


# Cultural Differences in Victory Signals of Triumph

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## Abstract

A recent study reported that winners in agonistic competition displayed a victory signal that might be related to power and dominance, but losers did not. We explored cultural differences in this victory expression by reanalyzing data from that study on the country level, examining the association between country means in Olympic judo players' first expressions at the moment of winning or losing a medal and Hofstede's Power Distance (PD) dimension. Country-level PD was correlated with winners' victory signals but not with those of losers, even when country-level Individualism-Collectivism was controlled. These findings indicated that hierarchical and dominant cultures may endorse more expressivity of triumph in competitive contexts.

## Keywords

culture, dominance, triumph, power distance, victory, nonverbal behavior

Triumph displays, also known as victory signals, are behavioral expressions that occur at the conclusion of an agonistic encounter and are performed by the winner (Lippold, Fitzsimmons, Foote, Ratcliffe, & Mennill, 2008). Signaling victory is one way for winners to achieve dominance and social

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power (Friedman & Miller-Herringer, 1991; Henrich & Gil-White, 2001; Mouterde et al., 2012) because doing so can inform others about the achievement. Communicating the results of agonistic encounters by identifying victors aids in the recognition of individuals with power, which eventually leads to group stability, either through the establishment of hierarchy or the identification of challengers to the hierarchy and stability after the challenge. Signaling winners' victories also enhances winners' reputations and can function to protect the community from future challenges. Tension from potential conflicts within groups can be reduced as the community's hierarchy becomes established through the victory and its expression. Subordinates, in particular, learn their places.

Because social status and power are essential elements for the smooth functioning of any community within any culture, recognizing and responding to cues related to victory is crucial for successful social interactions (Tiedens & Fragale, 2003; Trivers, 1985). Previous research has generated considerable knowledge about the nonverbal behaviors associated with dominance and submission among human beings. Among human beings, power and dominance are expressed nonverbally via gesture, face, and voice (Hall, Coats, & Smith LeBeau, 2005; Henley, 1977; Keating, Mazur, & Segall, 1981, 1977). Expansive open-limbed positions have been considered a cue of high power (Hall et al., 2005), and individuals complement each others' dominance-related postures: Individuals exposed to dominant postures in an interaction partner tend to adopt submissive postures, while individuals exposed to submissive postures tend to adopt dominant postures (Tiedens & Fragale, 2003). Complementarity in response is associated with higher ratings of liking and comfortableness, reflecting the social functions of postural complementarity.

Several studies have investigated nonverbal signals of dominance of various animal species. de Waal (1982) demonstrated that postural complementarity in a community of chimpanzees led to peaceful relations while dominant displays in response to dominant displays often marked the beginning of violent conflict (reminiscent of the findings from Tiedens & Fragale, 2003). Recently, Mouterde and colleagues (2012) examined the influence of vocal triumph calls on the behaviors and stress responses of penguins. Territorial male blue penguins, that had been previously exposed to playback of a vocal exchange between conspecifics, had an increased reaction to the sounds of fighting and higher heart rates in response to the winner's calls than to those of the loser. Their female counterparts interestingly had high rates in response to both winners and losers. Male blue penguins were less likely to threaten winners than losers vocally during a simulated approach of their furrow while females remained silent in both contexts, suggesting that vocal calls among blue penguins are distinctive and indicate dominance to other blue penguins.

Previous studies with nonhuman species described above, however, did not directly focus on the specific behavioral signals of victory compared to other non-victory behaviors. And because a variety of animals of different species have been examined, determining whether or not distinct victory signals exist across species is difficult. Furthermore, the operational definition of victory signals (also called triumph or post-contest behavior) has not been fully determined. This might cause potential confusion about which behaviors were actually measured and how they should be identified.

