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CONTENT

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AUSTRALIAN RULES FOOTBALL CHEER SQUADS OF THE EIGHTIES: A CASE STUDY OF THE WEST PERTH CHEER SQUAD 1984–1986

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ABSTRACT

Background. In this article I review key studies in the academic literature on football (soccer) hooliganism in the UK and around the world. I apply Armstrong's anthropological approach to our 15–20 member West Perth unofficial cheer squad (hard-core supporter group) of 1984–1986 (Australian Rules football's WAFL competition).

Method. This is an ethnographic study of the West Perth cheer squad 1984–86 told from the viewpoint of the author who was co-founder and co-leader of this group. It is both strength and weakness of the research data that the author was an active participant in the events rather than a researcher performing typical ethnographic research as a non-participant.

Results. I find that the anthropological approach is able to explain many aspects of our cheer squad's culture and members' behaviours including the quick disintegration of the cheer squad early in the 1986 season without anyone officially ending it. However, our group members did not adjust their commitment downwards during the cheer squad's years of action; most members attended all home-and-away matches during May 1984–March 1986. This research also shows the diffusion of Australian Rules football supporter culture from Melbourne to Adelaide and from these two cities to Perth, to a lesser extent, and the impact of TV news reports of British football hooliganism on our group's style and macho posturing.

Conclusion. Detailed long-term ethnographic studies of individual football (soccer) hooligan firms and Australian Rules' cheer squads are the most vital type of new research.

Keywords: football hooliganism, neo-tribes, Perth history, sports history, Western Australian football.

INTRODUCTION

General Introduction. "By channelling the competitive hostility outwards towards the tribe on the other side of the [usually metaphorical] hill, social bonds within one's own group are reaffirmed and maintained" (Marsh, 1978, p. 50).

In this article I review key studies in the academic literature on football hooliganism in the UK and around the world. The academic theories can be divided into: the early dominant "figurational" or "process-sociological" approach of Dunning and colleagues; the "anthropological" approach of Armstrong and Harris (with its focus on fluid "post-modern" "neo-tribes"); the post-modern approach of Giulianotti; the Marxist approach of Taylor, Clarke, and Hargreaves; the "ethogenic" approach of Marsh; the "psychological reversal theory" approach of Kerr; and the historically sensitive / historical approaches of King and Robson. I apply Armstrong's (1998) anthropological approach to our 15–20 member West Perth cheer squad (hard-core supporter group) of 1984–1986 (Australian Rules football's WAFL competition). I find that the anthropological approach is able to explain many aspects of our cheer squad's culture and members' behaviours including the quick disintegration of the cheer squad early in the 1986 season without anyone officially ending it. However, our group members

did not adjust their commitment downwards during the cheer squad's years of action; most members attended all home-and-away matches during May 1984–March 1986.

West Perth has been a foundation member of the Perth-based Western Australian Football League (WAFL) competition since 1885. However, the WAFL was reduced to second-tier status when Perth-based West Coast Eagles entered the expanded Victorian Football League (VFL) (now Australian Football League (AFL)) in time for the 1987 season (Devaney, n.d.). The VFL/AFL now operates as a de facto national premier league (first division). As in American professional sport, there is no promotion to or relegation from the VFL/AFL to the various second-tier leagues. During the twentieth century, up to 1982, the VFL/AFL was based solely in the state of Victoria (and 11 of its 12 clubs were then based in the city of Melbourne).

A cheer squad (an Australian Rules football term) is a semi-organized group of hard-core supporters (comprising typically but not always a male teenager majority) which sits in the same strategic place at home matches and which supports the team through chants, songs, flags, and banners. It may attend some or all away matches, and usually sits in a humble location at away venues (near the entrance which is closest to the train station for example) and rarely tries to take over the home cheer squad's territory. Australian Rules football cheer squads should *not* be confused with the cheer squads of American Football which are, obviously, completely different. The dominant culture at Melbourne- and Adelaide-based cheer squads, since the formation of the first cheer squad at VFL/AFL club Richmond in 1959 (Critchley, 2010), has included an important fraternal ethos among rival cheer squad members especially away from the grounds. The cheer squads took on some of the "illusion of violence" (Marsh, 1978) or tough-guy posturing from British and European hooligans and ultras. However, this was more in terms of style and posturing; cheer squads rarely sought out or engaged in actual violent actions. Another influence arguably was the ultras groups formed by Australian football (soccer) supporters from European ethnic immigrant backgrounds including those connected to clubs such as Melbourne Croatia; Sydney Croatia; South Melbourne Hellas; and Sydney Olympic (James & Walsh, 2017).

The aim of this article is to apply Gary Armstrong's theory of fluid "post-modern" "neo-tribes" (Armstrong, 1998) to our West Perth cheer squad 1984–1986 and draw appropriate theoretically-informed conclusions from this application. We also use Peter Marsh's concept of the "illusion of violence" (Marsh, 1978) which suggests that, in order to gain and demonstrate control over territory and resources, rival groups engage in symbolic behaviours (advances and retreats) which more often than not involve only mild violence or no violence at all. If group self-respect, integrity, and territorial control can be achieved without actual violence then, as the theory goes, so much the better.

Motivation. It is important to study the behaviours and cultures of Australian Rules football hard-core supporters and cheer squads as this has been an under-researched area. Much of what we do know to date comes largely from personal memories and anecdotes and from occasional comments and digressions in Australian Rules football history books of various kinds (see, for example, Muyt, 2006).

Background. The three largest population centres where Australian Rules football is the most popular winter sport are Melbourne, Adelaide, and Perth. Traditionally the Melbourne-based VFL/AFL competition had and has the best football, the largest crowds, and the most passionate supporters compared to the local competitions based in the other two cities (the SANFL in Adelaide and the WAFL in Perth). Football supporter culture has typically diffused from Melbourne to Adelaide (654 kilometres to the west) and, only to a lesser extent and at a slower rate, from these two centres to Perth. Slow diffusion to Perth is largely due to distance: Perth is located far away on the country's west coast 2.131 kilometres from Adelaide and 2.721 kilometres from Melbourne. Until recent years poorer people rarely travelled from Perth to Melbourne but travel from Adelaide to Melbourne was much more common due to the fact that it was within easy driving distance. As a result seventies and eighties football supporter culture diffused faster and to a greater extent from Melbourne to Adelaide than from these two cities to Perth.

In the peak cheer squad years of the VFL/AFL in the seventies and eighties, when the then it was a Melbourne suburban competition plus Geelong, cheer squad members from various clubs would catch up with each other after games at Flinders Street Station and shout across station platforms the scores from their respective grounds. There was

also a place called Classic Cafe in Melbourne city-centre where cheer squad members congregated and interacted on Saturday nights after the regular Saturday afternoon home-and-away games (Muyt, 2006). If anything, cheer squad members have been less violent than ordinary supporters of Australian Rules' clubs. A distinction has been made between the inner and outer cheer squad at Collingwood (Muyt, 2006) where the inner cheer squad was the approved membership that adhered to fraternal cheer squad ethics whereas the outer cheer squad was the hooligan element not under the restraining influence of cheer squad leaders. However, I argue that, despite this, the "illusion of violence" has always been important, to some extent, for Melbourne- and Adelaide-based cheer squads.

The fraternal Melbourne- and Adelaide-based cheer squad culture merged with the outwardly more aggressive English football (soccer) hooligan culture, which regularly appeared on Australian TV news reports, to create the ethos of groups such as our West Perth cheer squad. Growing up as teenagers in Australia in the eighties we all saw the TV news reports of football hooligan violence coming from the UK and, being eager to prove our credentials, we adopted some of their tough-guy posturing or "illusion of violence" (Marsh, 1978); the influence was there definitely at the subconscious level if not at the conscious level. So to say that Australian Rules football crowds and football (soccer) crowds are unrelated topics is simply nonsense. However, we never initiated violence and we were only once seriously threatened by it (at Bassendean Oval). The events of that particular day will be presented and analysed in the Results and Discussion sections of this article respectively.

As mentioned, the Australian Rules football cheer squad culture, coming out of Melbourne and to a lesser extent Adelaide, involved a fraternal ethics between rival cheer squads, especially away from the grounds, and that was a countervailing force, and probably our dominant influence. Our posturing was macho and our songs and chants were loud and insulting but we were not interested in initiating violence. The leading cheer squads in WAFL (Perth) football in 1984–85 were Perth FC, Claremont, Subiaco, West Perth, and East Perth, probably in that order or with West Perth as third. None of the remaining three WAFL clubs had semi-organized cheer squads of any type as far as key people were aware. Perth and Claremont

might have had 20–30 people on a good day, and our West Perth group had a stable core of 15–20. By the second half of our existence we had around 15 large red-and-blue flags or one flag per core member.

West Perth in fact had three cheer squads during the 1984–1986 period: (a) Fat Pam's cheer squad, which disbanded at the end of the 1983 season but continued to still make the banners the players ran through before the game; (b) our unofficial group situated behind the northern-end goals, which replaced Fat Pam's group which had formerly used that location; and (c) the Grandstand Falcons, a group of older guys then in their twenties who sat at the top of the Leederville Oval grandstand and sang songs (but had no flags or floggers). This shows the passion and commitment of grassroots supporters for many of the Western Australian Football League (WAFL) clubs during the eighties when average match attendances for home-and-away fixtures were around seven to eight thousand.

At one Subiaco Oval (neutral-venue) game, our cheer squad sat in front of the Grandstand Falcons with a third section of seats in front of our cheer squad reserved for our flags and banners. (Our group never took floggers to away games but instead we stored them in the West Perth FC club facilities at Leederville Oval.). Altogether there would have been over 50 people there that day across both groups combined. The noise the combined group made under the grandstand roof, on the second- (middle-) tier of the three-tier stand behind the Fremantle-end goals, was magnificent when magnified by the echoes. We sang the Grandstand Falcons' powerful song "This Time, We'll Get It Right"[1] about England's 1982 World Cup hopes (with England changed to West Perth and the "white" dropped from "red, white, and blue"). This song summed up perfectly people's emotions at the time because it had been a decade since West Perth had last played in a grand-final (Atkinson, 2008) and hopes had been dashed on many occasions. In hindsight, this was our cheer squad's greatest day.

The largest and best organized cheer squad was Perth Football Club's under the leadership of a very warm, cheerful, and sophisticated "metrosexual" guy with blond-rinse hair called Nick. Nick brought the disciplined and fraternal Melbourne-based (VFL/AFL) cheer squad ethics over to the

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[1] See: https://www.youtube.com/watch?v=2w3_PZh0IR4 [accessed 14 September 2017].

Perth Football Club. This cheer squad had existed since at least around 1981. To this day the wooden bench seats behind the northern- or city-end goals at Lathlain Park, Perth's home ground, are painted red-and-black, a permanent reminder of the days (and years) when Nick's passionate cheer squad occupied those benches.

The Claremont cheer squad was probably similarly influenced by the Melbourne-based cheer squads since one of its core members wore a Melbourne-style duffel coat with club name and favourite player name and number (Peter 15 Jamieson) emblazoned on the back in big iron-on lettering. The duffel-coat culture never caught on in Perth as, unlike in Adelaide, few school-aged Perth-based supporters then made trips to Melbourne or Adelaide to watch VFL/AFL or SANFL games, and the only places to see the duffel-coat culture were Melbourne and Adelaide. Furthermore, the Perth winter is milder and too hot for duffel coats.

These duffel coats were excellent for standing on the terraces in the rain on Saturday afternoons in Melbourne because the rain-soaked coats could simply be left out to dry and would be wearable one week later. It was common in 1982 to see these duffel-coats with team and player names and pin-on player badges being worn on the streets by teenagers on weekdays in the city-centre. However, by 1986, the coats were mostly only being worn at games while by the nineties they had disappeared from the stadiums as well. All-seater stadiums with covered roof sections had made them redundant. By the late-nineties the VFL/AFL had abandoned scheduling fixtures at most traditional suburban home grounds of the clubs with their uncovered concrete terracing; and most games were being scheduled at the larger, all-seater stadiums namely the Melbourne Cricket Ground (MCG); VFL Park; and, from 2000, the Docklands' Stadium.

Literature review. Several authors touch on the fascinating intersection between football hooliganism and punk rock music. West Ham United Inter-City Firm (ICF) leader Cass Pennant (Pennant, 2003, chap. 6) considers the case of punk rock bands Sham 69 and Cockney Rejects whose East London identifications are well known. These East London identifications made sense within the punk rock scene which has always had a sociologically informed emphasis upon place which can be traced back to the Sex Pistols and the SEX shop run by Westwood and McLaren at 430 The King's Road, Chelsea (Bestley, 2011;

Savage, 2005). Local East London historian John G. Bennett (who led a "Jack the Ripper" guided tour I attended in Whitechapel on 10 June 2010) cites Sham 69's song "George Davis is Innocent" from the band's debut album 1978's *Tell the Truth*: "They're never gonna leave you alone / They're never gonna leave you alone / You know where you bloody live / East London is your home!"[2] As Sham 69 was in fact from Hersham in outer south-west London, this song suggests that East London had by 1978 become a romanticized *spiritual locality* uncontainable by its actual geographic boundaries. However, despite song lyrics such as these, the close links between West Ham United's ICF and band members of The Business, Cock Sparrer, Cockney Rejects, and Sham 69 are less well documented. A famous picture shows the Cock Sparrer band members proudly posing inside the gates at West Ham's Upton Park stadium. As Pennant (2003, chap. 6) writes, this known link between certain East London punk bands and West Ham's ICF resulted in Cockney Rejects' concerts in the Midlands and north of England becoming sites of *football-related* violence.[3] It was football-related violence because the band members were attacked because of their identification with and support for West Ham United and the ICF and not for any other reason.

Moving on to today, Cockney Rejects released a very moving new single and video-clip on 11 April 2016 called "Goodbye Upton Park" about West Ham's permanent move from the Boleyn Ground / Upton Park to the London Olympic Stadium.[4] It can be argued that this video-clip goes beyond a simple farewell to a veiled protest at the corporatization of football and the destruction and sale of valuable personal and community memories.

