waal 1986). This perspective supports the idea that dominance is crucial as it aids in managing the tensions that arise from conflicts of interest among individual members of groups, and lends itself to the examination of the signals of dominance.

Evidence for displays of dominance

Displays based on intimidation have been shown to be one way to accomplish social rank and achieve dominance (Friedman and Miller-Herringer 1991; Henrich and Gil-White 2001; Matsumoto and Hwang 2012a). Signaling dominance after a victory among group-based species such as human and nonhuman primates is functional because such signals alert others to the victory, enhancing the status of dominant individuals within a community. A number of valuable studies on nonhuman primates have documented this line of reasoning. In Macaque societies, dominance plays a role in relation to the degree of agonistic asymmetry in the association and distribution of social power at the system level (Thierry 1985). Postural complementarity in a community of chimpanzees leads to peaceful relations, and signaling dominance to others (or displaying dominant

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features) sometimes marks the beginning of violent conflict (de Waal 1989). Rounded-mouth, threatening facial expressions refers to formal dominance signals in Barbary primates (Deag 1974). Bonobos' aggressive behaviors in relation to dominance have been described as running approaches, threats, physical attacks, and chases (Furuichi 1992; Furuichi and Ihobe 1994). The link between aggressive behaviors and agonistic dominance among bonobos has been re-confirmed (Vervaecke et al. 2000).

Dominance displays among humans share similar functions and characteristics to those of nonhuman primates. For example, the interactive impact of dominance in a medical context has been demonstrated; physician dominance produced more submissiveness in patients compared to non-dominant physicians (Mast et al. 2008). High-dominant subjects revealed more proxemics and behavioral reactions to direct gaze, whereas low-dominant subjects showed the opposite tendency (Fromme and Beam 1974). These results lead to the speculation that dominance functions to stabilize society by reducing conflicts and tensions, at least within contexts such as hierarchical communities.

Evidence concerning triumph in relation to dominance

Winning is associated with dominance (Snyder and Sutker 1977), and in competitive contexts, signaling dominance may be useful to mark victory and achievement. Research has shown that pride is one of the representative ways to express dominance and power (Tracy and Matsumoto 2008; Tracy and Robins 2008). Pride has been associated with puffed chests, arms akimbo, slight raising of the head, and a slight smile. But another way to display and signal dominance is through expressions of triumph (Matsumoto and Hwang 2012a; Hwang and Matsumoto 2014).

Recent judgment and production studies have empirically examined the expression of triumph. In the former (Matsumoto and Hwang 2012a), observers in the U.S. and Korea viewed photographs of athletes' reactions after having won or lost a match at the Olympic games; the athletes (expressors) came from more than 12 countries, and the U.S. and Korean observers were able to identify certain whole body behavioral expressions as signals of triumph exhibited by those athletes. The triumph label was chosen over other positive emotion labels such as pride, amusement, and happiness to best describe the athletes' initial reactions.

In a follow-up production study (Hwang and Matsumoto 2014), expressors were Olympic judo athletes from multiple countries, where each match was intensely competitive as it was a once in a lifetime, honorable game for Olympic champions. The athletes' *first whole body reactions* were captured for decoding the expressive behaviors of triumph. All of the expressions and reactions occurred immediately after the moment when athletes knew they had either won or lost a medal. Three coders coded the reactions based on behavioral criteria derived from the previous study (Matsumoto and Hwang 2012a). Ratings clearly differentiated winners from losers, with winners producing more of the triumph related behaviors. Moreover, factor analyses produced three components underlying the triumph expression: *Expansion*, *Aggression*, and *Attention*.

