

# Verbal Abuse from Coaches Is Associated with Loss of Motivation for the Present Sport in Young Athletes: A Cross-Sectional Study in Miyagi Prefecture

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Verbal and physical abuse from coaches has negative effects on young athletes. Although the abuse can lead to the athletes' dropping out, no studies have reported on this topic. The purpose of this study was to elucidate the association between experience of verbal or physical abuse from coaches and loss of motivation for the present sport in young athletes. School-aged athletes (age range, 6-15 years,  $n = 6,791$ ) were assessed using a self-reported questionnaire. Multivariate logistic regression models were used to assess the association between experience of verbal or physical abuse and loss of motivation for the present sport. Variables considered in the models were sex, age, body mass index, presence of bodily pain, team levels, number of training days per week, number of training hours per day on weekdays and weekends, and frequency of participation in games. The prevalence of loss of motivation for the present sport was 8.1%. Experience of verbal or physical abuse was significantly associated with loss of motivation for the present sport and the adjusted odds ratios (95% confidence intervals) were 1.93 (1.54-2.42,  $p < 0.001$ ) for verbal abuse and 1.76 (1.27-2.42,  $p = 0.001$ ) for physical abuse. Findings of this study suggest that experience of verbal or physical abuse from coaches is associated with loss of motivation for the present sport. Eradication of verbal and physical abuse from coaches is important for young athletes to continue sport participation.

**Keywords:** coach; loss of motivation for sport; physical abuse; verbal abuse; young athlete

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## Introduction

Participation in sports activities has numerous beneficial effects on children and adolescents (Janssen and Leblanc 2010). Sports activities contribute to not only children's and adolescents' good physical and mental health condition, but also their learning of cooperation with peers, development of their emotional management skills, and improvement of their self-esteem (Hansen et al. 2003; Klein-Platat et al. 2005; Slutzky and Simpkins 2009; Merkel 2013). Furthermore, participation in youth sport leads to lifelong physical activity habits (Kjonnixsen et al. 2009), which also has positive effects on adults' health sta-

tus (Dennison et al. 1988). Promoting sports activities in youth and motivating them to continue sports involvement are considered to be important (Dennison et al. 1988; Fraser-Thomas et al. 2008). However, many young athletes drop out of the sport each year (Fraser-Thomas et al. 2008) for various reasons (Cervello et al. 2007). Overtraining can lead to burnout (Brenner et al. 2007) and injuries contribute to frustration and exhaustion (Cresswell and Eklund 2005), which can cause sport dropout (Cresswell and Eklund 2006). Furthermore, the relationship with the coaches is also considered to affect young athletes' continuation in sports because the coaches have a pivotal role in creating an ideal sports environment (Fraser-Thomas et al. 2008).

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Coaches can positively affect young athletes by giving enjoyment and inducing their desire for challenges (Mollerlokken et al. 2017). Conversely, coach behavior can have a negative effect on young athletes (Mountjoy et al. 2016). Verbal and physical abuse harms the physical and psychological health of young athletes (Mountjoy et al. 2016). An athletic environment without violence inflicted on athletes is desirable, however, the abuse is still present in coaching (Gervis and Dunn 2004; Stafford et al. 2013). Although there is a possibility that verbal and physical abuse against young athletes leads to their dropout from sports, as far as we know, no studies have reported these effects and this association is not clear. The purpose of this study was to elucidate the association between experience of verbal or physical abuse from their coaches and loss of motivation in young athletes to continue the present sport.

## Methods

### Participants

A cross-sectional study was conducted with school-aged athletes (age range, 6-15 years) who belonged to the Miyagi Amateur Sports Association for a comprehensive survey to elucidate their sports activities, lifestyles, and problems related to sports. Various sports teams (soccer, basketball, baseball, tennis, judo, etc.) were included in the association and each team had its own coaches. A self-reported questionnaire and informed consent form were mailed to all registered athletes ( $n = 25,469$ ) in October 2014. Among those, 7,333 athletes replied with written informed consent and questionnaires by December 31, 2014 (response rate was 28.8%). Participants who were not elementary or middle school students (i.e., outside of the age range between 6 and 15) were excluded ( $n = 50$ ). Moreover, participants with missing data were excluded from the analysis ( $n = 812$ ). A final sample size of 6,471 young athletes aged 6-15 was included in this study (Fig. 1). The study protocol was reviewed and approved by the Ethics Committee on Research of Human Subjects at Tohoku University Graduate School of Medicine (approval number: 2013-1-564).