Friedman and Miller-Herringer (1991) were the first to examine spontaneous behavioral reactions related to victory in human beings. Using a competitive quiz game, they specified signals such as thumbs up, arms raised in victory, clapping, and punching the air as signs of victory, and as such clarified the link between the event elicitor and the concrete bodily reactions that signal victory. Unfortunately, Friedman and Miller-Herringer (1991) did not test what label was most appropriate in describing the behaviors they observed and merely labeled the behaviors they observed as "victory."

Matsumoto and Hwang (2012) raised the possibility that the behavioral reactions of winners after intense agonistic encounters should be labeled as triumph. In their study, college students in United States and South Korea judged the spontaneous behavioral reactions of winners immediately at the end of medal matches for judo in the Olympic Games. The results of the study reported that specific behavioral configurations were labeled as triumph in the two countries. A subsequent study (Hwang & Matsumoto, 2013) reported that the victory signals of triumph were reliably produced by winners (but not losers) immediately at the end of an agonistic encounter, and are characterized by three elements: expansion, aggression, and attention.

These latest findings suggest that victory signals exist in human beings and social power/dominance may be a core factor in relation to their experience and expression. Victory signals often occur in competitive or achievement contexts, and their expression is related to aggression. Still, there are unexplored areas that are crucial to comprehending why some people express victory signals at winning moments but others do not. For example, the question of whether the triumph expression is moderated by culture has not yet been examined.

Culture is an essential factor related to the experience and expression of human emotions via nonverbal behaviors (Matsumoto & Hwang, 2012; Mesquita, 2003), and how societies deal with dominance or hierarchy is an important component of culture, which may be conceptually connected to victory signals. Thus, the current study examined the relationship between culture and victory signals.

## Culture and Cultural Dimensions

Culture can be defined as a unique meaning and information system shared by a group and transmitted across generations (Matsumoto, 2007; Matsumoto & Juang, 2007). Cultural meanings and information enhance social coordination, allowing for greater differentiations among social groups, institutionalizing cultural practices and customs, and prescribing social norms and expectations for important aspects of social life such as mating, aggression, and cooperation. Culture, and the norms associated with it, determines what behaviors and rules are socially appropriate for a society.

Of the many ways to operationalize culture, one of the most well-known and commonly used methods to estimate the effect of culture on psychological factors is with Hofstede's (2001) cultural dimensions, and these dimensions may be useful to disentangle the strands of how culture may be related to expressions of triumph. Hofstede identified five primary dimensions of culture: Power Distance (PD), Individualism-Collectivism (IC), Uncertainty Avoidance, Masculinity, and Long-Short Term Orientation. PD is germane to this discussion. PD refers to the extent to which less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally. In other words, PD represents the degree to which cultures encourage or discourage power, status, and hierarchical differences within groups. Egalitarian cultures minimize power and status differences, relating to each other more as equals, while status-oriented or hierarchical cultures emphasize such differences, affording more power to individuals with different status within a group. Establishing the power and status dynamics with dominance within a hierarchy is an important task for any group for the group to establish or maintain social cohesion and achieve social coordination and goals.

These power dynamics suggest that high PD cultures (i.e., those that are more hierarchical) will be associated with greater expression of dominance related behaviors (e.g., victory signals of triumph) by status achievers (e.g., winners of agonistic encounters) because those signals will highlight and emphasize power differences among members of the society, signaling who has social power and position in society (e.g., between winners and losers). Low PD cultures expect and accept power relations as more egalitarian, and should be associated with less expression of such signals. Thus, we hypothesize that PD will be linked to triumphant behaviors that function as victory signals in winners in that winners from high PD cultures should express more triumphant behaviors than winners from low PD cultures because the relatively greater expression of victory enables the greater affordance of status in high PD cultures. We also predict that PD will be associated with the relative degree of difference in the amount of triumphant behaviors between winners

and losers, such that that difference should be relatively larger in high PD cultures compared to low PD cultures. Examining how PD is associated with victory signals should clarify one of the unique characteristics of those signals on the cultural level.