This article also considers why hooliganism of the British variety never caught on in Australian Rules or even in Australian football (soccer) and is unlikely to do so in the future especially with regards to the former. This is a complex question. It is important to point out that British football hooliganism, like British punk rock, was a unique product of time and place. Marsh (1978, p. 90)

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[2] Sham 69 lyrics as cited in Bennett (2009, p. 34).

[3] See also interview with Cockney Rejects' frontman Jeff Geggus aka Jeff Turner aka "Stinky" Turner at: https://www.youtube.com/watch?v=9nKdqO279kI [accessed 11 January 2017].

[4] See: https://www.youtube.com/watch?v=HAsyGA5-a-g [accessed 5 January 2017].

explains as follows: "aggro always reflects, in the particular form it takes on, the social forces of a given era". Sociologically football hooliganism belonged to the seventies and eighties, the time when the post-war "consensus" between the two major political parties had broken down; unemployment was rising appreciably for the first time since the end of World War II; the Labour Party under the late James Callaghan faced the indignity of enforced civil service cuts under an International Monetary Fund (IMF) austerity package; and (later) Mrs. Thatcher's economic rationalism and anti-trade union stance rendered life much more difficult for what remained of the working-class (Savage, 2005, p. 480). Even in a different era in the UK (or an "alternative history" using a concept of Slavoj Žižek) hooliganism may not have happened or possibly would not have happened.

Dunning et al. (2002) outline the major "popular" theories of hooliganism put forward by non-academics in the media and politics. After this they outline the main academic approaches used by the academic researchers. The popular arguments tend to be difficult to shed light on through empirical research and hence difficult to conclusively accept or reject. Another point to note, highlighted in Dunning et al.'s (2002) review chapter, is that some of the popular theories contradict each other. For example, the theory that hooliganism is due to unemployment appears to contradict the theory that hooliganism is due to affluence. The popular theories are as follows: football hooliganism is caused by: "[1] excessive alcohol consumption; [2] violent incidents on the field of play or biased and incompetent refereeing; [3] unemployment; [4] affluence; and [5] 'permissiveness'" (Dunning et al., 2002, p. 11).

The academic theories can be divided into: the early-dominant "figurational" or "process-sociological" approach of Dunning et al. (Dunning, 1999; Dunning et al., 1991); the "anthropological" approach of Armstrong and Harris (Armstrong, 1998; Armstrong & Harris, 1991); the post-modern approach of Giulianotti; the Marxist approach of Taylor, Clarke, and Hargreaves; the "ethogenic" approach of Marsh (1978); the "psychological reversal theory" approach of Kerr; and the historically sensitive / historical approaches of King and Robson (cited in Dunning et al., 2002, p. 13). We rely predominantly on Armstrong's anthropological approach while hoping to gain

insight from all of the relevant theories, none of which should be completely cast aside.

Dunning (1999) theorizes that football violence occurs around a given city or region's "fault-lines" which might be class-based (as in England); religion-based (as in Glasgow); ethnicity-based (as in South African soccer and Australia's former National Soccer League (NSL) (1977–2004)); or regional-based; or city-versus-country-based.

Interestingly, Pave Jusup and Kova of Melbourne Croatia Fans (the current ultras group at ex-NSL club Melbourne Knights) distinguish Melbourne Knights' "political" rivalries with Yugoslav communist clubs such as Footscray JUST and Serbian clubs such as Springvale White Eagles with the (non-political) "football" rivalries with old NSL clubs such as the Italian community's Adelaide City Juventus and the Greek community's South Melbourne Hellas (source: group interview with the author, Sunshine North, 11 January 2011). Pave argues that the rivalries with Adelaide City and South Melbourne are "non-political" since they resulted simply from on-field events such as Melbourne Knights' grand-final defeats at the hands of these two clubs rather than to Italian-Croatian or Greek-Croatian issues.

Dunning (1999) theorizes that working-class people identify with their football team to the extent that they feel pride and self-respect when the team does well and loss of pride and loss of self-respect when the team does badly. Regarding Australia's ethnic soccer clubs in the former NSL (which was replaced by the A-League in 2004–05), Lynch and Veal (1996, p. 259) write that: "Nationalistic loyalty also played a part: a club victory could take on the stature of a 'victory' for a homeland, just as a defeat was also somewhat about loss of national face". The strength of these feelings of pride / loss of pride is based on the degree of the person's identification with the team and with the district and the number of interests that she / he has outside of football. For the person with strong identification with the district and few outside interests, the pride or loss of pride felt when the team does well or badly is at the maximum level. West Ham United ICF lead man Bill Gardner (Gardiner, 2006) has said that the West Ham fans of the seventies and eighties were dispirited and felt a loss of pride because of the first XI's poor showings and lack of effort; this inspired the ICF to become the strongest football hooligan firm in the country.

Next I move on to review the ethnographic academic research on hooliganism that began in the nineties with two landmark PhD theses, one in the UK by Gary Armstrong on Sheffield United's Blades hooligan firm (later published as *Football Hooligans – Knowing the Score*) and one in Australia by John Hughson on Sydney United's Bad Blue Boys NSL firm from the early-nineties. Subsequent articles by Hughson (1997a, 1997b, 1999, 2000, 2002) synthesize key findings of these two studies and relate some of Armstrong's key findings to the unique context of south-west Sydney's Bad Blue Boys (BBB), a group of Croatian-Australian teenagers who are, or perhaps were, hard-core supporters of the former NSL's Sydney Croatia club (which was renamed Sydney United in the nineties). It should be pointed out that these "anthropological" authors have been criticized on a number of grounds by other academic researchers (see, for example, Dunning et al., 2002). Armstrong (1998) has also criticized the early-dominant Leicester University School approach of Dunning and Williams.

Using the anthropological approach, Armstrong (1998) focuses on the disorganized nature of Sheffield United's Blades' firm and the fluidity of group membership. People come to and go from the Blades according to the needs of their lives at particular stages and no-one is ever "bound" to the Blades in any sense. People connected with the Blades acknowledge that hooliganism is an acquired taste and a profession at the edge of even hard-core fan support (Allan, 1989, p. 109). Armstrong (1998, p. 306) talks in terms of fluid "post-modern" "neo-tribes" and this terminology and its associated logic is taken up by Hughson in his ethnographic study of Sydney United's BBB.

Armstrong (1998) points out that firm allegiance is bounded and held in tight check. It is generally subordinated to ordinary relationships so that a Blades member would put to one side (or suppress) his / her hostility towards Sheffield Wednesday's "Owls" hooligans when relating in the normal way to friends, family members, and work colleagues. When Blades and Owls meet outside of match days the context is often ambiguous and people have to determine whether this is a "football context" where fighting is justified or not. When groups of Blades or Owls invade each other's pubs on London Road or West Street on a Friday night this is a football context whereas if Blades or Owls are socializing with women or with non-hooligan mates this is not a football context and so football-related violence is unacceptable.

Significantly, neither Blades nor Owls members meet frequently outside of football seasons (Armstrong, 1998, p. 268) because such meetings are ambiguous and hard to interpret as being football-related. Armstrong (1998, p. 268, emphasis original) writes as follows: [T]he *raison d'être* of the Blades was a football match, and a *collective* identity more or less died outside the football season, to be resurrected at the early August pre-season friendly games". On the other hand, it was *possible* for the Blades' collective identity to assert itself as dominant at gatherings outside of the football season such as a marriage celebration and a 30th-birthday celebration (Armstrong, 1998, pp. 269–270). Armstrong (1998, p. 270, emphasis original) states as follows: "Blade identity *could* therefore be automatically sustained away from the club and the match in other contexts that did not need a game of football [nor even the football season]".

Likewise, our West Perth cheer squad 1984–1986 (which sat behind the northern-end goals at West Perth's Leederville Oval and had around 15–20 core members) met only once outside of football seasons – when Mike C., his younger brother Pete C., and I arranged to attend a one-day domestic cricket match at the WACA Ground. However, this was early in the cricket season (October or November) and the planning to meet took place at the last West Perth football game. In effect, this cricket match can be seen as a special one-day extension of the football season.

I now move on to discuss the "phases of hooliganism" theory as outlined in various places by Dunning and his Leicester University School. In the first phase, Dunning argues that violence mostly involved attacks on players and officials. It emerged from uncontrolled passions inspired directly by events on the field (Duke & Slepička, 2002, p. 60). This type of violence, referred to as "spectator disorderliness" by Roversi and Balestri (2002, p. 131), was not pre-planned. Duke and Slepička (2002, p. 52) explain that, in the pre-1946 or pre-communist era in the then Czechoslovakia:

> "most of the crowd incidents ... were match related. Attacks on players and officials were characteristic of football spectator behaviour in the first Czechoslovak republic. Battles between groups of rival fans were not common, and there were no reported examples of the police coming under attack from gangs of fans".

After the sixties "core football hooliganism" emerged in England which was rival gangs of super-fighters intent on fighting each other; in this phase the violence was often pre-meditated (Duke & Slepička, 2002, p. 60). Through a process of diffusion, the English hooligan style aka the "English disease" diffused firstly to Western Europe in the seventies (Duke & Crolley, 1996; Duke & Slepička, 2002, p. 53) and later to communist or post-communist Eastern Europe. In the then Czechoslovakia, Dunning's second phase did not diffuse into the local setting until the mid-eighties (Duke & Slepička, 2002, p. 60). The reason for the slow diffusion was "because of the relative isolation, restricted media coverage and rigorous repression under the communist regimes" (*ibid.*, p. 60).

Duke and Slepička (2002) also allege that communist rule was associated, especially in its early years, with a reduction in all types of football violence. Spectator disorderliness decreased from its pre-communist levels and core hooliganism started much later and on a much lesser scale in the then Czechoslovakia compared to Western Europe. These authors attribute this to mass communist repression being effective in its early years but declining in its effectiveness by the eighties. It was not until the nineties that the new Czech Republic experienced its first cases of fan attacks upon police. Overall, Duke and Slepička (2002, p. 60) conclude that: "developments in the Czech Republic occurred later both in terms of the degree of organisation involved and the nature of the violence". This suggests that hooliganism diffuses at different speeds and to various extents to different regions and that some types of hooliganism are never diffused to some locations.

The Leicester University School's "phases" theory has been developed beyond that discussed in Duke and Slepička (2002) and explained in the previous paragraph. According to Dunning et al. (2002, p. 102), there were three phases of English soccer hooliganism in the post-war era. Firstly, in the fifties and sixties, "the conflicts on the terraces were interpersonal in character, took place mainly in the soccer grounds and on trains, and were for the most part directly related to the outcome of the match" (*ibid.*, p. 102). Secondly, during the seventies, "football hooliganism was transformed into mass violence, which took place outside as well as inside the grounds and took the form of violent collective, or crowd, behaviour" (*ibid.*,

p. 102). During the last phase, since the eighties, "hooligan violence has been displaced from the grounds and diffused into city centres, suburbs and even further away from the ground itself and may take place independently of the outcome of the game, for fighting can begin before or after the game and can continue for a long time" (*ibid.*, p. 102). The Leicester University School's "phases" categorization fails to take into account the alleged general hardening up of attitudes and behaviours in England which took place around 1974. Pennant and Silvester (2004) nominate 1974 as a key dividing year.

Armstrong (1998) ends his book by describing how Blades would sometimes in 1997 watch games at pubs close to the Bramall Lane ground partly as a protest against rising ticket prices. This is the beginning of, in Armstrong's words, "post-fan" behaviour. Armstrong's data ends in 1997 and so we do not how the Blades are functioning in the new millennium. Generally rising season ticket prices and the rising cost of train travel have meant that the demographic of football support has changed while improved policing methods are a further factor in creating disinterest in hooliganism.

"Core football hooliganism" (Dunning's term) has never been diffused successfully to Australia. There has been occasional Australian Rules' crowd violence of the "first phase" type referred to as "spectator disorderliness". This type involves isolated attacks on players and umpires emerging out of passions generated by the match itself. Most Australian Rules' reference books suggest that these incidents occurred more frequently in the sport's early years prior to World War I (Critchley, 2010). They do not appear to have grown more serious or frequent as the years have passed. As with North American professional sport crowds (Young, 2002), I argue that Australian Rules' crowds have not moved beyond the Leicester University School's "spectator disorderliness" phase and are unlikely to do so in the future given top-level Australian sports' increasing mimicking of the North American professional sport culture and the ideological re-positioning of the supporter as consumer.

Armstrong (1998) produces very interesting data in the form of a list compiled in April 1987 of 190 Blades with ages, occupations, and criminal record (if any) listed. He classifies these into sub-gangs and, as with our West Perth cheer squad (see Appendix for a list of West Perth cheer squad

sub-gangs), some sub-gangs might have had as few as two or three members. Larger sub-gangs which were part of the Blades included Old Lads; Drug Squad; Suicide Squad; Max's Coach Blades; Villagers; and Rotherham Blades. These last two groups were the most obviously separate since their outside-of-Sheffield locations influenced how they viewed themselves, other Blades, and other firms, and also influenced their willingness to fight. They felt that certain City Blades were too close to certain City Owls and hence sometimes not willing to confront them. Clearly, the out-of-Sheffield Blades were more idealistic and less pragmatic than the City Blades. Armstrong also recounts the interesting and ironic case of Rotherham Blades fighting Rotherham Owls or outside supporters and, in doing so, defending the honour of a city they do not live in. The present article follows Armstrong's (1998) example. Appendix lists our West Perth cheer squad's sub-gangs and the members belonging to each.

Armstrong (1998) emphasizes the casual nature of group ties and the recognition that a person was not morally bound to the firm in any way if he / she decided to give up football or give up hooliganism as part of a natural evolution within his / her own personal life. Some people might "come out of retirement" for big matches against the Owls or if a confrontation came to them. They would often continue to go to games and London Road Friday night pub sessions but sit with non-hooligan mates or sit with Blades but not leave the pub (bar) to meet a challenge outside (Armstrong, 1998, p. 266).

Generally, Hughson's research of BBB supports this. He tells the humorous example of one Croatian-Australian hooligan with his girlfriend being ridiculed by the group for his love interest to the extent that over time he, and others in similar positions, disappeared to the fringes of the group or left it entirely. This hooligan was taunted by the Croatian word for "slippers" which signifies domestic bliss and a certain married lifestyle.