### Outcome variable

Loss of motivation for the present sport was assessed with a self-reported questionnaire, using the question “Do you want to continue the present sport from now on?” If the answer to the question was “no,” the players were regarded as having “loss of motivation for the present sport.”

### Experience of verbal and physical abuse from coaches

Experience of verbal and physical abuse from their coaches was assessed through the following questions: “Have you ever felt your coach to be verbally offensive against you in the past year?” and “Have you ever been hit or kicked by your coach in the past year?” respectively. If the answer to the question was “yes,” the players were regarded as having “experience of verbal abuse from coaches” or “experience of physical abuse from coaches,” respectively.

### Covariates

The following variables were assessed using self-reported questionnaires and included in the analysis as potential cofounding factors: sex, age, body mass index (BMI: calculated using self-reported weight and height values), presence of bodily pain (absence or presence), team levels (recreation, local competition, prefectural competition, district competition, or national competition), number of training days per week, number of training hours per day on weekdays and weekends, and frequency of participation in games (never, seldom, sometimes, or often) (Yabe et al. 2019). The following continuous variables were divided into categories according to the medians: age was categorized into two groups ( $\leq 11$  and  $\geq 12$  years); number of training days per week was categorized into two groups ( $\leq 3$  and  $> 3$  days); number of training hours per day on weekdays was categorized into two groups ( $\leq 2$  and  $> 2$  hours); and number of training hours per day on weekends was categorized into two groups ( $\leq 5$  and  $> 5$  hours). The following categorical variables were divided into two groups according to the distribution: team levels (recreational and local: “recreation” or “local competition;” regional or higher: “prefectural competition”, “district competition”, or “national competition”), and frequency of participation in games (sometimes and seldom: “never,” “seldom,” or “sometimes;” frequently: “often”).

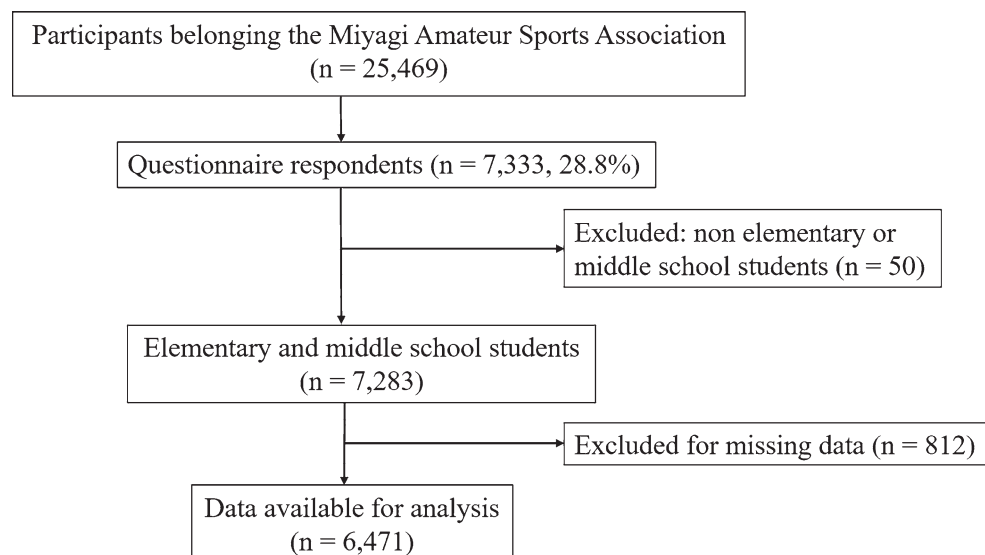


Fig. 1. Flow chart of this study.

Table 1. Baseline characteristics of the participants.

