

Received:

6 July 2017

Revised:

9 October 2017

Accepted:

10 November 2017

Cite as: Yusuke Kuroda,  
Farah Palmer,  
Makoto Nakazawa.  
Comparison of  
metamotivational dominance  
and cultural identity between  
Japanese National Team and  
Māori All Blacks rugby  
players.

Heliyon 3 (2017) e00454.

doi: [10.1016/j.heliyon.2017.e00454](https://doi.org/10.1016/j.heliyon.2017.e00454)

# Comparison of metamotivational dominance and cultural identity between Japanese National Team and Māori All Blacks rugby players



Yusuke Kuroda<sup>a,\*</sup>, Farah Palmer<sup>b</sup>, Makoto Nakazawa<sup>c</sup>

<sup>a</sup> School of Sport and Exercise, Massey University, Palmerston North, New Zealand

<sup>b</sup> School of Management, Massey University, Palmerston North, New Zealand

<sup>c</sup> Institute of Health and Sport Sciences, University of Tsukuba, Tsukuba, Japan

\*Corresponding author.

E-mail address: [y.kuroda@massey.ac.nz](mailto:y.kuroda@massey.ac.nz) (Y. Kuroda).

## Abstract

This pilot study used a reversal theory framework to examine metamotivational dominance of rugby players on the Māori All Blacks (MABs) squad of New Zealand and the Japanese National Team (JNT). Since the two groups have different cultural team demographics, cultural identity was also examined. Twenty six players from the MABs and 31 from the JNT completed questionnaires on metamotivational dominance and cultural identity. In terms of metamotivational dominance, the findings indicated that the MABs were more playful minded and spontaneous oriented than the JNT. Regarding cultural identity, the JNT showed a greater knowledge of their own culture and higher comfort level in their cultural context, while the MABs felt more positive and willing to sustain their own culture. The motivational personality differences between the teams may reflect the style of play that is valued within each team culture that is, flair, spontaneity and high-risk play within Māori rugby, and structure, team unity and conformity within the JNT. This suggests that metamotivational dominance of teams and players is

influenced by the cultural identity of both the individuals and the group, which may have a further impact on team cohesion and performance.

Keywords: Sociology, Psychology

## 1. Introduction

Since the mid-1990s, global expansion of rugby union (rugby) and rugby players' migration has progressed rapidly, creating more culturally diverse teams. According to [World Rugby \(2016\)](#), players are permitted to play for a national team where they do not possess citizenship status as long as that player has resided for 36 consecutive months. Cultural diversity in national teams may create differences in motivational personality and impact on team cohesion and outcomes. Examining the motivational personality of culturally different national teams could help understand interpersonal relationships and thus team performance ([Brandes et al., 2009](#); [Shepherd et al., 2006](#)). In 2014, approximately 25% of the Japanese National Team (JNT) were not Japanese citizens. In comparison, only players of Māori descent who reside in New Zealand are eligible for the Māori All Blacks (MABs). Although the MABs and JNT have different cultural dynamics, both teams have demonstrated on-field success. The MABs had an 84% win record between 1994 and 2004 and the JNT were 12th out of 102 nations in the [2016 World Rugby](#) rankings. This study explored whether there were any differences in motivational dominance and cultural identity between these teams.

The 2013 Census in New Zealand revealed that 14.9% of New Zealand's population were of Māori descent, but fewer (13.4%) self-identified as Māori, of which more than half identified with two or more ethnic groups ([Statistics New Zealand, 2013](#)). This suggests that cultural identity for Māori is complex. Māori are indigenous to New Zealand but due to years of colonisation, assimilation and marginalisation, Māori identity is sometimes suppressed, denied or lost. As a result, Māori who identify as being of Māori ethnicity have varied knowledge of their Māori genealogy, language and customs ([Durie, 1994](#)). What this suggests is that although all players in the MABs must demonstrate Māori genealogy to be eligible for selection, the level of Māori identity among players can vary. Alternatively, the latest statistics showed that 98.6% of the total population in Japan is Japanese, and they speak Japanese as their first language ([Ministry of Internal Affairs and Communications, 2017](#)). Thus, unlike Māori culture in New Zealand (which is a minority culture), the Japanese language and culture are central to the systems, structures and philosophies that are dominant in Japanese society.

Globally, the cultural dimension that has received the greatest attention as a predictor of cultural variation has been individualism/collectivism (e.g., [Alfermann et al., 2013](#); [Markus and Kitayama, 1991](#)). In essence, in individualistic cultures people tend to prioritise personal interests over common goals, whereas in

collectivistic cultures people tend to prioritise common goals, including team ones, over personal needs (Haar et al., 2014). Japanese culture is fundamentally collectivistic (Yuki et al., 2005), and in Japanese rugby, ideals of ‘Noblesse oblige’ (helping and doing things for others) and ‘one for all, all for one’ (Markus and Kitayama, 1991) are valued. Therefore, a team is more highly valued than a player in Japan (Chiba and Jackson, 2006). Hayashi and Weiss (1994), for instance, found that Japanese runners participate to belong in a group compared to American runners who participate for social recognition, while Tafarodi et al., 2004 found that Japanese students tend to have less desire to be different than Canadian students. More recently, a study by Geisler (2016) also found that Japanese college soccer players had significantly higher self-presentational concerns within their team than Canadian and German college soccer players.