Critique of Armstrong (1998). Armstrong (1998) only discusses leaving hooliganism in terms of changing life-stages without also referring to people's changed position in relation to capital. He sometimes uses the word "capitalism" in mocking inverted quotation marks (see, for example, p. 311) as if to question either the concept or its relevance or both. At the same time, when he talks about rising ticket prices and the social control of supporters this is within the context, which he does

not acknowledge, of professional football moving to a higher stage of capitalism where supporters are re-classified as "consumers". Armstrong (1998) also rejects the neo-Marxist Althusserian concept of *Ideological State Apparatuses* and the related idea that schools, police, courts, politicians, and media all operate, in the last instance, to further and safeguard the interests of capital (Althusser, 2001/1971). However, the physical rebuilding of Sheffield United's Bramall Lane ground indeed shows the ideological re-interpellation of supporters as consumers whereby the consumers' average spend becomes more important than their degree of passionate commitment. In fact, the traditional supporters' passionate commitment is turned against them by the ruling-class of football so that that passion is now viewed as a liability which must be monitored and controlled. Furthermore, Dunning et al. (2002, p. 14) claim that one weakness of Armstrong's (1998) work is his failure to take into account sufficiently the special reality of Sheffield as a two-club city.

METHODS

This is an ethnographic study of the West Perth cheer squad 1984–1986 told from the viewpoint of the author who was co-founder and co-leader of this group alongside his school-friend Michael "Mike" Blewett. It is both strength and weakness of the research data that the author was an active participant in the events rather than a researcher performing typical ethnographic research as a non-participant. The author relies upon personal memories backed up by newspaper and book reports from the time; his personal 1984 season notes which were hand-written by him during 1984; and interviews and discussions with Mike Blewett conducted in person in Kalgoorlie, Australia on 14 July 2011 and since then by personal online communications. Other information about the era has been sourced from posts by supporters on the Facebook page *Lost WAFL* and the Facebook group *Say NO to any AFL Clubs in the WAFL*. The author applies Armstrong's anthropological approach to his 15–20 member West Perth unofficial cheer squad (hard-core supporter group) of 1984–1986.

RESULTS

Fluidity of group ties. Our West Perth cheer squad's experiences in Western Australia (1984–1986) definitely lend credence to Armstrong's

(1998) theory about the casual nature of group ties and the fluidity of group membership with telephone calls between our members being rare; members knowing most other members only by first name and / or nickname; members usually not knowing where other members lived or if they did know they knew only the suburb name; members meeting only five times outside of football match days and only once outside of the football season (the cricket match referred to above); and the group withering and dying of its own accord, without any fanfare, over a few weeks early in the 1986 WAFL season. However, unlike some of the Blades members in Armstrong (1998), our group members did not adjust their commitment downwards during the cheer squad's years of action; most members attended all home-and-away matches during May 1984–March 1986.

As mentioned, the West Perth cheer squad had around 15 red-and-blue flags of various sizes, shapes, and designs, or around one flag per core member. The cheer squad also had a large 1.2m x 1.2m red-and-blue banner with the words "Cop That" in white lettering, with the word "Cop" on the red horizontal section on top and the word "That" on the blue horizontal section making up the bottom half. The banner had thick wooden sticks on both sides and could be raised up above head-level at significant moments. We were very proud of that banner. It helped to give the cheer squad a tough and confrontational but still humorous image. According to my personal notes made during the 1984 season, this banner made its official debut at the Round 14 (7 July) 1984 match at Leederville Oval when West Perth defeated reigning premiers (i.e. champions) Swan Districts 18.11 (119) to 11.19 (85)[5].

Western Australia versus Victoria State of Origin game, Subiaco Oval, Tuesday afternoon 17 July 1984. I also took the "Cop That" banner with some school and neighbourhood mates, including Mike Blewett (the West Perth cheer squad's second co-founder), Paul Blewett, Chad S., Pete L., Roy G., Paul D., "Gilby", Wayne D., and Nick (not the Perth Football Club cheer squad leader) to the Western Australia (WA) versus Victoria State of Origin game held on Tuesday afternoon 17 July 1984. The group stood on the old concrete terraces (now long gone) on the Roberts Road side of Subiaco Oval in front of the old tin shed just in front of the entrance gates at the

city-end. My personal 1984 season notes state that the West Perth cheer squad had been invited to join the combined Perth-Claremont cheer squad, which was representing WA that day in the grandstand, but the West Perth cheer squad declined. Instead I went to the game not with the cheer squad but with a school and neighbourhood-based group of friends. We all took the day off school, as did so many people for those well-attended Tuesday afternoon state games during the mid-eighties (annual games played on Tuesday afternoons from approximately 1983–1989), and we arrived at the game at 9.20am. WA defeated Victoria 21.16 (142) to 12.12 (84) that day and, according to my 1984 season notes, the highlight of the match was Gary Ablett Senior kicking eight goals for the losing Victorian team.

Swan Districts versus West Perth, Bassendean Oval, 1985. A trip to Bassendean Oval to play Swan Districts requires a long train journey from the Perth city-centre on the ancient Midland train line. Swan Districts is the most remote from the city-centre of the six traditional WAFL clubs which are not Fremantle-based. (Fremantle is often regarded as a separate city in its own right.) By WAFL standards Bassendean is a fairly compact ground with the outer grassy banks being less wide and less high than those at East Fremantle Oval, Leederville Oval (prior to its recent renovations) or Lathlain Park. Like a soccer ground, all spectators are relatively close to the play. The famous old stands hug the playing arena closely and cast much of it in shadow in the late afternoons.

Since the formation of West Coast Eagles in 1987, "Swans" has had a reputation, fiercely and jealously guarded, of being the epitome of a traditional WAFL club. Bill Walker of Swan Districts was one of only two WAFL club presidents to vote against the entry of West Coast Eagles into the expanded VFL (now AFL). Even the once vibrant Midland and Guildford districts, at the centre of Swan Districts' geographic heartland, retain a large proportion of historic buildings and they seemed to have remained somewhat shielded from the economic, social, and demographic changes that the rest of Perth has experienced. Bassendean Oval used to be a fearsome place for visiting supporters; every corner of it was claimed by some gang or other of Swans' supporters. Even today, Swans attract larger home crowds than other WAFL clubs and the compact nature of the ground makes a crowd of two to three thousand mostly

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5 Source: Match scores are taken from Atkinson (2008, p. 334).

Swans' supporters still a fearsome proposition for opposition fans and players.

Although there was and is a members' stand, the R. A. McDonald Stand, in the ground's south-western corner, has always contained vocal and hard-core Swan Districts' supporters of all ages. The stand still contains such dedicated supporters today, although nowadays there are empty seats during the main game. In the WAFL's Golden Era patrons had to arrive long before the start of the main game to be assured a seat in the McDonald Stand (pronounced as if it had an extra "s" as in "McDonald's Stand"). My late maternal grandfather H.A.A. (1906–1999) and his mate Ernie Henderson supported Swans and they always sat there, towards the top, in the seventies and into the first half of the eighties. I also sat with them there, on three or four occasions, although never when West Perth was the opponent.

On this most memorable day, most probably in 1985, the West Perth cheer squad headed out to Bassendean Oval, from Perth city-centre on the Midland train line. I cannot recall how many people met in the city-centre beforehand. There was probably a sub-group which got on at the city-centre and the long journey then magnified our good spirits, self-confidence, and camaraderie. West Perth had been performing well on the field in 1985 and a win would certainly not have been an unlikely outcome. The cheer squad was in celebration and party mood, travelling to a distant and remote ground at the far end of the metropolitan area. Many cheer squad members would not have gone to the ground before.

No part of Bassendean Oval is seemingly reserved for the away supporters (except perhaps the Bill Walker Stand which is located to the immediate right of the McDonald Stand when viewed from inside the playing arena). The McDonald Stand is only 20- or 30-metres from the southern-end goals. The northern-end goals[6] are furthest from the train station so, logically, that was not the place for the away fans. The logic of the era was that visiting cheer squads (out of humility and respect) would stay near the entrance that was closest to the train station so that meant, for example, the southern-end at Claremont Oval and the southern-end at Perth Oval.

I can recall our West Perth group this day entering what were then the most popular gates of the oval, in the south-west corner closest to Success Hill train station, with the giant flags. In the environment of Bassendean Oval, these flags stood out like a sore thumb. Swans' fans then had a dour and austere culture where you would not wear club colours. Anything slightly showy was frowned upon as not befitting this working-class district far removed from the city-centre. Furthermore, Swans' colours are black-and-white; the cheer squad's red-and-blue replica playing jerseys and flags stood out like the first year of colour television. People probably thought that we were show-offs and smart-arses. We took the path of least resistance and set ourselves up behind the southern-end goals. The group's flags and banners were right there in front of the line of sight of the McDonald Stand's inhabitants around 25-metres away[7]. The heritage-protected ground is largely unchanged today.

The cheer squad was chanting its usual chants that day but with perhaps unusual venom. There had been animosity between West Perth supporters and Swan Districts' manager John Todd since Todd left West Perth's Brian Adamson out of a Western Australian combined state team in 1975 (Dawson, 2004, pp. 148, 150). This animosity had then followed Todd across from East Fremantle to Swan Districts (ibid., p. 179). Dawson writes as follows about the relationship between Swans and West Perth during the 1980s: "The feud was always publicly denied, but continued into the 1980s and all Swans-West Perth games were well-attended with many fiery incidents, off and on the field" (ibid., p. 179). Swans' record home ground attendance remains today the 22,350 people who watched Swans play West Perth on 10 May 1980 (Round 6) (East, 2009, pp. 23, 212).

It may have been our "Ronnie Boucher walks on water / everybody knows that bullshit floats" chant that made the Swan Districts' fans increasingly upset on this particular day in 1985. Swan Districts had no recognized or organized cheer squad then but generally cheer squads accept each other's chants as just part of the job description and not to be taken seriously. The McDonald Stand was an intimidating place in that era and our cheer squad

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6 The word "goals" is used in plural form in Australian Rules football culture because the goals are made up of four separate vertical posts.

7 The view of the McDonald Stand from the south-ern-end goals and the opposite view can be viewed at the following link: http://waflgoldenera.blogspot.co.uk/2017/02/opinion-presidents-response-to-todays.html [accessed 14 September 2017].

was insulting Swans' favourite players and showing off its vibrant red-and-blue colours directly in front of their noses. The cheer squad also had its famous song, sung to the tune of the classic children's song "Old McDonald had a Farm": "Old McDonald had a stand / eyie eyie oh / and in that stand was full of pigs / eyie eyie oh". The distant origins of the real Mr. R. A. McDonald[8] meant that by 1985 our group clearly intended to insult a revered ancient folklore deity instead of an actual known person. The song was in effect an attack against local gods.

Around three-quarter time during the main game, we saw that a group of around eight bare-chested Aboriginal youths, around the group members' ages or slightly older, had very quietly surrounded us and taken up strategic seating positions just outside the group on all three sides. This Aboriginal group began to make intimidating comments including that they would beat up our group members after the game. The Aboriginal group members wore no club colours but they were very clearly Swans' supporters. They must have been offended by the West Perth flags and chanting. Our West Perth cheer squad watched the game much more diligently and stopped playing up to and taunting the inhabitants of the McDonald Stand. I could tell that our group members were apprehensive. Aboriginal gang culture and the culture of the suburbs around Bassendean Oval were not well known to any of the group. None of us had any reputation in the area that we could call on. It was the classic away fans scenario.

We all began to watch the game much more diligently and talk among ourselves; we adopted a much lower profile. We became just normal fans rather than a cheer squad as such. Even the noisiest members became quiet which was very remarkable. People became grossly absorbed in the match, looked straight ahead, and quietly conversed in their twos and threes. This was partly a strategic act and partly a sub-conscious switch to the self-preservation mode. The chanting mostly stopped although I am sure that we still waved the flags after West Perth goals.

When the game ended, or possibly five or ten minutes prior to that, the West Perth cheer squad members looked around and we saw that the Aboriginal group had disappeared. I do not think that anyone even saw or heard its members leave as they disappeared so quietly.

This Swan Districts versus West Perth match was probably either the 19.14 (128) to 15.12 (102) Swans' victory on 8 April 1985 (attendance 10,500) or the 22.12 (144) to 21.16 (142) Swans' victory on 20 July 1985 (attendance 9,462)[9].

DISCUSSION

Fluidity of group ties. When I stopped going to games during 1986, no-one ever contacted me (and I had been co-founder and co-leader) and when I met ex-member Pete C. at Fremantle Oval at a game against South Fremantle late in the 1986 home-and-away season we conversed only as friends and neither of us made any mention (if my memory serves me correctly) of the end of the cheer squad. There was only the two of us; we met by chance rather than by arrangement; and the flags and banners were long gone. We probably avoided discussing the cheer squad's end as it might have been a sad topic. Possibly people could sense my and key others' new-found lack of enthusiasm for the cheer squad in 1986 and the infectious zeal that had held the group together for two years simply saw its opposite occur: people drifted away because the igniting zeal had left. Only the zeal for West Perth and for the cheer squad had kept the cheer squad together for two full years and through two complete summer off-seasons (which are six months long in Perth). I admit that my new pre-occupation during 1986 was my university studies. In hindsight I wish that I had been slightly more pro-active in extending the life of the cheer squad without feigning interest or departing from the group's original authenticity.

Western Australia versus Victoria State of Origin game, Subiaco Oval, Tuesday afternoon 17 July 1984. Mike B. and I decided that, because the game took place on a school-day, our ethical obligation towards our school friends exceeded our ethical obligation to go with cheer squad members and / or to join the combined Perth-Claremont cheer squad representing WA that day. This was the choice we made based upon our ethical values.

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8 The R.A. McDonald Stand was opened on 23 July 1938, four years after the club was admitted to the WAFL (East, 2009, pp. 21, 87). R.A. (Dick) McDonald was President in the early years of the Swans club and played an important role in the then second-division club gaining WAFL admission in 1934 when he was acting in his capacity of member of the Bassendean Road Board (*ibid.*, pp. 12–16, 20, 191).

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9 Source: Match scores are taken from Atkinson (2008, pp. 334, 335).