	Median (IQR)	Number (%)
Sex		
Male		4,618 (71.4)
Female		1,853 (28.6)
Age	11.0 (10.0, 12.0)	
≤ 11		4,010 (62.0)
≥ 12		2,461 (38.0)
BMI	17.4 (15.9, 19.2)	
Bodily pain		
Absence		4,823 (74.5)
Presence		1,648 (25.5)
Team level		
Recreational and local		3,641 (56.3)
Regional or higher		2,830 (43.7)
Training per week (days)	3.0 (2.0, 4.0)	
≤ 3		3,729 (57.6)
> 3		2,742 (42.4)
Practice per day weekdays (hours)	2.0 (0.0, 2.0)	
≤ 2		5,119 (79.1)
> 2		1,352 (20.9)
Practice per day weekends (hours)	5.0 (4.0, 7.0)	
≤ 5		5,034 (77.8)
> 5		1,437 (22.2)
Frequency of participation in games		
Frequently		3,933 (60.8)
Sometimes and seldom		2,538 (39.2)

### Statistics

Continuous variables are presented as medians with interquartile range (IQR) and categorical variables are presented as frequencies and percentage (%). Univariate and multivariate logistic regression models were used to evaluate the association between verbal or physical abuse from coaches and loss of motivation for the present sport for young athletes, and the odds ratio (OR) and 95% confidence intervals (95% CI) were calculated. Variables considered in the models were sex (male or female), age (≤ 11 or ≥ 12 years), BMI (continuous variable), presence of bodily pain (absence or presence), team levels (recreational and local, or regional or higher), number of training days per week (≤ 3 or > 3 days), number of training hours per day on weekdays (≤ 2 or > 2 hours) and weekends (≤ 5 or > 5 hours), frequency of participation in games (sometimes and seldom, or frequently), and experience of physical abuse or verbal abuse. Further, the association of other variables and loss of motivation for the present sport was also examined. All statistical analyses were performed with SPSS version 24.0 (SPSS Japan Inc., Tokyo, Japan). A *p* value of < 0.05 was considered statistically significant.

### Results

A total of 6,471 participants were included in this

Table 2. Incidence of experience of abuse from coaches.

	number (%)
No abuse	5,281 (81.6)
Only verbal abuse	778 (12.0)
Only physical abuse	233 (3.6)
Both verbal and physical abuse	179 (2.8)

study, with a median age of 11 (IQR: 10-12) years. The male/female ratio was 7:3 and female ratio was lower than the other report of young athletes in Japan, which showed 6:4 (Japan Sports Agency 2018). The prevalence of loss of motivation for the present sport was 8.1% (*n* = 521). Baseline characteristics of the participants are listed in Table 1 and the incidence of experience of abuse from coaches is shown in Table 2.

The incidence of experience of verbal abuse from coaches in the past year was 14.8% (*n* = 957). It was significantly associated with loss of motivation for the present sport in crude and adjusted analyses. Using absence of

experience of verbal abuse from coaches as a reference, the adjusted OR (95% CI) for loss of motivation for the present sport was 1.93 (1.54-2.42,  $p < 0.001$ ) in the presence of experience of verbal abuse. Further, the incidence of experience of physical abuse from coaches was 6.4% ( $n = 412$ ). It was significantly associated with loss of motivation for the present sport in crude and adjusted analyses. Using absence of experience of physical abuse from coaches as a reference, the adjusted OR (95% CI) for loss of motivation for the present sport was 1.76 (1.27-2.42,  $p = 0.001$ ) in the presence of experience of physical abuse (Table 3).

The association between other variables and loss of motivation for the present sport are shown in Table 4. Sex, age, BMI, and frequency of participation in games were significantly associated with loss of motivation for the present sport. Using male sex, age  $\leq 11$  years, and frequent participation in games as reference, the adjusted ORs (95% CI) were 1.58 (1.30-1.92) in female, 2.49 (2.04-3.03) in  $\geq 12$ , and 2.02 (1.68-2.44) in sometimes and seldom, respectively. Further, young athletes with higher BMI tended to have loss of motivation for the present sport with an adjusted OR (95% CI) of 1.05 (1.02-1.08). Bodily pain, team levels, number of training days per week, and number of training hours per day on weekdays and weekends were not significantly associated with loss of motivation for the present sport.