The three elements of the triumph expression—expansion, aggression, and attention—are noticeably similar to the descriptions of dominant behavior by Driskell and Salas (2005): a loud voice with an angry tone, lowering the eyebrows while staring, a posture stiff with muscle tension, and pointing one's finger or making other intrusive or forceful gestures. Notably, each of the three characteristics of the triumph expression has also been reported in previous studies on dominance. For example, *Expansion* is one of the characteristics that has been well tested in dominance studies. Elevation and creating a higher figure (standing) was judged as dominant by 73 % of the participants, whereas a lower figure (sitting) was judged as dominant by 27 % (Schwartz et al. 1982). Postural expansion has been related to the display of dominance (Tiedens and Fragale 2003). Bodily openness (legs open, extension, body position open, arm away from body, body lean) has been correlated with perceptions of higher verticality, defined as personality, role/rank, and social class dominant (Hall et al. 2005).

Regarding *Aggression*, knitted brows and a glaring stare are part of dominant behavioral signals (Driskell and Salas 2005). In terms of facial expressions of emotion (Ekman and Friesen 1978), these descriptions are similar to those of anger, which can be linked to aggression, and its empirical evidence has been reported (Maybury 1997; Lewis 2000). Also, less smiling has been correlated with higher verticality (Hall et al. 2005), and smiles of National Football League players have been associated with decreased physical dominance (Kraus and Chen 2013). Loud voices with angry tones have been related to dominance (Driskell et al. 1993; Driskell and Salas 2005), a finding also supported by a community of swans in their triumph ceremonies (Johnsgard 1965). Although the expression of triumph shares some similarities with that of pride, pride does not necessarily convey aggression in its display.

Attention or direct gaze has also been an important factor related to dominance signals. Fromme and Beam (1974) reported that high-dominant subjects showed more proxemics behavior in responding to a direct gaze than those with low dominance. A steady gaze and maintaining

eye contact while speaking were perceived as more competent and occupying a higher position in the group status hierarchy (Driskell et al. 1993). In a judgment study by Hall et al. (2005), perceivers judged more gazing to be a signal of higher verticality, presumably associated with dominance. Collectively, these previous findings have shown that the recent empirical evidence regarding the three expressive elements of triumph (Hwang and Matsumoto 2014) are consistent with findings from other studies characterizing behavioral cues such as body extension, aggression, and attention as expressions of dominance.

The recognition of the existence of a triumph expression and attention to the concept of triumph are theoretically important. In a hierarchical social structure, triumph delivers a more socially powerful impact of victory and achievement. The display of triumph or victory interpersonally sends signals to taunt others to challenge the expressor (or winner), and intra-personally enhances feelings of dominance and the achievement of status within a group and community. Its display is associated with making expressers (usually winners in competition contexts) appear as large and menacing as possible (Matsumoto and Hwang 2012a). Also, its differentiation from pride provides a platform by which controversies about the function of pride in relation to dominance may be addressed (Tracy et al. 2010; Williams and DeSteno 2010).

Overview of the current study and hypotheses

The literature reviewed above appears supportive of the three characteristics of triumph expressions as signals of winning and dominance. However, additional research is required to bolster the existing findings concerning triumph as a winning signal of dominance and achievement of group rank in competitive contexts. To our knowledge, none of the previous studies on dominance and victory has yet examined people's self-reported expressive behaviors in relation to a triumphant event. Similar studies on other emotions have made important contributions (e.g. (Matsumoto et al. 1988; Scherer 1997; Scherer and Wallbott 1994). The current study addressed the question of whether or not people self-report expressive behaviors that are consistent with those documented in previous judgment and production studies related to triumph. Testing how people report expressing behaviors of triumph, and whether or not those self-reports are consistent with previously documented bodily expressed reactions of triumph occurring right after a winning moment (Hwang and Matsumoto 2014), would contribute to the empirical evidence for triumph as a possible evolutionary emotion rooted in its function in nonhuman primates.