We could plan together at school on the Monday with school friends for the next day and we felt that we should attend the game with them on the Tuesday. We all took the day off school, as did so many people for those well-attended Tuesday afternoon state games during the mid-eighties.

Swan Districts versus West Perth, Bassendean Oval, 1985. If we want some theorization of the West Perth cheer squad members' behavioural self-modifications after being threatened by the Aboriginal group of Swan Districts fans, we might cite Marsh (1978, pp. 19, 41) as follows:

> "we can instantly recognize dominant or submissive stances in other people and we frequently employ them ourselves ... Adopting a submissive posture is the clearest way in which ... a person ... can signal that he has had enough and thus avoid serious injury".

When the game ended, or possibly five or ten minutes prior to that, the West Perth cheer squad looked around and we saw that the Aboriginal group had disappeared. Our West Perth group had passed some kind of test. Possibly the Swan Districts' group had decided that we were "good guys at heart" or possibly they had just lost interest in confrontation or had somewhere to go straight after the match. Swans' on-field victory that day might possibly have been seen by the Aboriginal group as having been vindication enough for them (as Mike B. today claims[10]).

Like the London Teddy Boys who menacingly surrounded Desmond Morris and his wife in a Camden Town cafe in 1957 but then paid the couple's bill and left with a friendly greeting (Morris, 1978, p. 7), the Swan Districts group had reinforced territorial dominance by Swans' fans over Bassendean Oval, including the seats behind the southern-end goals, without resorting to actual violence. Marsh (1978, p. 125) explains further as follows: "When men enter into aggressive confrontations with each other, the object of the exercise is not killing but preservation of dominance relations, the defence of particular space or access to basic resources".

This event at Bassendean Oval's southern-end goals was a near-miss for the West Perth cheer squad and our group members probably learned a lesson to be somewhat quieter, more respectful, and more circumspect in hostile away territory. It must be pointed out that the cheer squad members

never viewed this encounter as any sort of "racial war" – our group was multicultural and had a multicultural ethos. For example, D.S. from Tuart Hill was an ethnic Chinese and the brothers Tony and Mario were of Italian ethnicity. In fact West Perth supporters have long been referred to by the racist tag of "Garlic Munchers" (especially by East Perth fans). This tag emerged because of the large southern-European immigrant supporter base which attached itself to the club in the post-World War II period.

About the near-miss at Bassendean Oval, on reflection, I can say that our group had probably had become a little over-confident. Our cheer squad went to Bassendean Oval thinking that, because there was no organized Swan Districts' cheer squad, we could pretty much express ourselves as we liked as far as flag-waving and noise-making were concerned. Being far from home created a carnival or a day-at-the-seaside atmosphere for our group members. The hostility between the two clubs was a factor in the background which was probably driving us on to chant a little louder. I probably did not "rate" the Aboriginal group when I first saw it as it was not a Melbourne-style cheer squad and its guys were shirtless and not wearing club colours. *Why was this day memorable aside from just the physical threat?* Perhaps because different concepts of fandom, match-day behaviours, and dress codes were operating and these concepts clashed. I respected and tried to keep cordial relationships with the Perth and Claremont cheer squads but I did not perceive any necessity to have a similar fraternal and respectful attitude with respect to any or all Swan Districts' fans (even though my grandfather supported the club).

CONCLUSIONS

General conclusions. In this article I have reviewed key studies in the academic literature on football hooliganism. I have applied the anthropological approach to our 15–20 member West Perth cheer squad of 1984–1986. I find that Armstrong's anthropological approach is able to explain many aspects of our cheer squad's culture and members' behaviours including the quick disintegration of the cheer squad early in the 1986 season without anyone officially putting an end to it. However, our group members did not adjust their commitment downwards during the cheer squad's years of action; most members attended all home-and-away matches from May 1984–March

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10   Source: Personal interview with the author, Kalgoorlie, 14 July 2011.

1986. This research also shows the diffusion of Australian Rules football supporter culture from Melbourne to Adelaide and from these two cities to Perth, to a certain lesser extent, and the impact of TV news reports of British football hooliganism on our group's style and macho posturing.

Personal reflections. I would like to make some personal reflections both as a researcher and as cheer squad co-founder. As a researcher, I think it is important that we document supporter and cheer squad culture of Australian Rules football, and expose this research to an international audience. I think that, following Redhead (2017), detailed long-term ethnographic studies of individual football hooligan firms, ultras groups, and cheer squads are the most vital type of new research. Redhead (2017) notes that since the publication of Armstrong's book nearly 20 years ago there have been very few new detailed ethnographic studies similar to his prize-winning PhD thesis and book. A problematic topic, also covered well by Redhead (2017), is to what extent we should bring into academic discourses the confessions memoirs of ex-hooligans, referred to sometimes as *hooliporn* or, in Redhead's words, the "hit and tell" genre. Although obviously not every fact in such books can be taken as being accurate or every recollection truthful or every expression of regret sincere, they may be useful for filling in gaps in our knowledge especially for firms and cities not (yet) covered by academic ethnographic researchers (*ibid*).

As a cheer squad co-founder I can say that the days of the cheer squad were among the happiest times of my teenage years; and it was a good experience for me in the areas of leadership, people-management, organizational skills, and public-relations relating to such a diverse group of people from a wide variety of social backgrounds and aged from 8 to 18. I do regret some of our insulting chants; especially "Benny's got a Vigona" aimed at South Fremantle's star Aboriginal player Benny Vigona. Although not chanted with any racist intent (at least not by me), I conclude that Aboriginal players do not need to be exposed to unnecessary toilet humour, if it can be called humour, from the spectators' side of the fence.

POSTSCRIPT

Our cheer squad's "Cop That" banner was captured on camera at the Western Australia versus Victoria match played at Subiaco Oval on 17 July 1984. The banner was later used in an Emu Export beer commercial which ran for many years, and long after our West Perth cheer squad had disbanded. For me the sighting of the banner on the beer commercial was one of the last tangible reminders of the then defunct West Perth cheer squad of 1984–86. I remember reading about the graffiti tag "The Clash", located on the Harrow Road in West London at the place where it passes under the Westway. Similarly to our banner on the beer commercial, the graffiti remained there, fading slowly, long after that punk-rock group's vigorous life was over.

Dedication. This article is dedicated to my late maternal grandfather H.A.A. (1906–1999).

Disclaimer. The opinions expressed herein are not necessarily the same as those of Brian Atkinson; West Perth Football Club (WPFC); West Perth Football Club cheer squad 1984-86 or any of its members; Swan Districts Football Club (SDFC); Australian Football League (AFL); West Coast Eagles Football Club (WCEFC); Western Australian Football Commission (WAFC); Western Australian Football League (WAFL); and / or any of the study's interviewees.

APPENDIX

Sub-gangs, West Perth Cheer Squad, 1984–86 (ages as at 1984)
The Booragoon sub-gang
1 *The author, 15 years, Applecross Senior High School student (1984–85) then university student (1986)
2 *Mike Blewett, 16 years, Applecross Senior High School (1984–85) then occupation unknown (1986), school friend of the author
The Carine sub-gang
3 Courtney, 14 years, high-school student, junior football friend of Thommo.
4 Rohan H., 14 years, high-school student, school friend of Courtney.
Floaters / non-aligned
5 *Mark aka "Thommo", 14 years, high-school student (1984–85), plasterer (1986); junior football friend of Courtney.

6 *Robbie, 14 years, joined cheer squad 1985, lived in Balga, took buses home with Balga sub-gang, knew Thommo before joining cheer squad.

The Balga sub-gang

7 *Peter "P.A." Brennan (name changed), 18 years, lived in Balga.

8 *Dave S. (name changed), 16 years, lived in nearby Tuart Hill but took buses to games with P.A. and Robbie, school / employment situation unknown.

The C. brothers sub-gang

9 *Mike C., 16 years, in and out of reform homes.

10 *Robert C., 15 years, only went to games occasionally, had criminal record.

11 *Pete C., 14 years, in and out of reform homes.

12 *Female niece or cousin of the C. brothers, 4 years, attended 50% of games..

The Churchlands sub-gang

13 Ben McA., 14 years, Churchlands Senior High School student.

14 Tony, 12–13 years, Churchlands student, school friend of Ben.

15 Mario, 8–9 years, younger brother of Tony (also in younger members' sub-gang).

The younger members sub-gang

16 Michael aka "Half", 8 years, parents were financial members of West Perth, no blood relationship to other cheer squad members, lived in Bayswater or Maylands.

17 *"Thommo Junior", 8 years, younger brother of Thommo.

(* denotes took public transport to and from games).

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CRITERIA AND INDICATORS NEEDED TO ATTRACT SPONSORS AND DONATORS FOR SPORT

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ABSTRACT

Background. Since 1980s, sponsorship has increasingly grown and is a powerful and strategic tool used by companies to support their marketing communication plans (Desbordes & Tribou, 2007). Sports and culture sponsorships have become a popular and expensive marketing and public relations instruments. Very often it is clear that return on investment (ROI) is not an appropriate measure due to a lack of indicators established for this purpose. At the same time it is not clear what to follow and which criteria organizations should meet to get sponsorship or donation. The main aim of the research was to find the indicative markers to attract partners to participate in the sport and culture projects in accordance with well-established criteria for company promotion. Furthermore, exploring possibilities we aimed at developing common guidelines for sport, culture and educational institutions in order to have relevant common approach for company's partnership and to clarify it as a product's promotion and marketing sales of a company as social responsibility and excellent public relation.

Methods. The purpose of the study was to identify the objectives of sponsors we deem important when evaluating professional sport sponsorship opportunities in Bosnia and Herzegovina (BiH). Twenty-four valid responses, out of 30 received organizations that had sponsored sport and culture projects, were analysed to identify relevant criteria and indicators. The survey questions were designed based on the methods employed by other sponsorship researchers (Greenhalgh & Greenwell, 2013).

Results and Conclusions. The present research was based on the information from questionnaires intentionally designed for targeting marketing or public relations managers in 24 organisations in BiH. Data processing, which included significance of differences and observed frequency distribution, along with ranking sponsorship objectives, criteria and indicators were used for conclusion, giving us a clear indicators' frame. The study results show that no transparent sponsorship or partnership criteria in line with organisation mission exist. It is more difficult for an organization or a project to identify and attract sponsors or partners. Measuring social responsibility as a tool for appropriate public relations strategy is one of the added values of the research.

Keywords: sponsorship, public relations, sport.

INTRODUCTION

Bosnia and Herzegovina, unlike other former socialist countries in the region, had an established system of funding sport and culture based on clearly defined criteria. State-owned companies invested a set percentage of their profit directly into sport and culture as a form of their social responsibility. This socialist system certainly had its downfall, but the criteria were clear. Towards the end of the eighties, with the beginning of privatization, this funding system was abolished and financing of sport and culture became based on voluntary actions and initiatives of individuals and groups that somehow managed to provide funds to carry out sport and cultural activities and events. This lack of adequate funding for sport and culture is the main reason why sponsor or donor organisations are seen as main funders of activities in Bosnia and Herzegovina. As the society is in a

great demand for all sorts of fundamental activities that fall into this domain and make up one of its pillars, the companies are under great pressure with numerous demands for financing sport and cultural activities.

Past sponsorship research has focused on a great deal of attention on the effectiveness of sport sponsorships using measures such as sponsor recognition, intent to purchase from sponsors of sporting events, and the perceived benefits of sponsorship (Bennett, Cunningham, & Dees, 2006; Eagleman & Krohn, 2012; Maxwell & Lough, 2009; Pitts & Slattery, 2004). This paper is focused on the funding criteria and standards that the organisations use to determine which sport activities to support. Donations or sponsorships are one of the elementary methods in which projects in the field of sport and culture are financed, but also an instrument for the promotion of the companies' tangible and intangible values.

The results of this research are applicable to both culture and sport, as both fields are funded in the same way in Bosnia and Herzegovina. This paper offers a survey of the practice used so far and experiences based on the organisation's ROI, as well as guidelines to set the criteria for funding sports at the same time monitoring promotion of tangible and intangible values. The identification of objectives and a survey of the funding potentials was the basis for the initial research in this field in Bosnia and Herzegovina.

Sponsorship and marketing – What is tangible or intangible? Social responsibility or sales market? In the field of marketing, exchange denotes a transfer of something tangible or intangible or symbolic between groups or individuals – buyers and sellers. It, in fact, is an exchange or provision of transfer of something valuable – goods, services or ideas, for something that represents value – cash, credit or labour.

Although, marketing originally had to do with for-profit organizations, in the past several years it has spread to other fields of activities. With this in mind, it is well-known that sports organizations can find it difficult to provide finances for their activities, which poses difficulties in their organization. Therefore, social marketing plays a role in strengthening the links between businesses and society, and points to more effective ways of meeting social objectives and more efficient use of limited funds (Malacko & Rađo, 2005).

Sports sponsorship is based on commercial, mutually valuable exchange, both in economic and social values and mutual relationship raising sense (Dilys & Gargasas, 2014; Virvilaite & Dilys, 2015). The objectives of a sponsorship program can incorporate elements of marketing, communications, relationship marketing, resource allocation, and networking. Despite claims of developments in management practice, the findings nevertheless show a widespread failure to pursue such objectives (Chadwick & Thwaites, 2008). The responsibility for sponsorship or donation belongs to all stakeholders, sports organizations, organizations and companies, as well as the risk. The paper by Crompton (2014) focuses on the risks involving reputation and emphasizes that "…sponsorships relationship has to be fair to both sides. There will be an understanding that in exchange for their investment, companies need to secure a return on their investment. However, the company's sponsorship will be perceived to have both extrinsic motives (commercial considerations) and intrinsic motives (loyalty, support, belief in the property)" (p. 5). The research by Ko, Chang, Park, & Herbst (2016) points to the need for the managers to cooperate closely with sponsors on establishing an efficient strategy to contribute to the maximum benefit to both parties. Sponsorship has become well known through high-profile activities where companies spend millions associating themselves with events that attract massive media coverage. But in its early days, it also included support through patronage of less well-known projects. In the 21st century, when businesses need to gain a return for their investment, can the support of grassroots events through sponsorship give them value for money? (Day, 2010). The way of financing is directed towards two forms of expected return on investment. One is the sponsorship-marketing based approach, i.e. selling of products and services, while the other focuses on the participation of the company as socially-responsible in upgrading and promoting essential, fundamental space for the development of sport and culture (grass-root).