### Discussion

The present study has revealed that experiencing verbal or physical abuse from their coaches is associated with loss of motivation for the present sport in young athletes. Though verbal and physical abuse from coaches are problematic issues for young athletes, only a few studies have shown its incidence (Shields et al. 2005; Stafford et al. 2013; Vertommen et al. 2016, 2017). Most of these studies

assessed the experience of the abuse through a retrospective survey of adults who had played some sports at a younger age. Using an online survey of adults aged between 18 and 50, Vertommen et al. (2017) reported that 38% of the participants had experienced psychological abuse, which included verbal abuse, from peers or coaches and 38% of this abuse was committed by their coaches when they were young athletes (before 18). In the same study, 11% of the participants had experienced physical abuse and 43% of this abuse was committed by their coaches (Vertommen et al. 2017). However, there remains the possibility of recall bias leading to over- or under-reporting (Stafford et al. 2013). We used the questionnaire directly in young athletes; the incidence of verbal and physical abuse from coaches in the past year was 14.8% and 6.4%, respectively. Verbal abuse has been considered a coaching tool (Swigonski et al. 2014) and used with dissatisfaction of the attitude of young athletes (Yabe et al. 2018). Although the rate of physical abuse was lower than that of verbal abuse, young athletes reported having experienced physical abuse perpetrated by coaches in this study. Physical abuse has been considered a way to control or punish the athletes (Stafford et al. 2013), and coaches who place high values on the results use it for winning (Stirling and Kerr 2008).

In this study, 8.1% of young athletes answered that they did not want to continue the present sport in which they participated. Some authors have recommended that children should experience various sports before being specialized in a single sport, which leads to less dropout rates and better performance (Fraser-Thomas et al. 2008; Moesch et al. 2011). Because of personal ability or adaptability, some athletes might want to discontinue the present sport and to try another, which could turn out to be more successful. However, the experience of verbal or physical abuse was associated with loss of motivation for the present sport.

Table 3. Odds ratios and 95% confidence intervals for loss of motivation for the present sport according to the experience of verbal or physical abuse from the coaches.

	Experience of verbal abuse from the coaches		p value
	Absence ( $n = 5,514$ )	Presence ( $n = 957$ )	
Loss of motivation for the present sport, $n$ (%)	392 (7.1)	129 (13.5)	
Crude ORs (95% CI)	1.00	2.04 (1.65-2.52)	$< 0.001$
Adjusted ORs (95% CI)	1.00	1.93 (1.54-2.42)	$< 0.001$
	Experience of physical abuse from the coaches		p value
	Absence ( $n = 6,059$ )	Presence ( $n = 412$ )	
Loss of motivation for the present sport, $n$ (%)	466 (7.7)	55 (13.3)	
Crude ORs (95% CI)	1.00	1.85 (1.37-2.49)	$< 0.001$
Adjusted ORs (95% CI)	1.00	1.76 (1.27-2.42)	0.001

Adjusted for sex, age, body mass index, presence of bodily pain, team levels, number of days for training per week, number of hours in practice per day on weekdays and weekends, frequency of participation in games, experience of verbal or physical abuse from coaches.

OR, odds ratio; CI, confidence interval.

Table 4. Association between loss of motivation for the present sport and other variables.

Variables	Categories	Loss of motivation		Adjusted OR (95% CI)	p value
		n	Presence, n (%)		
Sex	Male	4,618	321 (7.0)	1.00	
	Female	1,853	200 (10.8)	1.58 (1.30-1.92)	< 0.001
Age	≤ 11	4,010	220 (5.5)	1.00	
	≥ 12	2,461	301 (12.2)	2.49 (2.04-3.03)	< 0.001
Body mass index	Per 0.1 increase			1.05 (1.02-1.08)	0.003
Bodily pain	Absence	4,823	373 (7.7)	1.00	
	Presence	1,648	148 (9.0)	0.95 (0.77-1.17)	n.s.
Team level	Recreational and local	3,641	300 (8.2)	1.00	
	Regional or higher	2,830	221 (7.8)	0.92 (0.76-1.11)	n.s.
Training per week (days)	≤ 3	3,729	291 (7.8)	1.00	
	> 3	2,742	230 (8.4)	0.89 (0.73-1.07)	n.s.
Practice per day weekdays (hours)	≤ 2	5,119	416 (8.1)	1.00	
	> 2	1,352	105 (7.7)	0.84 (0.66-1.06)	n.s.
Practice per day weekends (hours)	≤ 5	5,034	419 (8.3)	1.00	
	> 5	1,437	102 (7.1)	0.85 (0.68-1.08)	n.s.
Frequency of participation in games	Frequently	3,933	261 (6.6)	1.00	
	Sometimes and seldom	2,538	260 (10.2)	2.02 (1.68-2.44)	< 0.001

Adjusted for sex, age, body mass index, presence of bodily pain, team levels, number of days for training per week, number of hours in practice per day on weekdays and weekends, frequency of participation in games, experience of verbal or physical abuse from coaches.