Utilizing well-used assessments of self-reported emotional experiences and expressions (Matsumoto et al. 1988; Scherer and Wallbott 1994), we tested whether the theoretically proposed categories for expressions of triumph (Expansion, Aggression, Attention) would be differentially endorsed by respondents from multiple countries compared to behaviors not associated with those constellations. The countries tested included convenience samples from the U.S., Japan, Russia, and Serbia. These countries were known to be different in terms of Power Distance (PD; Hofstede 2001), a cultural dimension that refers to the differentiation of status, hierarchy, and power: Russia (93), Japan (54), Serbia (86), USA (40); review Hwang and Matsumoto (2014) for more details about triumph and PD). Additionally, we examined the association between self-reported experience and regulation of the emotion of triumph with the three behavioral characteristics of triumph. Three main hypotheses were tested:

Hypothesis 1 The three target triumph-related characteristics (Expansion, Aggression, Attention) will be endorsed at greater rates than other, non-target behaviors across the four countries when participants self-report about triumph-eliciting situations (i.e., a main effect of Expressive Behavior will be significant).

Hypothesis 2 Country will moderate self-reported emotional experience and regulation (i.e., the interaction between Country and self-reported experience will be significant).

Hypothesis 3 Self-reported emotional experience and regulation will be associated with the three expressive factors of triumph within and across countries (i.e., experience and regulation will be significantly correlated with the Expressive Behaviors of triumph within and across countries).

Method

Participants

The participants were U.S. Americans (73 females, 25 males, mean age = 21.91 years), Japanese (43 females, 33 males; mean age = 19.79 years), Serbians (58 females, 67 males; mean age = 27.59 years), and Russians (45 females, 7 males; mean age = 24.92 years). Most of the participants across countries were university students participating in partial fulfillment of courses, but community members also voluntarily participated in some cases.

Instruments

Emotion antecedents and reactions questionnaire

The main questionnaire was adapted from an instrument used in a number of seminal studies examining self-reported antecedents and reactions to emotion-eliciting events (Matsumoto et al. 1988; Scherer and Wallbott 1994), and consisted of three sections: (a) the antecedents and determinants of a triumph-eliciting event, (b) the reactions of the participants in that situation, and (c) the amount of control and coping attempts participants used to regulate their reactions. The antecedent section was an open-ended response format in which participants could freely describe a past event that elicited triumph in them (e.g., when I won at the debate with a male friend about birth control, when I get a math problem correct). This section also included a number of closed-ended questions assessing the respondents' appraisal of the triumph-eliciting event, which were not analyzed in this paper. A check of the data confirmed that the data analyzed in this study were provided by participants who self-reported that they had experienced triumph and could recall the event.

The section concerning the reactions of the respondents to the triumph-eliciting event was the focus of this paper. It included lists of physiological/bodily symptoms and nonverbal reactions. Participants were allowed to select as many items as they remembered that were part of their reactions to the triumph-eliciting event from the following lists of items, which were aggregated from previous literature. The bodily symptoms included lump in throat, change in breathing, stomach troubles, feeling cold, shivering, feeling warm, pleasant, feeling hot, cheeks burning, heart beating faster, muscles tensing, trembling, muscles relaxing, restful, perspiring, moist hands, others.

For expressive reactions—seven nonverbal expressive reactions for the head (tilted your head forward or down, tilted your head backward or up, pushed your tongue out, opened mouth, closed eyes, hide face by moving head or burying in arms, other expressive reactions), five reactions for face (laughed or smiled, grimaced, made an angry face, made a sad face, other expressive reactions), three reactions for voice (screamed or yelled, cried or sobbed, other expressive reactions), eight reactions for body (raised your arm(s) above your shoulder(s), moved your arm(s) away from your body, pushed your chest out, chest narrowed inward, pulled one or both arms in toward your body, pushed your torso out or leaned back, shoulders slumped, other expressive reactions), seven reactions for hands (put your hands on your hips, made a punching motion in the air, made a fist, gave a thumbs up, clapped your hands, covered your face, other expressive reactions). Each section also included an option for "other;" because this option was used only sparingly within the entire questionnaire and only by between 3 and 6 % of the participants across the countries, the responses of "others" were excluded in further data analyses.