The grass-root financing in Bosnia and Herzegovina is based on small-scale initiatives through grants offered by different levels of government. Due to the complex system and inexistence of standards and criteria, sports and culture suffer from insufficient funding. In this case, sports and culture organizations constantly initiate partnerships with companies in order to maintain their level of activities. These efforts often face inexistence of clear guidelines and criteria that

should be observed in discussions, negotiations and even signing contracts with companies.

Besides the research into the approval criteria, this research is aimed at the capacities for changes that would successfully promote the need for a clear investment monitoring system. Researchers are currently focused on schedule and strategic approach to sponsoring of sports and culture and monitoring ROI. Jacobs, Pallav, Jain, and Surana (2014) point out that "one-third to one-half of US companies does not have a system in place to measure sponsorship ROI comprehensively." Based on these observations, they feel that "to manage sponsorship spending effectively, advertisers must first articulate a clear sponsorship strategy – the overall objective of their portfolio, the target demographic, and which stages of the consumer decision journey (awareness, consideration, purchase, loyalty) sponsorships can support." In their paper Jensen and Cobbs (2014) emphasize the traditional marketing strategy measurable by number of publications and print as instruments to measure availability to users, as well as non-traditional marketing where instruments to measure sponsorship influence are scarce or inexistent.

There is a case for saying that, in these current political and financial times, all companies doing sponsorship should consider having a grassroots element to their overall programme; however, being commercial, companies need to ensure that they get value for money from their support, rather than just being philanthropic. Increasingly though, measurement of return on investment (ROI) is not just about the size of the media audience or the recent increase in sales, but can also be about other objectives such as customer awareness and loyalty, employee endorsement or government relations (Day, 2010).

Even though professional niche sport may exhibit a great need for sponsorship funding, they are in direct completion with mainstream professional sport properties, collegiate athletic departments, art, music, and entertainment events, and even charitable causes for finite amount of available corporate sponsorship support (Greenhalgh & Greenwell, 2013). Sport sponsorship very often depends on relation between team loyalty, sponsorships awareness and attitude towards (Biscaia, Correia, Rosado, Ross, & Maroco, 2013). Sales market also defines users and relationship of users towards sponsorship. In their research, in the part that gives recommendation for future research,

Koronios, Psiloutsikou, Kriemadis, and Kolovos (2016) reached the conclusion that companies are spending increasingly large sums of money sponsoring sport clubs without fully understanding what they are paying for in brand image building terms.

In their work, Walraven, Koning, Bijmolt, and Los (2016) used Data Envelopment Analysis (DEA) and gave recommendations for future research into different forms of sponsorships. Many sponsors pursue a multiple sponsorship strategy with several projects as part of a portfolio. Sometimes sponsored properties fall in the same sports category, whereas sometimes projects in other sports or even other sectors (such as culture) are sponsored.

METHOD

The survey questions were designed based on the methods employed by previous sponsorship researchers (Greenhalgh & Greenwell, 2013). The organizations included in the research are those that participated in different forms of sponsorships. The contact points were the highest positioned managers, marketing managers or CEOs. The available emails were used to contact over 70 companies. However, which is unfortunately another indicator of the lack of interest and insufficient communications of marketing managers and managers, only 30 contacted organisations responded, out of which only 24 were considered valid, and could be used as a research sample. The questionnaires consisted of ordinary questions packed into the Google survey format.

The questionnaire had two parts, the first part was an open form with general information, mission, vision and values of the organisation, while the other closed part was related to the increase of sales/market share, raising awareness of the target market, raising awareness of the improved reputation of the company, involvement in the community, blocking/disabling competition, building trading links, social responsibility, changed public perception, improved relations among the staff, involvement in the corporate philanthropy, personal links to events or projects, national brand promotion, international brand promotion, personal promotion. Data processing, which included significance of differences and observed frequency distribution, along with ranking sponsorship objectives, criteria and indicators were used for conclusion, giving us a clear indicators frame.

RESULTS

Out of the total of 30 companies that responded to the questionnaire, 24 were valid for data processing. Statistically significant differences of the observed frequencies where assessed using Hi squared test ($\chi^{2)}$) applying the model of "all groups equal". Companies were highly developed in business area including one company in banking and investment, two IT, one in food production, 2 in media and 16 companies marking "Other" as an answer.

Twenty-two companies have clearly defined mission and vision ($\chi^2 = 16.67$; $p < .001$), twenty companies have defined company values, marketing plans and marketing plans made according to the company mission ($\chi^2 = 10.67$; $p < .001$) while seventeen do not make public call for sponsorship ($\chi^2 = 4.17$; $p = .041$). Specific research results showed inconsistency with no significant differences for sponsorship criteria and evaluation of the sponsored projects ($\chi^2 = 0.167$; $p = .68$). Not a single company chose social development or social responsibility as their values. The missions do not contain the key words related to sports or culture.

Not a single company responded that they followed specific indicators.

Indicators and criteria of sponsorship were graded using Likert scale where 1 means least important through 5 as very important (Table). Significant differences were observed when it comes to "Increased market share" where 41.7% were marked as highly important ($\chi^2 = 11.74$; $p = .02$), "Raised awareness on the target market" (grade 5 – 45.5%; $\chi^2 = 16.83$; $p = .002$), "Improved company reputation" (grade 5–58.3%; $\chi^2 = 10.75$; $p = .005$), "Improved relations among staff" (grade 4–48.8%, $\chi^2 = 12.25$; $p = .016$), "Involvement in Corporate Philanthropy" (grade 3–37.%, grade 4 33.3%; $\chi^2 = 10.17$; $p = .038$), "Personal bond with event" (grade 3–41.7%; $\chi^2 = 9.75$; $p = .045$) and "National brand promotion" (grade 5–45.8%; $\chi^2 = 19.33$; $p = .001$), respectively.

DISCUSSION AND CONCLUSION

Besides the fact that twenty-two companies have clearly defined mission and vision, twenty companies have defined company values, marketing plans and marketing plans made according to

Table. **Analysis of criteria and indicators of sponsorship**

	1	2	3	4	5	Mean	Median	χ^2	p
Increased market share	8.3	4.2	29.2	16.7	41.7	3.79	4	11.42	**.02***
Raised awareness on the target market	4.2	4.2	12.5	33.3	45.8	4.12	4	16.83	**.002****
Raised public awareness	8.3	0	33.3	33.3	25	3.67	4	4.0	.26
Improved company reputation	0	0	4.2	37.5	58.3	4.5	5	10.75	**.005****
Participation in the community	0	0	16.7	37.5	45.8	4.29	4	3.25	.197
Blocked/disabled competition	25	29.2	25	20.8	0	2.41	2	0.33	.954
Building trade links	8.3	12.5	29.2	37.5	12.5	3.33	3.5	7.67	.105
Participation in social responsibility	8.3	0	16.7	41.7	33.3	3.91	4	6.67	.083
Change of public perception	0	0	29.2	41.7	29.2	4	4	0.75	.69
Improved relations among staff	8.3	8.3	12.5	45.8	25	3.7	4	12.25	**.016***
Corporate philanthropy involvement	4.2	12.5	37.5	33.3	12.5	3.37	3	10.17	.038*
Personal bonds with the event	16.7	4.2	41.7	25	12.5	3.13	3	9.75	**.045***
National brand promotion	4.2	4.2	8.3	37.5	45.8	4.16	4	19.33	**.001****
International brand promotion	20.8	8.3	8.3	29.2	33.3	3.45	4	6.42	.17
Personal promotion	41.7	8.3	12.5	20.8	16.7	2.63	2.5	8.08	.089

Note. ** – significant at 99%, * – significant at 95%.

the company mission, not a single respondent defined their values towards achieving additional intangible values, i.e. social responsibility. In essence, sponsorship or donations are observed as a social responsibility concept, but there are no measuring instruments or indicators that point to the implementation of the set objectives. Besides the intangible values, it is expected that the companies turn their sponsorship goals towards several marketing directions. The objectives of a sponsorship program can incorporate elements of marketing communications, relationship marketing, resource allocation, and networking (Chadwick & Thwaites, 2005). Tangible values are not clearly defined by criteria and indicatory; therefore it is clear that there are no sponsorship programs. We assume that there is no clear link between the projects funded and the company indicators, and that the ROI was not calculated adequately. Earlier research of this type in places with higher capacities for systematic planning of investments and return of the invested funds through sponsorship programs show that the companies have space for improvement. The research by Chadwick & Thwaites (2005) concludes that the sponsorship of English professional football clubs continues to be very popular among corporations. As such, the medium's overall appeal is not in question, although this article justifies the need for more professional management of the activity. Moreover, the study confirms the need for corporations to think differently about sponsorship; unlike other forms of marketing communication, sponsorship has the potential to fulfil a much greater and more powerful strategic network, and relationship marketing role. This is, nevertheless, dependent upon changes in the nature of power and the cultural foundations within and between the organizations involved in the soccer sponsorship dyad.

In Bosnia and Herzegovina, keeping in mind the sports and culture funding system, and the inadequate awareness on intangible values earned from financing sports and cultural events, there is a dire need to find new models that would benefit both sports and cultural organizations, and the companies with increased interest into co-financing such activities. The new professionalism and setting up the elementary criteria and measurable monitoring indicators is the task for all stakeholders. If sports organizations have clear criteria based on which the companies want to become partners, it is easier to establish interest that guarantees achieving both tangible and intangible values.

Limitations and Directions for Future Research. This study is the first such type study in Bosnia and Herzegovina. We would even consider it as the pilot study, as the way in which we managed to collect data speaks of the lack of awareness on the need for synergy between companies and sports organizations on planning sponsorship programs and determining shared criteria and success indicators. The next research will include clearly defined criteria and model for monitoring ROI, which will probably make it more acceptable for the future cooperation between companies and sports organizations. The database with the responses from companies we got in the direct contact indicates that even those managers that are in charge of marketing or PR do not recognize the potential of the synergy on the market, but often respond to initiatives negatively out of insufficient interest or knowledge. Clear criteria would provide better communication that is currently often based on personal links that a manager has with a sports organization.

We feel that we were limited by the interest of the companies, but at the same time we feel that there is a possibility to introduce our intentions to the managers, thus creating grounds for better cooperation. Raising awareness on the synergy and joint action is one of the main tasks for the future research, aimed at overcoming these limitations. We strongly believe that the need to create initial criteria opens doors for the continuation of this research with clearly set proposals and examples.

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RELATIONSHIP BETWEEN INVOLVEMENT IN LONG-TERM REGULAR PHYSICAL ACTIVITY AND MEMORY: PRELIMINARY RESULTS

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ABSTRACT

Background. Ageing of the Western Society has become both – economic and social concern. Ageing has both – biological and psychological consequences, and, with changes in the brain due to ageing (e.g. decline in the brain volume in frontal, parietal and temporal areas, as well as hippocampus (Colcombe et al., 2003; Erickson, Voss, Shaurya, Basak, & Szabo, 2011)), there are changes in cognitive functioning. For the past years, research has indicated a relationship between aerobic activity interventions and increase in episodic memory (Ruscheweyh et al., 2011), face recognition associative memory (Hayes et al., 2015) and working memory (Erickson et al., 2011).

Methods. The aim of the study was to examine the relationship between involvement in aerobic physical activities and memory; thus 43 seniors aged from 65 to 85 (*M* = 71.86, *SD* = 5.09, 23% male) were included in the study. Based on their physical activity experience, participants were divided into three groups – seniors with long-term aerobic physical activity experience (*n* = 16), seniors that have recently taken up aerobic physical activities (*n* = 19) and seniors not involved in physical activities (*n* = 8).

Results. The preliminary data indicated relationship between long-term involvement in physical activities and working memory, as well as negative relationship between sedentary lifestyle and overall cognitive abilities.

Conclusions. As this is still a work in progress, one of the limitations being the small sample, these results can be considered only as a tendency. Another limitation is the unequal gender distribution. This study was funded by the Latvian National Research Programme BIOMEDICINE 2014–2017.

Keywords: aerobic physical activity, associative memory, long-term memory, short-term memory, working memory.

INTRODUCTION

Up until the second half of the 20th century the research on the impact of aerobic physical activities was focused mostly on its relationship with cardiovascular health; however, in the year 1975 a study connecting physical activity with the reaction and movement time was conducted (Spirduso, 1975). This research suggest that aerobic physical activities are not only beneficial for cardiovascular health, but also for the cognitive functioning. For the past decade, research on the impact of physical activity has grown, considering not only the increase in the prevalence of chronic diseases in the population, but also the rapid aging of the Western society (World Health Organization, 2015). While aging is

an inevitable part of a life cycle, it impacts not only the physical body, but the mind as well. It has been estimated that with the age of 30, the human brain starts losing its volume and, in the time span from 30 to 90 years, approximately 15% of the cortex and 25% of the white matter is lost (Colcombe et al., 2003). Substantially, loss of the grey and white matter leads to a decline in cognitive functioning.

It has been found that aging does in fact impact working memory (Boucard et al., 2012; Voss et al., 2013), while having very little effect on implicit memory (Goh & Park, 2009). With aging, it becomes harder to encode new information in both – episodic and semantic memory, while the existing autobiographic and semantic memories

can stay relatively stable (Hedden & Gabrieli, 2004), another research indicates decline in episodic memory which is explained as a decline in the ability to create associations between the object and the situation (associative memory) (Reuter-Lorenz & Park, 2010). For the past years, physical activity, especially aerobic physical activity, has been considered a major contributor to brain neuroplasticity, helping to overcome to cognitive decline due to ageing (Pin-Barre & Laurin, 2015). Research indicates such positive influence of aerobic activities to cognitive processes, as improved working memory (Voss et al., 2010), improved episodic memory performance (Ruscheweyh et al., 2011), improvement of face-name relational memory and visual memory (Hayes et al., 2015).

So far there has been a very little research on the impact of long-term aerobic physical activities on memory and the results have been controversial. A study by Young (2016) was conducted on 50 participants who were then divided into two groups based on their life style habits – professional athletes and socially active seniors. The results of the study indicated changes in brain structure, however, not in memory measures. Taking into consideration the positive results from short term intervention studies, **the aim** of the present study was to examine the impact of long-term aerobic physical activities on memory in seniors with different physical activity experience.