In addition to PD, IC might be related to the expression of victory signals because it is highly (negatively) correlated with PD ( $>.70$  as reported in Hofstede, 2001). IC refers to the degree to which a culture encourages or discourages the goals, wishes, and desires of one's in-group over one's personal or individual goals, wishes, and desires. On the country level, IC is positively correlated with expressive behavior in general, such that individualistic cultures tend to be associated with greater expression (e.g., Araki & Wiseman, 1996; Friesen, 1972; Matsumoto et al., 2008; Matsumoto & Kupperbusch, 2001). Thus, in testing our hypotheses concerning the relationship between PD and victory signals, it is necessary to control for any possible confounding effect of IC.

## Hypotheses

The current study explored the possible relationships between culture and the expression of triumph by testing the following country-level hypotheses:

**Hypothesis 1:** PD will be positively correlated with country means on triumph behaviors among winners, but not losers.<sup>1</sup>

**Hypothesis 2:** PD will be positively correlated with the differences in country means in triumph behaviors between winners and losers.

**Hypothesis 3:** The above correlations will survive even when the effects of IC are controlled.

## Method

### *Behavioral Coding for Triumph*

The behavioral data reported in this article were originally reported in Hwang and Matsumoto (2013) as individual-level analyses. In the current article, the individual-level data were aggregated by country and analyzed at the country level. We describe below the context within which the individual-level data were originally obtained so that readers are fully informed about the nature of the data.

*Context.* Behaviors hypothesized to be expressive of triumph were coded from the athletes at the end of the medal matches in judo at the 2004 and 2008

Olympic Games, and the 2004 Paralympic Games. In the 2004 and 2008 Olympic Games, judo competition had 14 weight categories, 7 each for men and women. There were three medal matches (one gold and two bronze medal matches) in each category involving a total of six athletes. In the 2004 Paralympic Games, there were 7 categories for men and 6 for women. Each category produced one gold medalist (winner of the gold medal match), one silver medalist (loser of the gold medal match), two bronze medalists (winners of the two bronze medal matches), and two 5th placers (losers of the two bronze medal matches). For the 2004 Olympic and Paralympic games, the official photographer of the International Judo Federation took photographs between the two competition areas used for the matches.<sup>2</sup> For the 2008 Olympics, videos captured for live broadcast were used.

*Image selection.* Target behaviors were selected by identifying the first bodily reaction that occurred after the result of the match was apparent to the athletes and identifying the image that portrayed the apex of that reaction, which was used for coding. Any body movements that were not considered behavioral reactions to the result (e.g., getting up from floor) were excluded in the selection. Most of the selected behaviors occurred at or immediately after the official end of the match as announced by the judges and the players saw the judge's decision. If there were no behaviors to code (e.g., immobilized for a period, exhausted by their intense matches, did not see the judges' signs at that time, or got up to greet the opponent), the player's behaviors were not included for coding. Three coders independently reviewed the images for each match and selected the reactions for coding; only reactions for which all three coders agreed were used.

*Coding criteria.* The selected images were coded based on the behavioral criteria proposed to be associated with triumph expressions (Matsumoto & Hwang, 2012): (1) arms raised above shoulder, (2) arms away from body, (3) smile, (4) chest out, (5) grimace,<sup>3</sup> (6) fist, (7) head tilt back/up, (8) mouth open, (9) punching motion, (10) torso pushed out leaning back, (11) direct gaze towards one's opponent, (12) thumbs up, (13) clap, (14) shout or utterance, (15) aggression on face. For comparison purposes, we also coded behaviors that Tracy and Matsumoto (2008) proposed were indicative of pride or shame and that were not part of the behaviors of triumph: (16) head tilted forward or down, (17) tongue out, (18) eyes closed, (19) one or both arms pulled in toward body, and (20) hands on hips. For all, a 4-point intensity scale ranging from 0 to 3 was used with the following anchors: 0 = *target body area is visible, but the action does not exist*; 1 = *target action is present and of low intensity*; 2 = *target action is present and of moderate intensity*;