Self-reported experience and regulation efforts were rated using two questions each. For experience, participants rated "how intense was this feeling?" using a 5-point scale from not at all (0) to extremely (4). They also rated "how long did you feel this emotion?" by selecting from seconds, minutes, hours, days, weeks, months, years. For regulation, the questions "To what extent did you try to reduce the intensity of your emotional experience and/or shorten its duration?" and "To what extent did you try to control or regulate your expressions or behaviors?" were both rated using 5-point scales from not at all (0) to extremely (4). All four questions included the option of not applicable (Scherer et al. 1988). Because the scales of the four questions differed, we standardized all four variables and then computed a single score for Experience (sum of the standardized duration and intensity) and a single score for Regulation (sum of the standardized experience and expression regulation variables). The newly computed scores were used in data analyses.

All questionnaires were translated into each representative language by the collaborators, who ensured the accuracy of the translations using back-translation and/or a committee approach.

Other measures

Participants also completed the following three measures after completion of the main measure described above:

Neo-Five Factor Inventory (Costa and McCrae 1989, 1992), a 60-item version of form S of the NEO-PI-R that provides a measure of the five-factor model: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (Costa and McCrae 1992).

The Emotion Expressivity Scale (EES), a 16-item scale designed to measure an individual's emotional expressivity that was created by Gross and John (1997).

The Social Dominance Orientation scale (SDO), a 16-item scale designed to assess individual differences in dominance and status affinities (Pratto et al. 1994).

Data from these other measures were not analyzed in this study; thus no further mention of them will be made.

Procedures

The questionnaires were placed in an online survey format. All participants volunteered to participate in the survey or received a research credit for their participation, and were provided the URL with the survey. The survey for each

country took place in their original country and participants were allowed to complete their surveys on their time.

Data selection and organization for the expression variables

We classified the self-reported expressive behaviors into three target categories that corresponded to the expressive behaviors previously documented by factor analyses as part of the triumph expression (Hwang and Matsumoto 2014): Expansion: tilted head backward, raised arm, arm away from body, arms pulled toward body (reversed), chest narrow (reversed), shoulder slump (reversed), push torso out, laugh on face, thumps up, push chest; Aggression: head forward, grimace, angry, scream, punching motion, fist; and Attention: eye's straight. (The original category of Attention consisted of two items, eye closed and gaze straight, but eye closed was not associated with triumph behavioral reactions (Hwang and Matsumoto 2014); thus this item was excluded in further analyses.) Each item was coded as 0 (not selected) or 1 (selected); because of unequal numbers of items in each category, means were computed across the number of items selected within each category (thus, scores ranged from 0 to 1). For comparison purposes we computed a mean of the remaining bodily symptoms and expressive behaviors into a Non-Target variable, comprised of pushed your tongue out, opened mouth, hide face by moving head or burying in arms, sad face, cried, hands put away (or put your hands on hip), clapped, cover face, lump in throat, stomach trouble, feel cold, muscle relaxing.

Results

Hypothesis 1

We computed descriptive statistics for each of the four expression variables, separately for each country and across countries (see Table 1), and then conducted a mixed ANOVA using Expressive Behavior (4: Expansion, Aggression, Attention, Non-Target) as a within-subjects variable and Country (4: U.S., Japan, Serbia, Russia) as between subjects. The Country main effect was not significant, $F(3, 314) = .28$, $p = .84$ $\eta_p^2 = .003$. As predicted, the main effect of Expressive Behavior was, $F(3, 942) = 462.93$, $p < .001$, $\eta_p^2 = .60$. We followed this effect with planned simple comparison tests in order to examine whether each of the three triumph-related dimensions were endorsed at greater rates than the Non-target behaviors (Table 2). The three self-reported triumph expression scales were endorsed at significantly higher rates than the non-target behaviors, providing initial support for Hypothesis 1.