In Japan, rugby was brought into the education system in the late nineteenth century by educators who thought that the strong emphasis on team work in rugby would help disseminate and maintain a homogenous culture (Light, 2000a). One of the characteristics taught when playing rugby in school, similar to what is valued in Japanese society, is that players are asked to accept “subordination of the self to the team and to win through effort” (Light, 2000b; p. 29). At the elite level, rugby teams in Japan are supported by companies, and in 2003 the domestic league became professional. Despite this, some players still opt to remain non-professional and play as corporate workers. Japanese companies have used sports teams such as rugby teams as a human resource management system, where players develop skills needed as corporate workers such as time management, developing social networks, and working in a group environment (Sawano, 2010).

Collectivism also resonates strongly with Māori values and norms (Hook, 2007) in that kotahitanga (unity), whanaungatanga (kinship) and manaakitanga (hospitality) are important Māori values that have been integrated into the culture of sport in New Zealand (Thomas and Dyal, 1999). The Māori rugby centenary jersey in 2010, for instance, included a porowhita symbol; ‘poro’ means ball and ‘whita’ means to lash together and thus the term porowhita represents kotahitanga (unity) within the MAB team. As the 2013 New Zealand Census results suggest, however, many Māori also identify as Pākehā, and Pākehā culture (the dominant Anglo-Saxon culture of New Zealand) is rated highly on levels of individualism (Oyserman et al., 2002). As a result of assimilation into Pākehā culture in New Zealand, many Māori have weakened connections to Māori language and communities (Durie et al., 1995) yet strongly align their success in sports such as rugby with their Māori identity (Thomas and Dyal, 1999). This may create a tension between the collectivistic culture of Māori and the individualistic culture of Pākehā that players in the MAB team have to negotiate.

Since the early 1990s, the JNT has included players from other countries (Sakata, 2004) such as New Zealand, Tonga and Australia. Thus, cultural identities and motives within this culturally diverse team may vary. There are 15 teams in the Japanese top domestic league (Top League). In the 2016–2017 season, there were 63 foreign born players in the Top League; about four foreign players play for each team (Top League, 2017). Foreign born players in the JNT provide international experience and rugby knowledge, and tend to have played professional rugby in Japan as part of corporate sponsored teams which encourage assimilation into Japanese culture (Sakata, 2004). Understanding the relationship between cultural identity, motivational preferences, emotion and personality of players in culturally different rugby teams may assist in understanding how to get the best out of athletes and teams to achieve successful outcomes such as team cohesion and on-field wins.

Reversal theory (Apter, 2001) is a psychological theory of motivation, emotion, and personality that explains human behaviour and experience. According to reversal theory, some universal and essential characteristics involving four domains are evident when subjective experiences are examined. The four domains are: (i) means-and-ends, (ii) rules, (iii) transactions, and (iv) relationships. Each domain has a bi-stable pair of metamotivational states that determine how that domain is experienced. Therefore, there are eight metamotivational states: for means-and-ends, these are the telic and paratelic states; for rules, they involve the conformist and negativistic states; for transactions, the mastery and sympathy states; and for relationships, the autic and alloic states (Table 1). For each domain, only one metamotivational state from the pair can be experienced at a given point in time. The majority of reversal theory-based research in sport and exercise has focused on the means-and-ends domain and the telic-paratelic metamotivational pairing (e.g., Hudson and Walker, 2002; Kerr and Vlaswinkel, 1993). This stems from links with the dynamics of arousal, which has demonstrated importance within sport and exercise contexts (Bindarwish and Tenenbaum, 2006; Kerr and Vlaswinkel, 1993).

**Table 1.** Motivational pairings in reversal theory.

Domains	States	
means-and ends	telic	paratelic
rules	conformist	negativistic
transactions	mastery	sympathy
relationships	autic	alloic

The means-and-ends domain involves two bi-polar states – telic and paratelic. The word ‘telic’ comes from the Greek word, “telos”, meaning goal. When individuals are in the telic state, they are seen to be goal-oriented and striving to achieve something. In this state, individuals tend to avoid high levels of arousal as too much arousal can generate feelings of anxiety. For example, a rugby player during training sessions preparing seriously for the coming big match is in a telic state, as the player has a goal of winning the match. In the paratelic state, on the other hand, the individual is seen as being more playful, with ‘para’ meaning ‘beside’ (‘beside goal’). Unlike the telic state, when an individual is in the paratelic, state enjoying the process is regarded as more important than striving for any outcome. However, the individual in the paratelic state can still have a goal to pursue, but that goal is subsumed by the enjoyment of engaging in the activity. For example, scoring a try during a rugby match will move this player into a paratelic state and foster a sense of joy, since scoring will help the team win. Apter (2001) notes that the biggest difference between the telic and paratelic states is whether the focus is more on achieving goals than on experiencing the process (telic), or enjoying the process more than focusing on the results of the endeavour (paratelic).

As previously identified, each of the metamotivational states is mutually exclusive (Potocky and Murgatroyd, 1993), which means that a person cannot be in both states at the same time (e.g., an individual who is in the telic state cannot simultaneously be in the paratelic state). However, they can, and often do, reverse between these two states. The process of reversal between states is considered to be involuntary; that is, not consciously decided (Apter, 1982). For instance, while the ball is in play, players are in a telic state as they are concentrating on performance (i.e., winning the game), but when a team scores a try, players can reverse to a paratelic state, enjoying the moment of scoring. Players can reverse back to the telic state as soon as another play starts.