METHODS

Participants. Forty-three seniors aged from 65 to 85 ($M = 71.86$, $SD = 5.09$, 23% male) participated in the study. For data analysis, participants were divided into three groups based on their aerobic physical activity experience. In the first group there were seniors with long-term regular aerobic physical activity experience, who also were involved into competitive sports ($n = 16$), in the second group – seniors who recently were involved in regular aerobic physical activities were included ($n = 19$), in the third group – participants with overall sedentary life style ($n = 9$). Mean years of education of the participants were 15.53 years ($SD = 3.97$) (see Table 1).

All participants were native Latvian speakers with no known medical history of cardio-vascular, metabolic disorders, pulmonary and respiratory diseases that require medication, ongoing oncological diseases, rheumatologic diseases that require pain medication or mental diseases.

Table 1. **Participant Characteristics**

Characteristics	Mean	Range	*SD*
Age	71.86	65–85	5.09
Education (y)	15.53	7–25	3.97

Note. *SD* – Standard Deviation.

Instruments. For overall screening, Montreal Cognitive Assessment Scale (*MoCA*; Nasreddine et al., 2005) was used. This test consists of twelve tasks, assessing visual-spatial perception, executive functions, short and long term memory as well as working memory, attention, thinking processes, language skills and orientation in time and place. The maximal count of points was 30, the accepted norm was 26 points.

To assess working memory, *The Numbers Reversed* subtest (Woodcock-Johnson Test of Cognitive Abilities, Woodcock, McGrew, & Mather, 2001) was used. In this test, participants were presented with a series of digits which had to be repeated in reverse order.

The associative memory was assessed with *The Memory for names* subtest (Woodcock-Johnson Test of Cognitive Abilities, Woodcock, McGrew, & Mather, 2001), which is used to assess not only associative memory, but also the retrieval from the long-term memory. Participants were presented with pictures of aliens and given their names and they had to recognise the picture and the name of each alien.

The short-term and the long-term memory, as well as the dynamics of memory processes, were assessed by using *Memory Ten-word test* (Luria, 1976). In this test, participants were presented with ten one or two syllable words, which participants had to listen and then repeat five times in a row and then one time after 45 minutes.

To identify the overall tendencies in each of the participant's lifestyle, a modified version of *Social Determinants of Health Behaviours questionnaire* (FINBALT, 2008) was used. This questionnaire includes questions regarding their physical activity over their course of life (e.g. What kind of aerobic exercises have you been involved during your life?), the regularity of the exercises and activities for the past years, months and weeks. The questionnaire also includes questions that reflects participants' habits of alcohol use, smoking, and diet.

Procedure. Data collection for each participant lasted in two stages (two days). On the first day, the assessment of executive functioning was conducted, on the second day, the data on each participant's lifestyle was obtained. Ethical approval

has been obtained from the Riga Stradiņš University Ethics Committee. Participation was voluntary and written consent was obtained from each of the participants prior to data collection.

Data analysis. SPSS version 21 (Statistical Package for the Social Sciences) was used to process the data. The data was analysed applying Pearson's correlation coefficient and ANOVA analysis with Post Hoc test (*Scheffe*).

RESULTS

The mean results of the tests assessing memory and overall screening were calculated. Group with the long term aerobic experience showed higher working-memory and associative memory results, while short and long-term memory test results were higher in the short term aerobic physical activity group. MoCA screening test results were similar in both physically active groups. Results for sedentary groups were lower in all memory measures (See Table 2).

To determine, whether there were significant differences across the three groups, analysis of variance (ANOVA) with Scheffe Post Hoc correction was used. However, there were no significant differences between the groups ($p > .05$). Effect size in associative memory, working memory, short-term memory and MoCA test were low.

To determine whether there was a relationship between involvement in physical activities and working memory, associative memory, short and long-term memories and cognitive screening, Pearson's correlation coefficient was used.

Correlation analysis indicated statistically significant positive correlation between long-term involvement in physical activities and working memory ($r = .34$, $p < .05$) and statistically significant, but negative correlation between sedentary group and MoCA test results ($r = -.32$, $p < .05$). There were no statistically significant correlations between the groups' that were recently involved in physical activities memory and overall cognitive measures (see Table 3).

Table 2. **Descriptive characteristics and inferential statistics of the results from memory tests and MoCA test**

	Time and regularity of the physical activity						*F*	η^2
	Long-term group (*n* = 16)		Recent group (*n* = 19)		Sedentary group (*n* = 8)			
	M	*SD*	*M*	*SD*	*M*	*SD*		
Memory of names	113.94 a	9.07	108.16 a	7.57	105.75 a	9.95	1,59	.074
Numbers reversed	107.36 a	12.53	95.52 a	20.73	94.52 a	10.74	2.67	.118
Short-term memory	5.69 a	1.20	6.21 a	1.65	5.37 a	1.30	.20	.054
Long-term memory	6.94 a	2.67	7.05 a	2.34	5.88 a	2.30	1.58	.001
MoCA test	25.43 a	2.22	25 a	2.56	23 a	3.34	2.46	.109

Note. *N* = 43. Long-term group – seniors with long-term regular aerobic physical activity experience, who were also involved into competitive sports, recent group – seniors, who recently started doing regular physical activities, sedentary group – seniors who were not involved in regular physical activities. In each line the means that have a common letter in subscript do not statistically differ (*p* > .05). η²⁻ effect size.

Table 3. **Relationship between involvement in physical activities, memory measures and overall cognitive screening measures**

	1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
1. Long-term group	–							
2. Recent group	−.66**	–						
3. Sedentary group	−.37*	−.41**	–					
4. Memory of names	.25	−.15	−.19	–				
5. Numbers reversed	.34*	−.22	−.15	.12	–			
6. Short-term memory	−.09	.20	−.16	.20	.03	–		
7. Long-term memory	− .01	.01	−.02	.17	.21	.56**	–	
8. MoCA test	.19	.10	−.32*	.33	.41**	.22	−.16	–

Note. *N* = 43. Long-term group – seniors with long-term regular aerobic physical activity experience, who were also involved into competitive sports, recent group – seniors, who recently started doing regular physical activities, sedentary group – seniors who were not involved in regular physical activities. * indicates statistically significant correlation (*p* < .05).

DISCUSSION

The aim of this study was to examine the impact of long-term aerobic physical activities on memory. The amount of research on the impact of physical activity on cognitive functions is growing, now taking into consideration not only aerobic activity as the most suitable type of physical exercise for improvement or maintenance of cognitive function, but more and more taking into consideration strength training. Research also such encompassed such exercises as balance training that has been indicated to improve memory and spatial cognition (Rogge et al., 2017).

In the present study, we found no significant differences regarding the activity, the length of the activity; however, the mean results in all cognitive process measures were higher for the physically active groups, which complies with previous research on physical activity and its relationship with cognitive functions (e.g. Middleton, Barnes, Lui, & Yaffe, 2010). Relationship between the involvement in physical activity and memory measures were found only between long-term physical activity involvement and working memory measures. Research indicates that indeed involvement in aerobic physical activities can be beneficial in improving working memory (e.g. Voss et al., 2013). This might relate to the increase in grey matter volume in frontoparietal circuity, which is associated with working memory (Karlsgodt,

2015), and has been shown to increase after aerobic physical activity interventions (Erickson, Voss, Shaurya, Basak, & Szabo, 2011). There was negative relationship between sedentary lifestyle and overall cognitive assessment, which indicates that either short- or long-term involvement might be beneficial also for the overall cognitive processes.

As this is still a work in progress, the results should be considered only as possible tendencies, as the data analysis has so far been conducted on a very small sample, this being one of the main limitations. Another limitation is the lack of strong criteria for measuring retrospective physical activity, as the physical activity of participants vary across the physical exercise as well as other physical activities.

CONCLUSION

The results of the study indicate that longer involvement in physical activities might be more beneficial for working memory than short-term involvement or sedentary lifestyle; however, due to limitation and this being a work in progress, further research is still necessary to draw stronger conclusions. For future research it would be beneficial to develop means of measuring physical activity in retrospect.

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TECHNICAL ANALYSIS OF 12TH WORLD UNIVERSITIES WRESTLING CHAMPIONSHIP GRECO-ROMAN STYLE COMPETITION

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ABSTRACT

Background. The purpose of this study was to carry out technical analysis of the 12th World Universities Wrestling Championships Greco-Roman style competition.

Methods. There were 70 participants from 18 countries participating in Corum, Turkey. The observation form was prepared before the competitions and recorded by two researchers; technical analysis of the recordings was carried out. During the competitions, the scores obtained, warnings, winning types, successful techniques were recorded in the technical analysis form. In statistical analysis, the percentage distributions for each parameter and match percentage rates were calculated. Statistical analysis was performed by One Way ANOVA and LSD analysis of variance in group comparisons.

Results. In the championships all the wrestlers applied 341 technics and collected 535 points. The Light weight groups applied 157 technics and collected 245 points in the 36 matches. The most number of points were collected and made in the light weight group. The heavyweight groups applied 63 technics and collected 116 points in the 19 matches. The least number of points were collected and made in the heavyweight groups. There was a significant difference between the technical and score points according to weight groups ($p < .05$ and $p < .001$). The highest number of victories was taken (won by score) in the heavyweight group (83%); the highest number of victories was taken (won by technical pin) in the lightweight group (21%). The highest score was made with passive punishment point in lightweight group (28%), middleweight group (38%) and heavyweight group (33%). The highest scores in the second row were obtained from the techniques of snap down spin behind with (16%) at light weight, high dive takedown at 16.5% in middle weight, and move out of the mat and high dive takedown score at 22% in heavyweight groups. The ratio for one competition (ROC) was received by the number of technical 4.01 and 6.67 points.

Conclusion. As a result, the most effective technique in Greco-Roman style given by the referee was passive punishment point in all weight groups. In this case, the wrestlers need to be more active in the standing position around the zone area. In particular, it is suggested to fight tempo wrestling with their arms and chest by fighting against each other and struggle in the standing position.

Keywords: World Universities Wrestling, Greco-Roman style, competition analysis.

INTRODUCTION

Accomplishment in wrestling can be achieved by the transformation of some criteria to high performance that are physical and physiological power, technical ability, mentality tactics, experience and motivation.

Ability is so important and success is achieved by combining ability with mentality and force.

The countries have to protect and pay attention to wrestlers that have these characteristics. If coaches know the effective techniques and systems, they

can train their wrestlers better. Besides the physical and anthropometric characteristics, number and ratio of applied techniques in the competitions are important, too (Atan & Imamoglu, 2005; Kolukisa, Imamoglu, Ziyagil, & Kishali 2004a; Imamoglu, Atan, Kolukısa, Kaldırımcı, & Kishali, 2004; Kolukisa, Ziyagil, Imamoglu, & Kishali, 2004b).

Analysing the tendency of the development of wrestling in recent years, most of experts agree that for the development of wrestling, including it as the element of the program of the Olympic Games, it is necessary to make effort for the increase in effectiveness of wrestling duels at preservation of high intensity of fight throughout the whole fight (Sandberg & Bell, 2007; Vardar, Tezel, & Ozturk, 2007).

Ortega, Cardenas, Sainz De Baranda, and Palao (2006) contributed to the development and acquisition of information to improve the technical analysis of the competition. There are many indicators available for statistical analysis of sports performance. The estimates informed of the changes of the performances of the coaches and the athletes.

Mirvic, Kazazovic, and Aleksandrovic (2011) reported that after the events, feedback provided effective results in the use of positive transformations to improve performance of athletes. Mirvic et al. (2011) explained that this information gathered after the competition is open to discussing that objectively, validly and consistently, and developing new possibilities by analysing and evaluating the basic items of coaches and athletes.

The analysis of competition functions has become an urgent situation in modern developed wrestling. Furthermore, the maintenance of individual problems in training has always been an important study direction for researchers (Tropin, 2013; Ryan & Sampson, 2006).

Mizerski (1972) found that after the preparation period, sports events are a very important test area for athletes and coaches. At the end of the any training process the achievements are evaluated according to the results of the sports competition

This study's objective was to analyse Greco-Roman wrestling technique during a 2016 12th World Universities Wrestling Championship. The specific aims were to: (1) calculate tournament successful technique rates in Greco-Roman wrestlers; (2) characterize the general technique of Greco-Roman tournament; and (3) compare the past tournament techniques to new Greco-Roman tournament techniques.

LITERATURE REVIEW

International Wrestling Rules

Types of victories: A bout may be won:
(By "fall"), (by injury, withdrawal, default, disqualification of the opponent), (by technical superiority), (by points, winning by 1 point more at minimum after addition of the two periods)

In case of tie by points, the winner will be declared by successively considering: (The highest value of holds), (The least amount of cautions), (The last technical point(s) scored) (UWW, 2017).

A match ends by technical superiority (8 points difference in Greco Roman wrestling and 10 points difference in Freestyle wrestling) (UWW, 2017).

Grand Amplitude Throw: Any action or hold by a wrestler in the standing position that causes his opponent to lose all contact with the ground, controls him, makes him describe a broadly sweeping curve in the air, and brings him to the ground in a direct and immediate danger position shall be considered a "Grand Amplitude" throw.

In the "parterre" position, any complete lift from the ground executed by the attacking wrestler, whether the attacked wrestler lands in neutral position (4 points) or in a danger position (5 points), is also considered a grand amplitude throw (UWW, 2017).

Clarification for stepping out in standing wrestling for both styles:

- When the attacking wrestler is the first to step into the protection area in the commission of a hold, the following may occur:
- If the wrestler completes the hold successfully in a continuous action, he shall be awarded the requisite points 1, 2, 4 or 5 points.
- If the wrestler is unable to complete the hold successfully, after stopping the action the referee shall award his opponent 1 point.
- If the wrestler lifts and controls his opponent and he is unable to complete the hold in a continuous action, the referee shall stop the bout but not award his opponent 1 point (UWW, 2017).