3 = target action is present and of high intensity. Expressions that were not visible (e.g., due to camera angle or player's postures) were considered missing data and not coded. One coder coded all images from the three data sets. Six other coders were used for reliability purposes, two each for the 2004 Athens Olympics, 2004 Athens Paralympics, and 2008 Beijing Olympics. The reliability coders coded all images within each Olympic data set and were blind to the hypotheses and the results of the matches. Intraclass correlations (ICCs) of consistency were computed for each behavior, separately for each data set. ICCs ranged from .78 to .99 (tongue out did not occur at all in any data set, producing zero variance and thus zero reliability). The codes of the single coder who coded all three Olympic data sets were used in the analyses.

A principal component factor analysis with Varimax rotation of each of the behaviors using the merged sample from the three Olympic data sets produced a three-factor solution reported by Hwang and Matsumoto (2013). Factor 1 was labeled Expansion and included arms raised above shoulders, arms away from body, smile, chest out, head tilt back/up, mouth open, one or both arms pulled toward body, torso pushed out leaning back, thumbs up. Factor 2 was labeled Aggression and included grimace, fist, punching motion, shout or utterance, facial aggression. Factor 3 was labeled Attention and included eye closed and direct gaze toward one's opponent and others in the situation. Scale scores for each of the three factors had adequate reliabilities ( $\alpha$ s = .85, .80, and .78 for Expansion, Aggression, and Attention, respectively). The *t* tests comparing winners and losers indicated that winners had significantly higher scores on Expansion and Aggression than did losers, but there were no differences on Attention. In the current study, therefore, we used only the Expansion and Aggression scale scores. A Total Triumph expression score was also computed by summing the Expansion and Aggression scores.

### *Samples and Country-Level Data*

In the original report (Hwang & Matsumoto, 2013), there were 84 athletes from 34 countries in the medal matches (2 sexes  $\times$  7 weight categories  $\times$  3 matches  $\times$  2 players each match) at the 2004 Olympics, 76 blind judo athletes from 25 countries at the 2004 Paralympics (the female +70 kg had only one bronze medal match), and 84 athletes from 32 countries in the medal matches (2 sexes  $\times$  7 weight categories  $\times$  3 matches  $\times$  2 players each match) at the 2008 Olympics. In the current study, we merged the data from the three samples from the three Olympic data sets and computed the country means for Expansion and Aggression, separately for athletes who won and lost the

**Table 1.** Descriptive Statistics for Each of the Main Variables.

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
Expansion, Winners	34	11.58	3.39
Aggression, Winners	34	3.13	3.06
Expansion, Losers	33	3.48	1.46
Aggression, Losers	32	0.35	.62
Total Triumph, Winners	34	14.70	5.62
Total Triumph, Losers	33	3.81	1.80
Difference between Winners and Losers on Expansion	22	7.18	3.54
Difference between Winners and Losers on Aggression	22	2.44	1.86

medal match (for these computations, we adopted the criterion that countries had to have at least two athletes contributing to a mean). We also computed a total Triumph score across countries and both winners and losers, and three difference scores between winners and losers (for Expansion, Aggression, and Total Triumph).

The country-level behavioral data reported here, therefore, were the country means on the Expansion and Aggression scores of the triumph expression. Country scores for the cultural dimensions came from Hofstede (2001, Appendix 5.1). This resulted in a total country sample size of 23 countries including Japan, Russia, China, France, Cuba, Germany, Spain, Brazil, The Netherlands, South Korea, Georgia, Iran, Ukraine, Azerbaijan, U.S.A., Algeria, Mongolia, North Korea, Australia, Austria, Belgium, Great Britain, and Greece.<sup>4</sup> Because of missing data for some countries on the Hofstede scores, however, the sample sizes for the analyses ranged from 14 to 17 countries.