Individuals are believed to have a tendency to spend the majority of time in one dominant state from each pair. According to Apter (1984), individual differences at the metamotivational level represent predispositions or tendencies to spend time in one state rather than the other, and this tendency is called ‘dominance’. For example, a person who tends to spend most of the time in a telic state is seen to be telic dominant. However, while it is possible to reverse out of this dominant state it is easier to revert, because of contingent events, *into* this dominant state. In addition, individuals satiate more slowly and feel less frustrated in their dominant state than in the opposing state (Apter, 1984). Therefore, contingent events are likely to trigger individuals to reverse easily to their dominant state and reach satiation more slowly, thereby experiencing less frustration in that state (Frey, 1999). In the sport context, reversal theory has been used to examine sports participation among athletes with different metamotivational dominances (e.g., Kerr, 1987; Svebak and Kerr, 1989), changes in metamotivational states in sports

(e.g., Bellow and Thatcher, 2002; Fujiyama et al., 2005; Hudson and Bates, 2000), and psychophysiological relationships between metamotivational dominance and physiological responses in sports (e.g., Braathen and Svebak, 1994; Hudson et al., 2013). Although Apter describes all of the domains and state pairs, as in most exercise or sport based research (e.g., Kerr et al., 2006; Kuroda et al., 2015; Legrand et al., 2009) this study focused on examining the telic-paratelic metamotivational state pair. Sport and exercise researchers using reversal theory tend to focus on this metamotivational state pair because the telic/paratelic pairing plays a role in perception and coping with stressful situations, involvement in certain types of activities, and how arousal is perceived. Each of these aligns with what is often experienced within sport/exercise contexts (Cromer and Tenenbaum, 2009).

Kerr (1988) explored metamotivational dominance in competitive rugby players from four different countries (Australia, Canada, England and Wales). The results showed that competitive rugby players were telic dominant and that no cultural differences were found between them. This adds further support to the idea that the level of sport participation, irrespective of national culture, may play an important role when determining athletes' metamotivational dominance. In fact, studies suggest that participation levels affect metamotivational dominance, with elite athletes being more were found to be telic dominant than athletes participating in sports as leisure activities (e.g., Kerr, 1987; Sell, 1991). However, as Kerr's study was completed pre-professionalism, when fewer foreign players played across national borders, there may be a difference in metamotivational dominance between national teams with varying cultural demographics in the global rugby environment. In addition, Kerr (1988) examined four countries with similar cultural backgrounds (predominantly Anglo-Saxon). There is a need, therefore, to examine whether teams with very different cultural makeup (such as the Māori and Japanese teams) may reveal more variance in metamotivational preferences due to variance in cultural identity.

The purpose of this pilot study was to examine metamotivational dominance of two national level teams from two culturally different countries; the New Zealand Māori All Blacks team (who genealogically and/or self-identify with a single-culture and minority ethnic group in New Zealand) and the Japanese National Team (multi-cultural and the majority from the dominant ethnic group in Japan). A further aim was to determine whether their metamotivational dominance is similar to or different from the previous study by Kerr (1988). Knowing and understanding variances in metamotivational dominance and cultural identity may help players, coaches, and support staff to understand the cultural foundations and motives of players individually and teams collectively, thus contributing to greater understanding of how to develop team culture, practices and processes to enhance team performance and cohesion

## 2. Methods

### 2.1. Participants

The second author had access to the Māori All Blacks team for another research project and travelled with the team in 2014 during their two-test match tour. This provided an opportunity to survey the MABs and seek permission from the Japanese Rugby Football Union (JRFU) through contacts in Japan and New Zealand to survey the JNT at a time and place that was convenient for them during the 2014 Tour. As a result, 57 players from the Māori All Blacks (MABs;  $n = 26$ ) and the Japanese National Team (JNT;  $n = 31$ ) participated in this study, which involved in-person responses to survey measures (described below) during a team meeting. Ages ranged from 21–32 years for the MABs ( $M = 24.7$ ,  $SD = 2.9$ ) and 21–36 years for the JNT ( $M = 26.8$ ,  $SD = 4.1$ ).

### 2.2. Measures

The Paratelic Dominance Scale (PDS; Cook and Gerkovich, 1993) was used to assess participants' metamotivational dominance. Along with the original English version for MAB participants and foreign born players from the JNT, a Japanese version (Kerr et al., 1997) was used for Japanese players. The PDS consists of 30 items written in a true/false answer format and has three subscales (10 items each); playfulness (e.g., "If I have extra time, I prefer to spend it accomplishing something important."), spontaneity (e.g., "I usually make decisions based on my long-term goals.") and arousal-seeking (e.g., "I like being in unpredictable situations."). The PDS is used frequently to measure individuals' metamotivational dominance (Bindarwish and Tenenbaum, 2006; Kuroda et al., 2017; Thatcher et al., 2011). The alpha coefficient for odd-numbered items in the study by Cook and Gerkovich (1993) was 0.87 and for even-numbered items was 0.86. No sex differences have been identified in previous samples and population data demonstrate a normal distribution, as indicated by acceptable skewness and kurtosis.