Table 1 Descriptive statistics (M and SE) of the expression variables across countries

Country	N	Expression variable[a]			Non-target
		Expansion	Aggression	Attention	
USA	85	.59 (.16)	.26 (.19)	.75 (.42)	.20 (.12)
Japan	72	.54 (.17)	.18 (.20)	.90 (.46)	.13 (.12)
Serbia	120	.53 (.13)	.32 (.16)	.80 (.36)	.11 (.11)
Russia	41	.57 (.23)	.21 (.27)	.81 (.61)	.17 (.17)
Total	318	.56 (.01)	.24 (.01)	.82 (.02)	.15 (.01)

[a] Cells refer to the mean of the number of items selected by the participants within each expressive behavior category, with individual items coded 0 (not selected) or 1 (selected)

This interpretation was qualified by a significant Country by Expressive Behavior interaction, $F(9, 942) = 5.05$, $p < .001$, $\eta_p^2 = .05$. We decomposed this significant interaction by computing the simple effects of Expressive Behavior separately by country. The ANOVAs were significant for all four countries, $F(3, 252) = 90.61$, $p < .001$, $\eta_p^2 = .52$; $F(3, 213) = 236.02$, $p < .001$, $\eta_p^2 = .77$; $F(3, 357) = 195.40$, $p < .001$, $\eta_p^2 = .62$; and $F(3, 120) = 61.73$, $p < .001$, $\eta_p^2 = .61$, for the U.S., Japan, Serbia, and Russia, respectively. We followed these with simple comparisons testing the differences between the three triumph expression scales and the non-target behaviors within each country (Table 3). With only one exception, the three target triumph expressions were endorsed at higher rates than the non-target behaviors in all four countries, again providing support for Hypothesis 1.

Hypothesis 2

We also utilized a mixed ANOVA comparing the two self-reported experience variables (2: experience vs. regulation) as a within-subjects variable and Country (4: U.S., Japan, Serbia, Russia) as between subjects. The Country main effect was significant, $F(3, 354) = 3.97$, $p = .008$, $\eta_p^2 = .03$. As predicted, the interaction was also significant, $F(3, 354) = 10.72$, $p < .001$, $\eta_p^2 = .08$. We followed the interaction with planned simple comparison tests in order to examine how country moderated the two experience variables (Table 4). The U.S. and Serbia reported greater experience compared to regulation, whereas the Japanese reported greater regulation compared to experience. There was no difference for Russia. Thus, Hypothesis 2 was supported and confirmed that country moderated the self-reported emotional experience and regulation of triumph.

Table 2 Simple effects tests comparing target self-reported expressions of triumph against non-target behaviors across country

Category	df	Target expression M (SE)	Non-target expression M (SE)	F	p	η_p^2
Expansion	1, 356	.56 (.01)	.14 (.01)	1498.73	.000	.81
Aggression	1, 355	.25 (.01)	.14 (.01)	74.32	.000	.17
Attention	1, 317	.81 (.14)	.14 (.01)	867.74	.000	.73

[a] Cells refer to the mean of the number of items selected by the participants within each expressive behavior category, with individual items coded 0 (not selected) or 1 (selected)

Table 3 Simple tests of endorsed triumph scales vs. non-selected factor by country

Country	Category Comparison	df	Target Expression M (SE)[a]	Non-Target Expression M (SE)	F	p	η_p^2
USA	Expansion vs. non-target	1, 93	.60 (.02)	.19 (.01)	377.89	.000	.80
	Aggression vs. non-target	1, 93	.25 (.02)	.19 (.01)	8.62	.004	.09
	Attention vs. non-target	1, 84	.75 (.05)	.20 (.01)	134.63	.000	.62
Japan	Expansion vs. non-target	1, 93	.57 (.02)	.13 (.01)	359.50	.000	.79
	Aggression vs. non-target	1, 93	.17 (.02)	.13 (.01)	4.15	.044	.04
	Attention vs. non-target	1, 71	.90 (.04)	.13 (.01)	481.81	.000	.87
Serbia	Expansion vs. non-target	1, 121	.53 (.01)	.11 (.01)	720.84	.000	.86
	Aggression vs. non-target	1, 120	.32 (.01)	.11 (.01)	125.76	.000	.51
	Attention vs. non-target	1, 119	.80 (.04)	.11 (.01)	325.86	.000	.73
Russia	Expansion vs. non-target	1, 46	.56 (.03)	.17 (.02)	126.13	.000	.74
	Aggression vs. non-target	1, 46	.20 (.03)	.17 (.02)	0.67	.419	.01
	Attention vs. non-target	1, 40	.81 (.06)	.17 (.02)	111.44	.000	.74