## Results

Descriptive statistics across the entire data set for each of the main variables analyzed in this study are reported in Table 1. Because of the small sample sizes that occurred when the behavioral data were linked with the cultural dimension data, we examined Hypotheses 1 and 2 with Spearman rank-order correlations using one-tailed tests.<sup>5</sup> We first examined the correlations between country means on the expression variables and Hofstede's PD (Table 2). As expected, PD was positively correlated with Expansion and Total Triumph for winners. Although not predicted, PD was also correlated with Total Triumph for all athletes; PD was not, however, correlated with Aggression in winners. Thus, Hypothesis 1 was partially supported.



**Table 2.** Rank-Order Correlations Between Hofstede Cultural Dimensions and Country Means on the Triumph Behaviors.

Triumph behaviors	PD	PD controlling for IC
Expansion, Winners	.57*	.43*
Aggression, Winners	.09	.42*
Expansion, Losers	.06	.10
Aggression, Losers	.39	.29
Total Triumph, Winners	.42*	.48*
Total Triumph, Losers	.06	.10
Total Triumph, All Athletes	.58**	.38
Difference between Winners and Losers on Expansion	.51*	.53*
Difference between Winners and Losers on Aggression	.09	.34
Difference between Winners and Losers on Total Triumph	.45*	.42*

Note. PD = Power Distance; IC = Individualism-Collectivism.

\* $p < .05$ . \*\* $p < .01$ .

PD was also correlated with the difference between winners and losers on Expansion and Total Triumph. PD was not correlated, however, with the difference between winners and losers on Aggression. Thus, Hypothesis 2 was partially supported.

To address Hypothesis 3, we computed partial correlations between PD and the expression variables controlling for IC (as mentioned above, Hofstede's IC and PD are highly negatively correlated; this occurred in our sample as well:  $\rho(36) = 0.61$ ,  $p < .05$ ). The results were more in line with predictions (Table 2). After controlling for IC, PD was significantly correlated with country means on Expansion and Aggression for winners, Total Triumph for winners, and the difference between winners and losers on Expansion and Total Triumph.

## Discussion

The findings partially supported the hypothesis that country-level PD is associated with the expressions of triumph by winners at judo competitions. Winners from higher PD countries expressed the expansive component of the triumph expression more than those from lower PD countries. Furthermore, PD was significantly correlated with the difference between winners and losers on Expansion and Total Triumph expressivity. The correlation between PD and Aggression, one of the triumph components, emerged when IC was

controlled. The results suggested that the hierarchy and dominance levels of cultures are an important element in relation to the absence, presence, or intensity of victory signals.

The results, however, were not produced without limitation. Regarding the sample, although we obtained data from non-college students in a real context, the size of the tested pool was not large, especially within each country. A greater sample was not possible as only a limited number of players from each country can compete at the Olympics, and even fewer emerge in the medal rounds. Reported findings should be replicated and examined in different types of populations and larger groups before the results are broadly generalized. In addition, we could not analyze the data using more sophisticated statistic techniques such as hierarchical linear modeling because of the limited sample sizes.

Another limitation of the study was that we tested the association between culture and expressions of triumph by using Hofstede's dimensions only. Although it is a representative and well-known measure of culture, other measures should be explored. The use of other measures could also potentially identify any other cultural factors that interact with displays of triumph.

Finally, we were not able to obtain individual difference data from expressers as they were athletes in the Olympic Games and the source data were created in non-lab contexts. Some psychological factors of individuals must be associated with how and why triumph expressions occur on the individual level.

Despite these limitations, the findings regarding the relationship between PD and the expressivity of triumph contribute to comprehending how culture may be associated with the expression of dominant victory signals. One interpretation of the findings proposes that the victory signal is connected to signals of winning in competitive contexts. Specifically, country-level differences in expansive and aggressive body gestures, including grimace, punching motion, arms raised above shoulder, arms away from body, smile, chest out, head tilt back/up, mouth open, one or both arms pulled toward body, torso pushed out leaning back, or thumbs up were consistently connected to PD for winners but not losers.