The team survey chosen for this study was adapted from cultural identity surveys used in various contexts to determine what constitutes Māori identity. Durie et al., 1995 used seven cultural indicators to measure Māori cultural identity in a longitudinal study (Te Hoe Nuku Roa/THNR) exploring the role that cultural identity has on health and wellbeing. These indicators included self-identification, whakapapa (genealogy), marae (ancestral meeting place) participation, whānau (family) associations, whenua tipu (connection to sacred lands), contact with Māori people, and use/knowledge of Māori language (Stevenson, 2004). Hirini and Flett (1999) used these cultural indicators when surveying the 1999 Māori rugby team and found that 42% of the players described themselves as Māori, 58% knew Māori language at a very basic level, 26% experienced some stress in formal Māori

contexts, and only 21% had a secure Māori profile (a high score rating for four of the six identity markers used in the survey).

Houkamau and Sibley (2010) developed and expanded on these dimensions of identity further to create another self-report questionnaire named the Multi-Dimensional Model of Māori Identity and Cultural Engagement (MMM-ICE). These seven distinct dimensions of identity and cultural engagement in Māori populations included group-membership evaluation (GME), socio-political consciousness (SPC), cultural efficacy and active identity engagement (CEAIE), spirituality (S), interdependent self-concept (ISC), authenticity beliefs (AB), and most recently the revised version (MMM-ICE2) includes perceived appearance (PA) (Houkamau and Sibley, 2014). Houkamau and Sibley (2010) argue that MMM-ICE is a self-report measure of Māori identity that is a culturally sensitive, valid and reliable measure of subjective identification of Māori that may differentiate Māori from non-Māori in domains relevant to Māori well-being.

Both THNR (Durie et al., 1995) and MMM-ICE (Houkamau and Sibley, 2010; 2014) have been applied in various contexts (eg., Hirini and Flett, 1999; Forster, 2003; Stephenson, 2004) and are considered appropriate and internally reliable indicators of Māori identity in New Zealand that can be readily compared across independent studies of Māori people (Houkamau and Sibley, 2014). The factors and indicators of Māori identity from both of these questionnaires were adapted for this study with assistance from a respected Māori health scholar familiar with both (Dr. Te Kani Kingi) to suit the rugby team environment, the cross-cultural application, and the language preference of the players. The adoption of Te Hoe Nuku Roa measures of cultural identity by Hirini and Flett (1999) when studying the national Māori rugby team in the late 1990s was also taken into consideration to make the results more comparable in a future study.

Members of the MAB team were asked to complete the survey at the start of the tour while on the plane to Japan and had the option of completing the survey in Māori. All players were comfortable completing the survey in English. Members of the JNT were asked to complete the survey the day before the second match against the MABs (they had lost the first match) and prior to a team meeting. They were asked if they preferred the survey in Japanese or English and received a printed version in their preferred language (English or Japanese). The translation work was done by the translation-back translation method, where translation into Japanese was done by a first author and back translation by a professional translator. The players responded to the following indicators of cultural identity that were presented as questions in a 5 point Likert scale:

1. Knowledge of culture (i.e., How knowledgeable are you about Māori/Japanese culture?) – related to self-identification (THNR) and CEAIE (MMM-ICE)



2. Involvement in culture (i.e., How involved are you in Māori/Japanese activities?) – related to marae participation, whenua tipu (THNR) and CEAIE (MMM-ICE)
3. Association with others from the particular culture (i.e., How often do you associate with Māori/Japanese people?) – related to whanau associations and contact with Māori people (THNR) and GME (MMM-ICE)
4. Level of comfort in cultural contexts (i.e., How comfortable are you in Māori/Japanese contexts?) – related to CEAIE, ISC (MMM-ICE)
5. Knowledge of language (i.e., How knowledgeable are you about Māori/Japanese culture?) – related to use/knowledge of Māori language (THNR) and CEAIE, SPC (MMM-ICE)
6. Importance of maintaining cultural identity (i.e., How important is it for you to maintain Māori/Japanese culture and identity?) – related to self-identification (THNR) and SPC, AB, CEAIE (MMM-ICE)
7. Strength of cultural identity (i.e., How strongly do you identify as Māori/Japanese?) – related to self-identification (THNR) and CEAIE, SPC, AB (MMM-ICE)
8. Feelings toward culture (i.e., How do you feel toward Māori/Japanese culture?) – related to GME (MMM-ICE)
9. Knowledge of genealogy (i.e., How knowledgeable are you about your genealogy?) – related to whakapapa (THNR) and GME, ISC, S (MMM-ICE).

### 2.3. Procedure

The study was approved by the Human Ethics Committee of Massey University. Participants were approached by researchers via each of the team managers. Once consent was gained, each participant was administered the PDS, to examine motivational dominance, and cultural identity surveys.

### 2.4. Data analysis

The data analysis identified differences between the MAB and JNT groups with regard to motivational dominance and cultural indicators. Accordingly, an independent samples *t* test was used to examine any differences in PDS scores and cultural indicator measures between the MAB and JNT groups. The significance level was  $\alpha = .05$ .

## 3. Results

Refer to [Table 2](#) for a summary of the PDS and cultural indicator scores for the MABs and JNT.

**Table 2.** Paratelic Dominance Scale (PDS) and Cultural Indicator scores for Māori All Blacks and Japanese National Team. \* $p < 0.05$ .