Values assigned to the Actions and Holds
1 point
- To the wrestler whose opponent goes in the protection zone with one entire foot (in standing position) without executing a hold. Clarification for stepping out in standing wrestling for both styles:

- When the attacking wrestler is the first to step into the protection area in the commission of a hold, the following may occur:
- If the wrestler completes the hold successfully in a continuous action, he shall be awarded the requisite points – 1, 2, 4 or 5 points.
- If the wrestler is unable to complete the hold successfully, after stopping the action the referee shall award his opponent 1 point.
- If the wrestler lifts and controls his opponent and he is unable to complete the hold in a continuous action, the referee shall stop the bout but not award his opponent 1 point.

NB: When a wrestler deliberately pushes his opponent into the protection area with no meaningful action, he shall no longer be awarded 1 point. If he does it second time he will be penalized caution (0) and 2 points to opponent.

- All the stops of bout by injury without bleeding or any visible injury are penalized by 1 point to the opponent.
- To the wrestler whose opponent requested a challenge if initial decision is confirmed.
- To the opponent of a wrestler designated as passive who fails to score points during a 30 second activity period in Freestyle wrestling.
- Reversal (counter attack by dominated wrestler in parterre position and passing behind)

2 points

- To the wrestler who overcomes and then controls his opponent by passing behind (three points of contact: two arms and one knee or two knees and one arm or head).
- To the wrestler who applies a correct hold while standing on the mat or in the "parterre" position with three points of contact but who does not secure control by passing behind.
- To the wrestler who executes a hold that places his opponent's back at an angle of less than 90 degrees, including when his opponent is on one or two outstretched arms.
- To the wrestler who is prevented from completing a hold because his opponent is maintaining an irregular hold, but whom finally succeeds in completing the hold.
- To the attacking wrestler whose opponent flees the hold, the mat, refuses to start, commits illegal actions or acts of brutality.
- To the attacking wrestler whose opponent rolls onto his shoulders.

- To the attacking wrestler whose opponent flees the hold out-of-bounds and lands in a position of danger?
- To the attacking wrestler whose opponent commits an illegal hold that hinders the execution of an engaged hold or a fall
- To the wrestler who blocks his opponent in the execution of a hold from the standing position, in a position of danger.
- To the wrestler whose opponent, either top or bottom wrestler, refuses correct "parterre" position, in a position of danger

4 points

- To the wrestler performing a hold in a standing position, which brings his opponent into a danger position by direct projection over short amplitude.
- For any hold executed by raising a wrestler from the ground, over short amplitude, even if one or both of the attacking wrestler's knees are on the ground.
- To the wrestler who executes grand amplitude hold which does not place the opponent in a direct and immediate danger position.

5 points

- All grand amplitude throws executed in a standing position which brings the defending wrestler to a direct and immediate danger position.
- The hold executed by a wrestler in the "parterre" position who completely lifts his opponent off the ground with the execution of a high amplitude throw which projects the opponent into a direct and immediate danger position (UWW, 2017).

Procedure for enforcement of penalties for inactivity in Greco-Roman wrestling: Active Wrestling is defined by seeking contact with the opponent, hooking each other and trying to set up an attack. Both wrestlers are always encouraged to perform Active Wrestling.

If only one wrestler is performing Active Wrestling, he will be rewarded. In such cases, his opponent who is blocking and preventing Active Wrestling will be determined as passive and the appropriate passivity procedure takes place.

Ordered parterre for passivity is cancelled, and the following procedure will be enforced:

- First time issue a verbal warning to the passive wrestler by using UWW vocabulary without stopping the bout. No need to put a "V" on the score sheet

- Second time (P) same wrestler is passive, referee will give 1st passivity warning, again without stopping the bout
- Third time (P) when the same wrestler is passive, referee shall give 2nd passivity warning and 1 technical point to his opponent, again without stopping the bout.
- Every further two passivity will result in 1 technical point to the opponent, all without stopping the bout (UWW, 2017).

Passivity Zone (Orange zone): The passivity zone that is orange coloured is provided for the purpose of detecting the passive wrestler; it is also intended to help eliminate systematic wrestling on the edge of the mat and any departures from the wrestling area.

Any hold or action begun on the central wrestling area and ending within that zone are valid including position of danger, counterattack and fall (UWW, 2017).

METHODS

The 12th World Universities wrestling competitions were held in Corum / Turkey on 25-30 October 2016 with 70 participants from 18 countries (Hitit University, 2016). The competition technical analysis study covers a total of 85 competitions made in 8 kilo groups.

Researchers developed observation form and collected all the techniques made by wrestlers. In the championships 85 matches were recorded by 2 researchers on the observation form. All the data collected after the tournaments were processes using the SPSS statistical analysis for distribution of frequencies.

The developed observation form included the types of winning matches, points earned techniques, and techniques made on the ground and in the stands position, objections and received warnings.

World universities Greco-Roman competitions were held in 3 minutes of 2 periods. In the competitions, kilograms were grouped and distributed as 59, 66 and 71 kilos light weight, 75, 80 and 85 kilos medium weight and 98 weight and 130 kilos weight as heavy weight.

Analysis: The statistical analysis of the percentile distribution for each parameter and the percentages per game were performed. Statistical analysis of the data was performed using the SPSS 21.0 program. Statistical analysis was performed by One Way ANOVA (Post Hoc Multiple Comparisons) and LSD (Least Significant Difference) analysis of variance in group comparisons. Significance level was taken as $\alpha = .05$.

RESULTS

Table 1 presents the weights listed in groups as light, medium and heavyweight.

Table 1. **Distribution of kilo groups**

Kilograms	Groups
59 KG, 66 KG, 71 KG	Lightweight
75 KG, 80 KG, 85 KG	Middleweight
98 KG, 130 KG	Heavyweight

There was a significant difference between the technical and score points according to weight groups. Numbers of technical points for one competition between Weight Groups demonstrated differences ($p < .001$). Technics of Lightweight and Middleweight groups was higher than that in Heavyweight group. Ratio of received points for one competition between Weight Groups was different ($p < .05$). Points of Lightweight group are higher than that in Middleweight group (Table 2).

Table 2. **Distribution of technical and match numbers scored by each weight group**

Weight Groups	Number of technical points	Number of points scored	Number of matches by groups	Number of technical points for one competition	Ratio of received points for one competition
Lightweight (1)	157	245	36	4.36	6.81
Middleweight (2)	121	174	30	4.03	5.80
Heavyweight (3)	63	116	19	3.11	6.11
Total	341	535	85	4.01	6.29
F/LSD				10.55** 3 < 1.2	4.25* 1 > 2

In Figure 1, the technique with the highest score was the passive punishment points obtained by reducing the competitor to passive status at a rate of 28%. After all that with the order of the most point taken from 16% point from snap down technique and spin behind technique, 14% of the point taken from move out of the mat techniques.

In Figure 2, 79% lightweight wrestlers won by score, while 21% won by technical superiority. In these weight groups there were no winner by pin.

In Figure 3, the middleweight wrestlers had the highest score of 38% with a passive punishment point. Later on, the techniques were made with 16.5% high dive and takedown, 12% move out of the mat point techniques.

In Figure 4, 81% middleweight wrestlers won by score, while 15.5% won by the technical superiority and 3% won by the pin.

In Figure 5, the heavyweight wrestlers got the most points from 33% of the passive punishment point. After that orderly 22% each point got from move out of the mat and high dive takedown techniques made it.

In Figure 6, 83% heavyweight wrestlers won by the score, while 11% won by the pin and 5.5% won by the technical superiority.

In Figure 7, a total of 85 matches made in tournament, 56% of the objections made by the coaches to the arbitration committee were rejected while 44% were accepted.

Figure 1. **The percentage distribution of successful techniques made by lightweight wrestlers**

Figure 2. **The percentage distribution of lightweight wrestlers' winning types**

Figure 3. **The percentage distribution of successful techniques made by middleweight wrestlers**

Figure 4. **The percentage distribution of middleweight wrestlers' winning types**

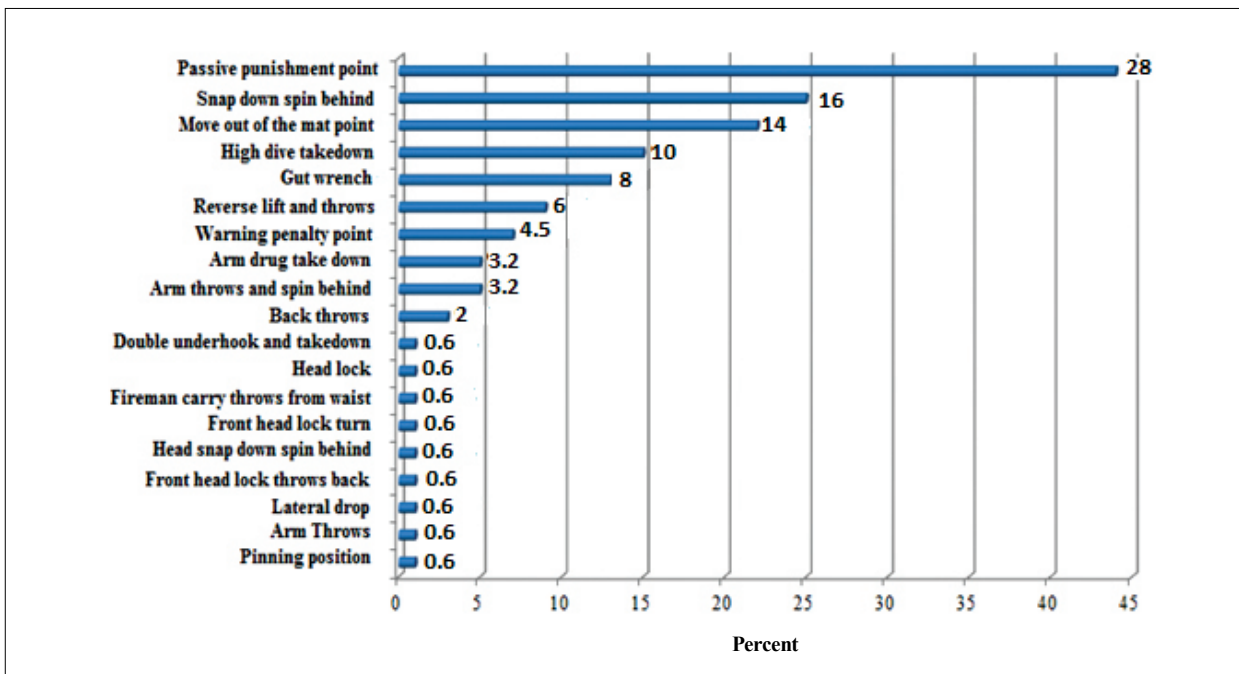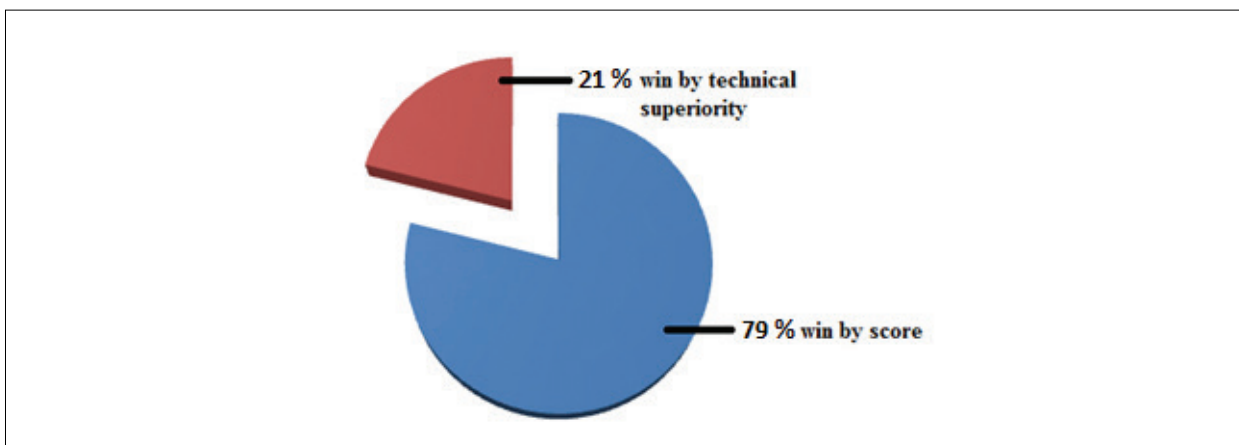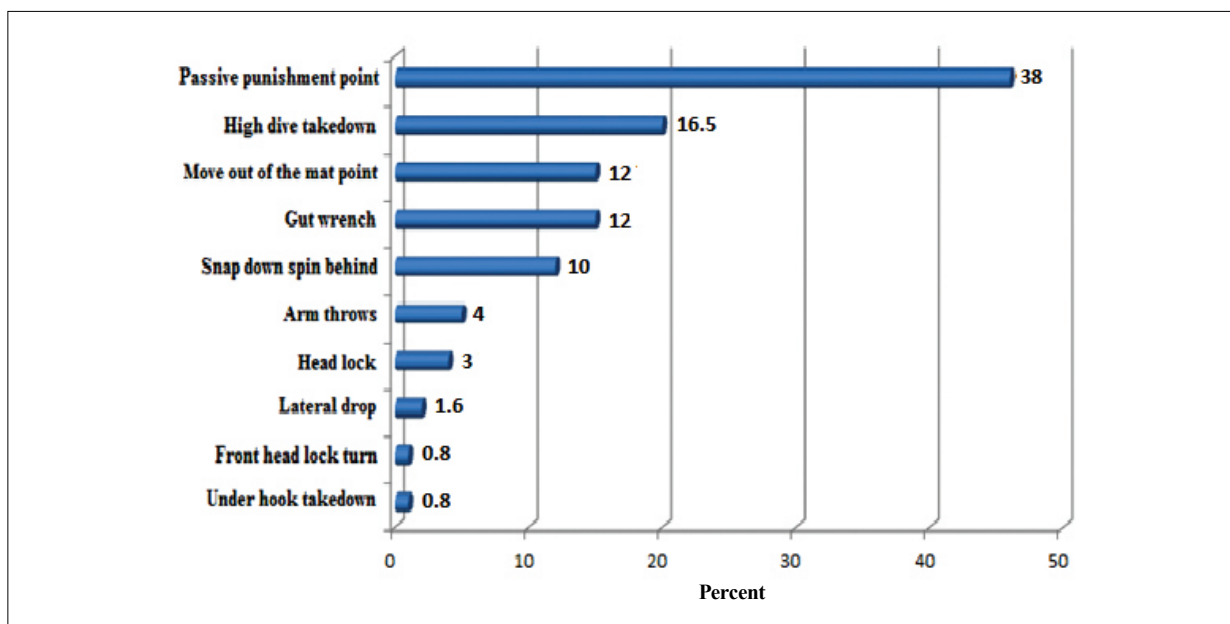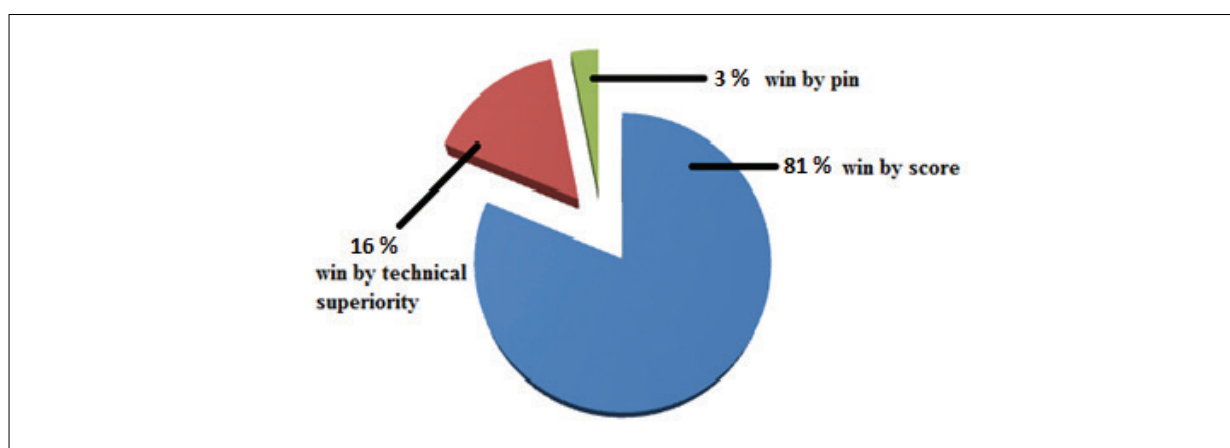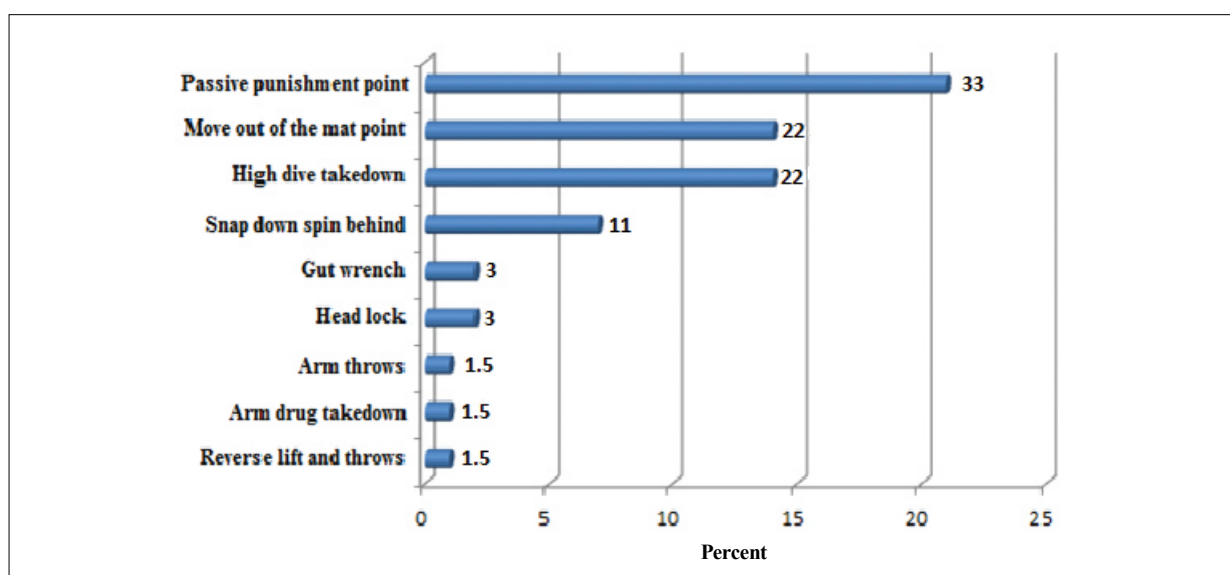
Figure 5. **The percentage distribution of successful technique made by heavyweight wrestlers'**