[a] Cells refer to the mean of the number of items selected by the participants within each expressive behavior category, with individual items coded 0 (not selected) or 1 (selected)

Table 4 Simple tests of duration/intensity of experience and regulation (based on sums of standardized scores) by country (within-subjects contrasts)

Country	df	Experience M (SE)	Regulation M (SE)	F	p	η_p^2
USA	93	.24 (.15)	−.27 (.18)	4.87	.030	.05
Japan	93	−.89 (.18)	.28 (.18)	22.94	.000	.19
Serbia	124	.50 (.11)	−.01 (.17)	4.69	.032	.04
Russia	44	.12 (.19)	−.00 (.26)	.15	.699	.003

Hypothesis 3

We computed Pearson correlations between the experience and regulation scores and the three target expression scales. Across the four countries, self-reported regulation correlated negatively with Expansion, $r(357) = -.21$, $p < .001$, indicating that participants who reported greater regulation had lower Expansion scores. These findings were also generally found separately in each country (Table 5). For the U.S., Japan, and Serbia, Expansion and regulation were negatively correlated; the same correlation for Russia was not significant, but its direction was consistent with the other countries and across the entire sample.

For the entire sample, Aggression was positively correlated with self-reported experience, $r(356) = .122$, $p = .021$, indicating that participants who reported stronger triumph experiences endorsed more behaviors associated with Aggression. This association was not found, however, in each of the countries separately. Aggression was positively correlated with Regulation for the U.S.

Table 5 Correlations between experience and regulation scores across countries

Country	Category	Expansion	Aggression	Attention
USA	Experience	−.08	−.02	−.00
	Regulation	−.21*	.28**	−.07
Japan	Experience	−.04	.03	−.19
	Regulation	−.22*	.09	−.01
Serbia	Experience	−.11	.01	−.12
	Regulation	−.22**	.00	.06
Russia	Experience	.11	.20	.02
	Regulation	−.14	.03	.06

* $p < .05$; ** $p < .01$, (2-tailed)

Post-hoc analyses: possible gender effects

We recomputed the overall Expressive Behavior by Country ANOVA reported above using gender as an additional factor. No effect using gender was significant in these analyses. For good measure we also computed Gender by Expressive Behavior ANOVAs separately for each country. The only significant interaction effect was found for Serbia, but the analyses indicated differences in degree, not direction, of the main Expressive Behavior findings reported above. No significant effects involving gender were found for the other three countries.

Discussion

Self-reported behavioral cues of triumph reported by respondents from the U.S., Japan, Serbia, and Russia were fairly consistent with the immediate bodily reactions reported in previous studies (Matsumoto and Hwang 2012a; Hwang and Matsumoto 2014). Across countries, the three categories of expressive behaviors of triumph were differentiated from non-target behavioral expressions in reaction to the self-reported triumph-eliciting event. For the most part, these differentiations occurred separately in each of the countries, as well as for the entire group.

These findings provided additional convergent validity evidence for the previous findings reported by Hwang and Matsumoto (2014) on the three behavioral characteristics of triumph. The consistency between the self-reported data and the direct evidence of behavioral reactions to triumph is similar to previous findings and theoretical models proposed by Matsumoto et al. (1988), who reported that self-reported expressive behaviors generally corresponded to actual expressive reactions of basic emotions such as anger, fear, joy, and sadness.

Still, that some variance exists between actual expressive behaviors at the moment emotions are elicited and self-reports of those reactions at a later time can be expected because they sample different domains of the emotional response (Matsumoto and Hwang 2012b). This difference may explain why the correlations reported in Table 5 were relatively small. Actual expressive reactions are priming reactions that prepare the body for action and communicate that intent to others. Correlations between immediate reactions and experiences measured in precise, moment-to-moment fashion are likely larger than correlations between self-reported experiences and expressions obtained by later recall, which is what the current study did. The conclusions from the study highlighted the importance of being aware of which domain of emotion among priming reactions, subjective experience, and/or emotion meanings is examined in research and of how to properly interpret the results (Matsumoto and Hwang 2012b).