	Māori All Blacks		Japanese National Team	
	M	SD	M	SD
PDS total*	17.65	3.21	14.35	4.60
PDS: playful-serious*	5.62	1.60	4.27	1.78
PDS: spontaneous-planning*	6.81	1.52	5.56	2.16
PDS: arousal seeking	5.23	1.45	4.50	1.96
Knowledge*	3.27	1.08	2.43	0.73
Involvement*	3.88	1.03	2.67	0.84
Feeling toward*	1.27	0.60	1.70	0.92
Association*	1.81	0.90	1.23	0.50
Importance*	1.27	0.60	1.72	0.84
Knowledgeable ancestor	2.63	1.01	2.27	1.11
Comfortable*	3.00	1.10	1.33	0.71
Knowledgeable language*	3.58	1.09	1.70	1.02
Strength of identity	1.75	0.84	1.62	1.08

### 3.1. Results comparing Māori All Blacks and Japan National Team

#### 3.1.1. Motivational personality

When examining the sub-item measures, the MAB group scored significantly higher than the JNT group on the playful measure ( $t(50) = 2.87, p = 0.006$ ) and showed that the MABs were a more playful oriented group than the JNT (MABs:  $M = 5.62, SD = 1.60$ ; JNT:  $M = 4.27, SD = 1.78$ ). The MAB group also scored significantly higher than the JNT group for the spontaneous measure ( $t(44.97) = 2.38, p = 0.022$ ; MAB:  $M = 6.81, SD = 1.52$ ; JNT:  $M = 5.56, SD = 2.16$ ).

When examining the total PDS score, the MABs scored significantly higher than the JNT ( $t(50) = 3.01, p = 0.004$ ). The MABs score was more playful and spontaneous overall, and they preferred higher arousal than the JNT (MABs:  $M = 17.65, SD = 3.21$ ; JNT:  $M = 14.35, SD = 4.60$ ).

### 3.2. Cultural identity

When comparing cultural indicators between the MAB and JNT groups, every measure except for knowledge of genealogy/ancestry and strength of identity showed a significant difference between the two groups.

When examining knowledge of their own culture, the JNT group perceived themselves as more knowledgeable about their culture than the MABs as there was a significant difference between the two groups ( $t(42.86) = 3.35, p = 0.002$ ; MABs:  $M = 3.27, SD = 1.08$ ; JNT:  $M = 2.43, SD = 0.73$ ).

For involvement in cultural activities, the JNT group was significantly more involved with cultural activities compared to the MAB group ( $t(54) = 4.86, p < 0.001$ ; MABs:  $M = 3.88, SD = 1.03$ ; JNT:  $M = 2.67, SD = 0.84$ ).

The MAB group felt significantly more positive about their own culture than the JNT group ( $t(50.063) = -2.04, p = 0.04$ ; MABs:  $M = 1.27, SD = 0.60$ ; JNT:  $M = 1.70, SD = 0.92$ ).

The JNT group reported associating significantly more with Japanese people than the MAB group reported associating with Māori people ( $t(38.14) = 2.90, p = 0.006$ ; MABs:  $M = 1.81, SD = 0.90$ ; JNT:  $M = 1.23, SD = 0.50$ ).

The MAB group felt that it was significantly more important to maintain their (Māori) culture than the JNT group's feeling about maintaining their (Japanese) culture ( $t(50.69) = -2.32, p = 0.024$ ; MABs:  $M = 1.27, SD = 0.60$ ; JNT:  $M = 1.72, SD = 0.84$ ).

The JNT group felt significantly more comfortable in their (Japanese) cultural contexts than the MAB group in Maori contexts ( $t(41.79) = 6.64, p < 0.001$ ; MABs:  $M = 3.00, SD = 1.10$ ; JNT:  $M = 1.33, SD = 0.71$ ).

The JNT group's perception of their knowledge of their own language was significantly higher than the MAB group ( $t(54) = 6.64, p < 0.001$ ; MABs:  $M = 3.58, SD = 1.09$ ; JNT:  $M = 1.70, SD = 1.02$ ).

#### 4. Discussion

The purpose of this pilot study was to examine the metamotivational dominance of two teams with different cultural backgrounds. We also examined whether findings were different to a study by Kerr (1988), where no significant difference between competitive rugby players' metamotivational dominance in four different countries was found. The MABs were significantly more playful minded and spontaneous oriented, and they preferred higher arousal than the JNT. This contrasts with the study by Kerr, where no significant differences in metamotivational dominance between competitive rugby players from Australia, Canada, England, and Wales were found. The significant difference between the two groups is similar to the findings of a study by Kuroda et al. (2017) in which Māori Kapa Haka (traditional dance troupe) participants were significantly more paratelic dominant than Japanese dance exercise participants (using traditional Japanese dance movements). Therefore, the differences between the two teams resulted from cultural

differences rather than participation level, since elite athletes overall are thought to be telic dominant (Kerr, 1987; Kerr and van Lienden, 1987; Svebak and Kerr, 1989). This case study demonstrated that elite players, from a certain cultural background, can have a more paratelic dominant metamotivational dominance. Kerr (1988) results may be due to players in the various teams sharing similar cultural influences in the four Anglo-Saxon countries (where elite athletes tend to have a telic dominant personality) at a time when global migration of players and thus cultural diversity of players was minimal. Globalisation and diversity has impacted on rugby over the past 20 years, hence the need to revisit the relationship between metamotivational dominance and cultural identity.