Considering the conceptual meaning of PD (that high PD cultures are more likely to encourage greater expression of dominance related behaviors), we believe that Expansion and Aggression, two elements of victory signals, interact with culture when they are expressed. Power dynamics and dominance representing PD scores can account for expressivity of victory signal such as triumph. As stated in the introduction, these findings are consistent with previous findings showing that dominant postures are more expansive and aggressive (Hall et al., 2005). The current findings are also aligned with

previous studies in human beings and animal species (de Waal, 1982; Matsumoto & Hwang, 2012; Mouterde et al., 2012) that victory signals function as a warning by a dominant figure to their community or group so that the community can be structured hierarchically, which can lead to stability in the community (Zitek & Tiedens, 2012). Expansive and aggressive (or threatening) behaviors might be efficient to deliver or signal dominant power non-verbally from their success and achievement and to motivate others' submission and harmony in the community. This function is relatively more important in high PD cultures, which is why high PD cultures were associated with relatively greater expressivity of triumph by the winners.

Victory signals are one way that cultural differences in PD are manifested and help to enable culture to maintain social order. In hierarchical societies that value power and dominance, achievement in competition against opponents is critical to the group because the result may be associated with the structure of their existing power system. Power system stability is fundamental for group members to keep their position without undue risk. Thus, victory signals are often more expressed and recognized in these types of societies. Culture, earlier defined as a unique meaning and information system shared by a group and transmitted across generations, can play an important role in the expression of the victory signals. Victory signals may function not only in competitive contexts between two parties but also when individuals feel an intense accomplishment because they obtained and experienced a personal sense of dominance or power through that accomplishment. Through triumphant or victorious experiences, cultures can guide individuals to screen what is meaningful for them to feel intensely relative to achievement and power. Hierarchical societies may motivate individuals to value these symbols more than they are valued in egalitarian societies.

The current findings need to be replicated. A variety of cultures with sufficient subjects within each culture is desirable to generalize the findings. Different types of competition contexts can lead to more complete exploration of the range of victory signals; not only sport-competition contexts, but also non-sport contexts can be considered to evaluate the expressivity of triumph and its function and verify the role of contexts in triumph and victory signals. Finally, individual-level elements such as expresser's personality or dominance orientation may be worthwhile to examine to learn more about the relationship between aggression and victory signals on the individual level.

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## Notes

1. Hwang and Matsumoto (2013) already reported that losers produced significantly less triumph behaviors at the conclusion of agonistic encounters than did winners. Regardless in our analyses, it was necessary to demonstrate that the relationship between Power Distance (PD) and triumph behaviors was true when examining winners but not losers because winners' displays should be associated with power, status, and dominance but not necessarily losers'. Thus, we included analyses of the association between PD and losers' triumph behaviors for comparison.
2. This means that the photographer sometimes had to alternate between taking photos of the two competition areas, and in some rare instances could not take photos of one of the matches, thus, resulting in a possible loss of potential images to analyze. This was only a limitation for the bronze medal matches (which occurred simultaneously) and only when those matches completed at exactly the same time. This was not an issue for the gold-silver medal matches because they occurred only on one competition area.
3. We operationalized grimaces as any facial expressions that included muscle movements associated with expressions of pain (Prkachin, 1992).
4. It is important to note limitations with the procedure of equating athlete's countries with the Hofstede (2001) culture-level data, especially given the fact that some Olympic athletes compete as representatives of countries that are not the countries in which they were born and raised (and may not represent appropriate matches between athlete country and culture). In addition, simply linking cultural data on the national level may be insufficient to assess the cultural attributes of group members (Bakir, Landis, & Noguchi, 2004). For example, it is unclear whether the differences refer to differences in attitudes, values, beliefs, norms, or even some implicitly held cognitions or behavioral patterns.
5. Given the limited number of statistical tests conducted, we deemed correction for experiment-wise error unnecessary. A total of 20 statistical tests were conducted and reported in Table 1. Despite the fact that  $\alpha = .05$  would predict one of these to be statistically significant, half of them (10) were statistically significant. Thus, we were fairly confident that the results were not due to experiment-wise error.

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