The negative correlation between regulation and expansion suggested that people in general attempt to control their large bodily behaviors, but not necessarily the other components of triumph (aggression or attention). According to the principle of display rules of emotions (Ekman and Friesen 1975; Matsumoto 1990), managing emotional expressions in a way that a society accepts and explicitly or implicitly agrees to is important. Deamplifying large body movements may be one of the common strategies in regulating the display of emotions. Additionally, large body behaviors, especially involving the hands and arms, are under greater volitional control than the face and are represented in larger areas in the motor cortex (Rinn 1984); thus it makes sense that individuals are more consciously aware of their large body reactions than other expressive behaviors, resulting in the regulation of expansive behaviors.

The positive correlation between the experience of triumph and aggression suggested that more intense feelings or emotional experiences might be associated with aggression, possibly with dominance (Driskell and Salas 2005; Matsumoto and Hwang 2012a), although the effect size was not strong. It was interesting that experience correlated with this expressive factor and not the others, and suggested that the intensity of the experience primes this specific aspect of the expressive reaction. This made sense as a dominance signal, especially after winning in agonistic competition. This does not mean, however, that people consciously perceive themselves expressing their aggression; for example, suppression had no effects on self-reports of disgust, but it did on physiological and expressive behaviors when a disgusting film was presented (Gross and Levenson 1993). That this relationship was found for the entire sample but not separately for each of the countries strongly suggests that it be replicated in future studies because it is not clear from the current data if the non-findings in separate countries were due to a lack of statistical power.

The results from the current study make a meaningful contribution in the field of dominance. Even in self-reported data, Expansion, Aggression, and Attention were part of the bodily expressions of triumph. These categories are not only tied to expressive response data in a previous production study (Hwang and Matsumoto 2014), but also match descriptions of dominance reported in other studies (Driskell and Salas 2005; Mast et al. 2008; Schwartz et al. 1982). For example, de Waal (1982) stated that in at least some species of nonhuman primates such as chimpanzees, just as is the case with humans, dominant group members regularly adopt postures that make them appear as large as

possible. Hence, this study's findings on Expansion and Aggression bolstered evidence of the link between triumph and dominance in at least four countries.

The study had several limitations. First, the sample sizes of the groups were not equivalent. Statistically, the uneven sample sizes may have affected the reliability of our findings related to differences within and among the countries, despite the fact that our findings indicated no differences among countries in the self-reported triumph expression and scales. Interestingly, the size and directions of the correlational results from the Russian group were consistent with those of the other three countries and the overall group, but just did not reach statistical significance because of the sample size. The issue of the unequal sample sizes might also have been associated with weaker effect sizes in the behavioral category of aggression across countries. Thus, testing group comparisons using sufficiently large sizes of groups should deal with the possible sample size limitation. Relatedly, comparisons of the triumph experience in more countries are needed. We attempted to include countries with different cultures in general, but the current number of countries does not allow us to generalize our findings to various countries yet.

Second, we were not able to test various types of triumph-eliciting events separately. This limited our interpretation of the findings, especially concerning their generalizability. Future studies examining different types of triumph experiences may be able to provide finer resolution on the findings reported above.

Also, although gender was statistically not significant in the current study, testing various extraneous factors including gender, social status, manipulation tendency associated with individual characteristics in the production of the expressive behaviors and examining contextual influences on the behavioral reactions of triumph would be meaningful to consider. Furthermore, examining people's perceptions of how others express and experience triumph will provide fruitful information of regarding the meanings of triumph signals in social contexts.

Finally, future studies will need to delve more deeply into the question of whether or not triumph meets the criteria for an emotion, and how it is differentiated from other emotions such as pride. To be sure such research questions require substantially different methodologies than were utilized in this study.

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Compliance with ethical standard

Conflict of interest The author(s) declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

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