The difference in paratelic dominance between the Māori and Japanese teams may be explained by the goal orientation of each team and the style of rugby that each culture values. Although all players selected for the MABs are professional players, they tend to come together as a team for a short period of time (to coincide with the international rugby windows in June and November) before dispersing back to their more permanent professional rugby teams (e.g., Super Rugby or provincial rugby teams). For instance, the 2014 Japan Tour took place immediately after the provincial rugby finals in New Zealand and involved only two games for the MABs before they had to return to New Zealand to fulfil Super Rugby contracts and obligations. This could explain why their attitude while in the Māori team may be more playful (i.e., a one-off special experience). Furthermore, an emphasis on spontaneity, flair, and high-risk tactics in the Māori rugby environment has been reinforced over a long period of time and may explain why the MABs scored higher on paratelic measures. For instance, since the entrepreneurial endeavour of a 'Natives Team' from New Zealand to tour the United Kingdom in 1888–89, Māori rugby and the MAB team have embraced a brand of rugby that is more spontaneous and risky, and thus considered entertaining. In 2010, the MAB jersey that was specially designed to commemorate 100 years of Māori rugby included a hammerhead shark symbol; a symbol of strength, power, determination, flair and fluidity for Māori. Players selected for the MABs also come predominantly from Super Rugby teams in New Zealand, where players are encouraged to adopt “a more open, attacking and free flowing style of play with an emphasis on playing ‘attractive’ rugby” (Light, 2000c; p. 167)). Lastly, and most applicable to the team surveyed in this study, the New Zealand Rugby President, Ian MacRae, highlighted in the *Māori All Blacks Tour to Japan Media Guide (2014)* that internationally there is a “huge appetite to see the exciting style of rugby for which the MABs are famous” (p. 2).

Alternatively, a more structured approach to team tactics may receive greater emphasis in Japanese rugby, with a stronger focus on being a team player than playing more individually (Chiba and Jackson, 2006). Rugby itself was introduced in Japan to develop spiritual and physical toughness among students, with teaching

methods that included individual sacrifice and unswerving commitment to the team. Players are used to training perfect set pieces and movement patterns via repetitive, structured practices until the point of exhaustion, which is similar to martial arts and which reflects values held in high regard in Japanese society (Light, 2000b; 2001). Rugby players also follow very strict age-based hierarchical relationships to align with Japanese social systems (Light, 1999). Elite rugby players in Japan (including foreign born players) play for corporate-owned teams in the Top League, and for these players to succeed and be accepted in Japan, they need to embrace the norms of Japanese society such as formal structures, strong group membership, combined play, high expectations, hierarchical relationships, restricted individual play, and group consciousness where success and failure are collectively shared (Chiba and Jackson, 2006; Greenwood, 2015; Light, 2000b).

The results of this study suggest that although the JNT team is multi-cultural, foreign born players appear to have embraced the collectivistic and structured cultural values of Japan (Kiyomiya, 2006; Yuki et al., 2005). The JNT players reported associating significantly more with Japanese people and being more comfortable in their (Japanese) cultural contexts than the MAB players were with Māori cultural contexts and people. This could be interpreted as greater motivation within the JNT to be collective, but the complex cultural identity of Māori players in the MABs may also help explain this difference in findings. The influence of cultural assimilation of Māori people in New Zealand is reflected in the findings of this study insofar as the knowledge, involvement and level of comfort of the MABs with Māori culture was not as secure as it was for the JNT with Japanese culture. This suggests that within a country, variations in cultural dimension scores can have an impact on metamotivational dominance, and this interaction between culture and motivation should be acknowledged and explored further in future research to assist coaches, consultants and practitioners to get the best out of their athletes and teams. For instance, what is the relationship between the dominant culture where a particular sports team is based and metamotivational dominance? How can coaches, consultants and practitioners apply what we have explored about cultural identity and metamotivational dominance? Is there a tipping point where dominant values of a particular ethnic or national culture influence metamotivational dominance or vice versa? Are there consistencies in metamotivational dominance across different sport codes (e.g., rugby, J-League, soccer and softball)? The research by Kuroda et al. (2017) suggests that this may be the case. Within New Zealand, what is the possible relationship between cultural identity and metamotivational dominance across national rugby teams such as the All Blacks (national men's team), Black Ferns (national women's team) and the national rugby sevens teams (men's and women's)? All of these questions require further application of these preliminary findings across various cultural and sporting contexts.

In closing, there was a significant difference in metamotivational dominance between the JNT and MAB rugby teams in this pilot study, which contrasts with the findings of Kerr (1988). The telic-paratelic dominance differences between the two groups could be reflected in the goal orientation and style of play that is valued within each team and within each national/ethnic culture. This pilot study suggests that the relationship between metamotivational dominance and ethnic, team and national culture is worthy of further exploration. Flair, spontaneity and high-risk rugby for the collective good were valued within Māori rugby and structure, while team unity, structure and conformity were valued within the Japanese National Team, even though externally the JNT is seen as more culturally diverse than the MABs. This suggests that a greater understanding of the relationship between motivational personality profile and cultural profile within a team is needed to explain how this may impact team dynamics and performance in an increasingly global and culturally diverse world.

## Declarations

### Author contribution statement

Yusuke Kuroda: Conceived and designed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Farah Palmer: Conceived and designed the experiments; Performed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Makoto Nakazawa: Performed the experiments; Contributed reagents, materials, analysis tools or data.

### Funding statement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

### Competing interest statement

The authors declare no conflict of interest.

### Additional information

No additional information is available for this paper.

### Acknowledgements

We would like to thank the New Zealand Rugby Union and Japan Rugby Football Union for their support in conducting this study.