OR, odds ratio; CI, confidence interval.

Exposure to abuse may result in various negative effects on athletes, such as psychological distress, low self-esteem, injuries, and low physical performance (Mountjoy et al. 2016). These conditions can induce chronic stress in young athletes (Coakley 1992) and reduce their enjoyment (Alvarez et al. 2009), which could motivate them to drop out of the present sport. The incidence of experience of physical abuse was lower than that of verbal abuse, which might mean that some coaches considered physical abuse as negative behavior and used only verbal abuse. Among 1,190 young athletes who experienced abuse in the past year, 65% (778/1,190) of them had experienced only verbal abuse. However, the effects of verbal and physical abuse to loss of motivation for the present sport were similar in this study. Verbal abuse affects young athletes' continuation of sport negatively as well as physical abuse.

In a mastery environment of coaching, coaches transmit values during the learning process such as effort, improvement, and cooperation (Vitali et al. 2015). On the other hand, coaches emphasize the social competition and normative-based evaluation in a performance environment (Vitali et al. 2015), which is thought to make athletes' drop-

out from sports much easier (Cervello et al. 2007). Verbal and physical abuse are supposed to be used to punish inadequate performance or training behavior for improved performance and winning (Stirling and Kerr 2008), which is considered typical of a performance-based environment. Coaches consider that verbal or physical abuse is necessary to improve the ability of young athletes (Yabe et al. 2018). However, coaches tend to be unaware of the negative impacts of their behaviors on young athletes (Carlsson and Lundqvist 2016). Further, it has been reported that coaches using abuse also have a history of experiencing abuse from their coaches in their younger age (Yabe et al. 2018), which mean that young athletes who has experienced abuse can be abusive coaches in the future. Coaches should know verbal and physical abuse can lead to young athletes' discontinuation of sports and a mastery of appropriate coaching style is important for young athletes.

When considering the other variables, sex, age, BMI, and frequency of participation in games were associated with loss of motivation for the present sport. Molinero et al. (2006) reported that female athletes placed more emphasis on other activities compared to male athletes when they



have other things to do in youth sports. This can be one reason of higher rate of loss of motivation for the present sport in female athletes. Although no reports have shown the association of age, BMI, and frequency of participation in games with continuation of sport, there are some speculations about this association. Athletes in higher age groups are assumed to have more things to do, such as hobbies and studies. Young athletes with higher BMI may feel they need to practice harder. Athletes with lower frequency of participation in games may feel dissatisfaction regarding their sports activities. These can be associated with loss of motivation for the present sport. On the other hand, bodily pain, team levels, number of training days and hours were not associated with loss of motivation for the present sport. Although overtraining and injuries have been reported to be associated with dropout (Cresswell and Eklund 2006; Brenner et al. 2007), the difference in degree of pain and training may affect the result. Some factors are associated with loss of motivation to continue the sport and verbal and physical abuse are notable issues among them. Eradication of verbal and physical abuse from coaches is considered to be important for young athletes to continue sport participation.

This study has several limitations. First, the self-reported questionnaire and informed consent were mailed, and the response rate was not high. Responders' dedication to sports might be higher than non-responders, which could have lowered the reported rate of loss of motivation for the present sports. Second, verbal and physical abuse were assessed using questionnaires directly in young athletes and the validity and reliability of this method were not confirmed in this study. There might be a problem of under-reporting of abuse because young athletes with experience of abuse can possibly hesitate to report it. Further, the questionnaire-based assessment of abuse experience during the past year might involve a recall bias resulting in underestimation. Third, other types of violence such as sexual violence and neglect, and other perpetrators such as peers and parents, were not assessed in this study. These can also be related to young athletes' dropout of sports and should be assessed in the future study. Further, we regarded hitting and kicking as physical abuse; however, there may be other type of physical abuse such as throwing something or giving hard exercises as a punishment, which may lead to underestimation of physical abuse. Finally, because this study has a cross-sectional design, reverse causality issues could not be ruled out.

In conclusion, this study shows that verbal or physical abuse from coaches is associated with loss of motivation for the present sports in young athletes.

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### Conflict of Interest

The authors declare no conflict of interest.

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