## References

- Alfermann, D., Geisler, G., Okade, Y., 2013. Goal orientation, evaluative fear: and perceived coach behaviour among competitive youth swimmers in Germany and Japan. *Psychol. Sport Exerc.* 14, 307–315.
- Apter, M.J., 1982. *The experience of motivation: The theory of psychological reversals*. Academic Press, London, UK.
- Apter, M.J., 1984. Reversal theory and personality: A review. *J. Res. Pers.* 18, 265–288.
- Apter, M.J., 2001. An introduction to reversal theory. In: Apter, M.J. (Ed.), *Motivational styles in everyday life: A guide to reversal theory*. American Psychological Association, Washington, DC, pp. 3–35.
- Bindarwish, J., Tenenbaum, G., 2006. Metamotivational and contextual effects on performance, self-efficacy, and shifts in affective states. *Psychol. Sport Exerc.* 7, 41–56.
- Braathen, E.T., Svebak, S., 1994. EMG response patterns and motivational styles as predictors of performance and discontinuation in explosive and endurance sports among talented teenage athletes. *Pers. Individ. Dif.* 17, 545–556.
- Brandes, L., Franck, E., Theiler, P., 2009. The effect from national diversity on team production –empirical evidence from the sports industry. *Schmalenbach Business Review* 61, 225–246.
- Chiba, N., Jackson, S., 2006. Rugby player migration from New Zealand to Japan. *Football Studies* 9, 67–78.
- Cook, M.R., Gerkovich, M.M., 1993. The development of a Paratelic Dominance Scale. In: Kerr, J.H., Murgatroyd, S., Apter, M.J. (Eds.), *Advances in reversal theory*. Swets & Zeitlinger, Amsterdam, pp. 177–188.
- Cromer, J., Tenenbaum, G., 2009. Meta-motivational dominance and sensation-seeking effects on motor performance and perceptions of challenge and pressure. *Psychol. Sport Exerc.* 10, 552–558.
- Durie, M., 1994. *Whaiora, Maori Health Development*. Oxford University Press, Auckland, New Zealand.
- Durie, M.H., Black, T.E., Christensen, I.S., Durie, A.E., Fitzgerald, E.D., Taiapa, J. T., 1995. Te Hoe Nuku Roa framework: A Māori identity measure. *J. Polyn. Soc.* 104, 447–461.
- Forster, M., 2003. Te hoe nuku roa: A journey towards Māori centered research. *Ethnobotany Research & Applications* 1, 47–53.

- Frey, K.P., 1999. Reversal theory: Basic concepts. In: Kerr, J.H. (Ed.), *Experiencing sport: Reversal theory*. John Wiley & Sons Ltd., West Sussex, UK, pp. 3–17.
- Fujiyama, H., Wilson, G.V., Kerr, J.H., 2005. Motivational state and emotional tone in baseball: the reciprocity between reversal theory and field research. *Revue Europeene de Psychologie Appliquee* 55, 71–83.
- Geisler, G., 2016. East-West measures of evaluative concern and self-presentational thinking in intercollegiate soccer. *Int. J. Soccer Exerc. Psychol.*, 1–18 30 March.
- Greenwood, J., 2015. *Rugby classics: Think rugby A guide to purposeful team play*. Bloomsbury, London.
- Hayashi, C.T., Weiss, M., 1994. A cross-cultural analysis of achievement motivation in Anglo-American and Japanese marathon runners. *Int. J. Sport Psychol.* 25, 187–202.
- Haar, J.M., Russo, M., Suñe, A., Ollier-Malaterre, A., 2014. Outcomes of work-life balance on job satisfaction: life satisfaction and mental health: A study across seven cultures. *J. Vocat. Behav.* 85, 361–373.
- Hirini, P., Flett, R.A., 1999. Aspects of the Māori All Black experience: The value of cultural capital in the new professional era. *He Pukenga Korero: A Journal of Māori Studies* 5 (1), 19.
- Hook, G.R., 2007. A future for Māori education Part II: The reintegration of culture and education. *MAI Review* 1, 1–17.
- Houkamau, C.A., Sibley, C.G., 2010. The multi-dimensional model of Māori identity and cultural engagement. *NZ J. Psychol.* 39 (1), 8–28.
- Houkamau, C.A., Sibley, C.G., 2014. Social identity and differences in psychological and economic outcomes for mixed and sole-identified Māori. *Int. J. Intercult. Relat.* 40, 113–125.
- Hudson, J., Bates, M.D., 2000. Factors affecting metamotivational reversals during motor task performance. *Percept. Mot. Skills* 91, 373–384.
- Hudson, J., Walker, N.C., 2002. Metamotivational state reversals during matchplay golf: An idiographic approach. *Sport Psychol.* 16, 200–217.
- Hudson, J., Davison, G., Robinson, P., 2013. Psychophysiological and stress responses to competition in team sport coaches: An exploratory study. *Scand. J. Med. Sci. Sports* 23, e279–e285.



- Kerr, J.H., 1987. Differences in the motivational characteristics of 'professional,' 'serious amateur' and 'recreational' sports performers. *Percept. Mot. Skills* 64, 379–382.
- Kerr, J.H., 1988. A study of motivation in rugby. *J. Soc. Psychol.* 128, 269–270.
- Kerr, J.H., Yoshida, H., Hirata, C., Takai, K., Yamazaki, F., 1997. Effects of archery performance of manipulating metamotivational state and felt arousal. *Percept. Mot. Skills* 84, 819–828.
- Kerr, J.H., van Lienden, H.J., 1987. Telic dominance in masters swimmers. In: Kerr, J.H. (Ed.), *Motivation and emotion in sport*. East Sussex: Psychology Press Ltd, pp. 33.
- Kerr, J.H., Vlaswinkel, E.H., 1993. Self-reported mood and running under natural conditions. *Work Stress* 7 (2), 161–177.
- Kerr, J.H., Wilson, G.V., Svebak, S., Kirkcaldy, B.D., 2006. Matches and mismatches between telic dominance and type of sport: Changes in emotions and stress pre- to post-performance. *Pers. Individ. Dif.* 40, 1557–1567.
- Kiyomiya, K., 2006. *Ultimate crush: Waseda University rugby, leadership and building the strongest winning team in Japan* (I. Ruxton Trans.). Lulu Press Inc, Morrisville, NC.
- Kuroda, Y., Geisler, G., Morel, P.C.H., Hapeta, J., 2017. Stress: emotions and motivational states among traditional dancers in New Zealand and Japan. *Psychol. Rep.* 120, 895–913.
- Kuroda, Y., Hudson, J., Thatcher, R., 2015. Motivational state and personality in relation to emotion, stress, and HRV responses to aerobic exercise. *J. Psychophysiol.* 29 (4), 147–160.
- Legrand, F.D., Bertucci, W.M., Thatcher, J., 2009. Telic dominance influences affective response to a heavy-intensity 10-min treadmill running session. *J. Sport Sci.* 27, 1059–1067.
- Light, R., 1999. High school rugby and the construction of masculinity in Japan. In: Nauright, J., Chandler, T.J.L. (Eds.), *Making the rugby world: Race, gender, commerce*. Frank Cass, London.
- Light, R., 2000a. A century of Japanese rugby and masculinity: Continuity and change. *Sporting Traditions* 16, 87–104.
- Light, R., 2000b. Culture at play: A comparative study of masculinity and game style in Japanese and Australian high school rugby. *IJSS* 22, 26–41.

- Light, R., 2000c. High school rugby, the body and the reproduction of hegemonic masculinity. *Sport Educ. Soc.* 5, 163–176.
- Light, R., 2001. Culture: tactics and embodied masculinity in Japanese and Australian school rugby. *IJSS* 23, 37–46.
- Maori All Blacks, 2014. *Tour to Japan 2014 Media Guide*. New Zealand Rugby Union, Wellington, NZ.
- Markus, H.R., Kitayama, S., 1991. Culture and the self: Implications for cognition, emotion and motivation. *Psychol. Rev.* 98, 224–253.
- Ministry of Internal Affairs and Communications. Cited 5 July 2017 <http://www.stat.go.jp/data/jinsui/new.htm>.
- Oyserman, D., Coon, H.M., Kimmelmeier, M., 2002. Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychol. Bull.* 128, 3–72.
- Sakata, H., 2004. *The influence of foreign players on the transformation of Japanese rugby over the last three decades* Master's thesis University of Canterbury, Christchurch, New Zealand. Cited 15 Feb 2017 [https://ir.canterbury.ac.nz/bitstream/handle/10092/2277/Thesis\\_fulltext.pdf?sequence=1&isAllowed=y](https://ir.canterbury.ac.nz/bitstream/handle/10092/2277/Thesis_fulltext.pdf?sequence=1&isAllowed=y).
- Sawano, M., 2010. The rise and fall of corporate sports programs. *JRBH* 27, 27–45.
- Sell, L., 1991. *Motivational characteristics of elite triathletes*. Unpublished master's thesis. West Chester University, West Chester, PA.
- Shepherd, D.J., Lee, B., Kerr, J.H., 2006. Reversal theory: A suggested way forward for an improved understanding of interpersonal relationships in sport. *Psychol. Sport Exerc.* 7, 143–157.
- 2013 Census Cited 15 Feb 2017. <http://www.stats.govt.nz/Census/2013-census.aspx>.
- Stevenson, B.S., 2004. Te Hoe Nuku Roa: A measure of Māori cultural identity. *He Pukenga Korero* 8 (1), 37–46.
- Svebak, S., Kerr, J.H., 1989. The role of impulsivity in preference for sports. In: Kerr, J.H. (Ed.), *Motivation and emotion in sport*. East Sussex: Psychology Press Ltd, pp. 23–46.
- Tafarodi, R.W., Marshall, T.C., Katsura, H., 2004. Standing out in Canada and Japan. *J. Pers.* 72, 785–814.

Thatcher, J., Kuroda, Y., Legrand, F.D., Thatcher, R., 2011. Stress responses during aerobic exercise in relation to motivational dominance and state. *J. Sports Sci.* 29, 299–306.

Thomas, D.R., Dyall, L., 1999. Culture, ethnicity: and sport management: A New Zealand perspective. *Sport Manage. Rev.* 2, 115–132.

Top League, 2017. Top League. Cited 5 July 2017 <http://www.top-league.jp/team/2016/>.

World Rugby, 2016. Regulation 8 Explanatory Guidelines. Cited 15 Feb 2017 <http://www.worldrugby.org/news/155038>.

Yuki, M., Maddux, W.W., Brewer, M.B., Takemura, K., 2005. Cross-cultural differences in relationship- and group-based trust. *Pers. Social Psychol. Bull.* 31, 48–62.