Figure 6. **The percentage distribution of heavyweight wrestlers' winning types**
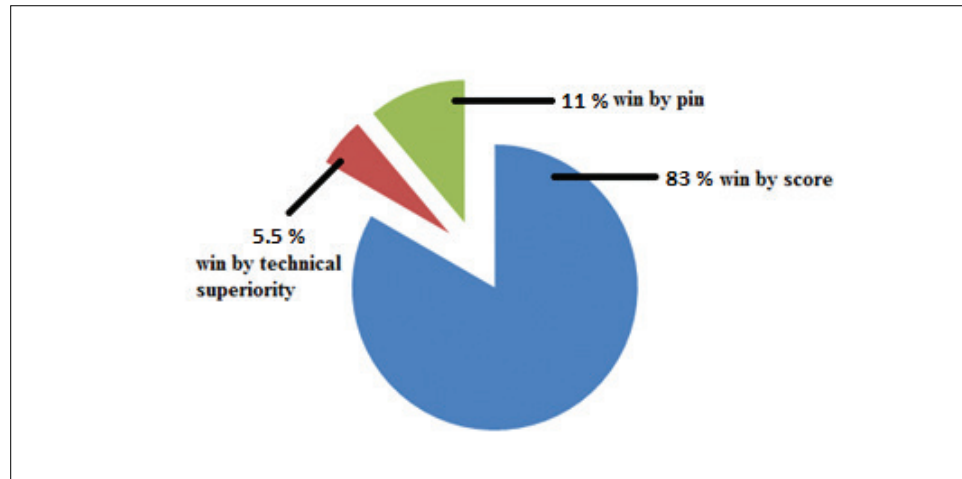
Figure 7. **The percentage distribution of coaches' total objections against the referee decisions**
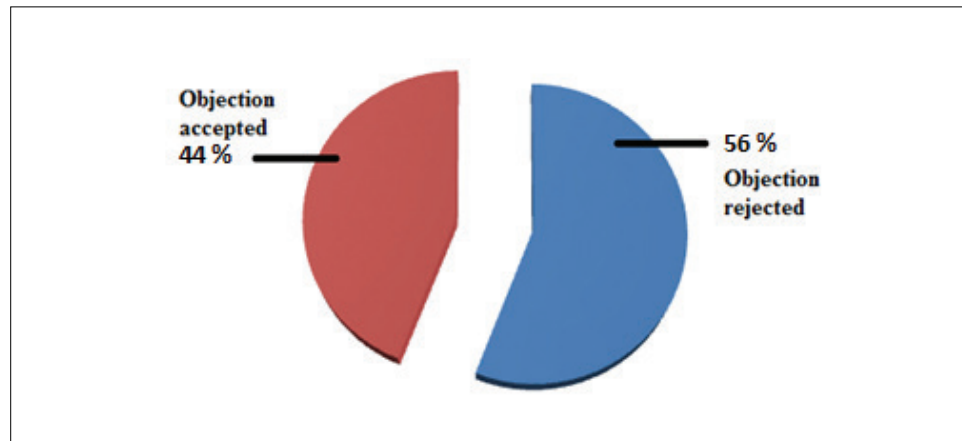
Table 3. **International Senior 12th World Universities Wrestling Championship GR Style ranking**

Rang	Equipe	130 KG	59 KG	66 KG	71 KG	75 KG	80 KG	85 KG	98 KG	TOTAL
1	TUR	6	8	10	8	8	9	7	10	66
2	BLR	9		9	10	6	8	9	8	59
3	IRI	8	9	8	8	8	6	6	6	59
4	RUS	8	6	1	6	2	8	8	8	47
5	HUN	10	3	3	3		10	10	6	45
6	POL	6	4	6	2	9	3			30
7	KGZ		10			10	4		3	27
8	KAZ	4	6		9					19
9	MDA		8	4		4			2	18
10	GER	4			4		6		4	18
11	GEO		2	8		6				16
12	AUT								9	9
13	UKR			2	6					8
14	FRA			6						6
15	GRE					3				3
16	ESP						2			2
17	EST									0
17	ROU									0

Reference: Turkish University Sport Federation (2016).

DISCUSSION

In this study, a significant difference was found between the technical and score points according to weight groups. The technics of Lightweight and Middleweight groups was higher than in Heavyweight group ($p < .001$). Points of Lightweight group were higher than those in Middleweight group ($p < .05$).

Imamoglu et al. (2004) analysed two European Junior Freestyle and Greco-Roman Wrestling Championships, and most of the Greco-Roman and the Free-Style competitions finished in official time and by points. In the free-style wrestling, the total of 1278 techniques (Ratio for One Competition: ROC: 5.58) were applied and 1951 points (ROC: 8.51) were taken: for one competition 0.32 passivity and 0.17 tying salto was performed. In the Greco-Roman wrestling, 1262 techniques (ROC: 4.53) were applied and 2114 points (ROC: 7.60) were taken: for one competition 0.33 passivity and 1.22 tying salto was performed.

Turkmen, Imamoglu, & Demirhan (2013) found that in 2013 Universiade Games in men's Greco-Roman and Freestyle wrestling, the numbers and victory were as 45.5% and technical victory was as 42.5% with 7 points difference. The point scored in the first circuit (round) of each match in freestyle was (Ratio for One Competition: ROC: 6.14), while in Greco-Roman style it was (ROC: 5.26). The points obtained in the second round of each match in freestyle were as 2.78, while in Greco-Roman style it was (ROC: 3.12). The total points obtained by the victors in Freestyle for each match was (ROC: 7.44) and the points obtained by the losers are (ROC: 1.89).

Kolukisa et al. (2004b) recorded 49 European Greco-Roman Wrestling Championships, and most of the Greco-Roman competitions finished in official time and by points in all weight categories. The most used techniques were found as respectively gut wrench, tying salto and warning point. In the Greco-Roman wrestling, there were taken a total of 1585 points, therefore the mean of total points was (Ratio for One Competition: ROC: 7.23).

Atan and Imamoglu (2005) recorded data from 46 World Greco-Roman Wrestling Championships and 35 World Free-Style Championships where most executed techniques were gut wrench (29.62%), tying salto (14.81%) and counter to gut wrench (9.25%) in the classifying Greco-Roman;

leg tackle (36.36%), gut wrench (16.66%) and head drug (12.12%) in the classifying free-style wrestling. In this study, the Greco roman wrestling total 341 techniques (Ratio for One Competition: ROC: 4.01) were applied with1951 points (ROC: 6.29).

Soyguden et al. (2015) reported that Turkish U-23 Greco-Roman wrestler techniques with the highest score taken on the Greco-Roman style were arm throws, head lock, move out of the mat, high dive and take down, snap down spin behind, throws, front throws and gut wrench techniques.

Soyguden, Toy, Hos, and Mumcu (2015) found that in Turkish U-23 Greco-Roman wrestler and this study Greco-Roman wrestling most technique performed 83% on the standing position and 17% technique on the ground position. At the 2011 World Senior Wrestling Championship in Greco-Roman style most technique performed 71% on the ground position and 29% technique performed on the standing position (Dokmanac, Karadzic, & Doder, 2012).

Mirzaei and Akbar (2008) found in their study with the elite Iranian Greco-Roman wrestlers, the Greco-Roman wrestlers scored the most points from the techniques of head lock, arm throws, under hook takedown, arm drug and gut wrench. Our study showed similar results but we found only the techniques of passive punishment point used by wrestler because of the Greco-Roman wrestling rules.

The review of Greco-Roman wrestlers' performances at Olympic Games 2008 and Olympic Games 2012 permits to make a conclusion that no matter how the level of technical preparedness is, how efficient technique is used by a wrestler, it is impossible to apply any technique without appropriate tactical preparedness. The rule changes our work often affect the technical and tactical work of the wrestlers (Tropin, 2013).

Atan and Imamoglu (2005) analysed data from 46 World Greco-Roman and in 35 World Free-Style Championships, most of the Greco-Roman and the Free-Style competitions finished in official time and by points in all weight categories.

In the head drug position more effective techniques have to be applied. According to the position, advantages and disadvantages of the techniques have to be taught to the wrestlers. The trainers can regulate the wrestlers' training

programs by considering the techniques used by the general, and also semi-finalist and champion wrestlers in the championships (Atan and Imamoglu, 2005).

It is connected with constantly growing competitiveness on the base of science and technical achievements' introduction into training process and with perfection of sportsmen's training methods (Hughes and Bartlett, 2002; Malkov, 2006).

It has been argued that some of the rule changes made to make wrestling more active may or may not bring benefits to the wrestling sport. Changes made on the Greco-Roman style are not welcomed by wrestlers. In this study, it seems that the result of the rule changes made the differentiation of the score techniques. It is connected with constantly increasing competition on the basis of introduction of achievements of science and technique in the training process and improvement of technique of training of sportsmen (Iermakov, Podrigalo, Romanenko, Tropin, & Boychenko, 2016; Tropin et al., 2016; Shatskikh, 2013; Bromber, Krawietz, & Petrov, 2014).

CONCLUSION

As a result, the most effective technique in Greco-Roman style given by the referee was passive punishment point in all weight groups. In this case, the wrestlers need to be more active in the bilateral struggle. In particular, it is suggested to fight tempo wrestling with their arms and chest by fighting against each other and struggle in the standing position.

We can see that study showed that most points were taken from the standing position and passive punishment points. Some changes in the rules of wrestling cause changes in the technical and tactical work of the wrestlers. Especially the changes made in the Greco-Roman style have had negative effects on the wrestlers. In the study we have done, this rule is seen from the points taken as the result of the changes.

Our result showed that passive punishment point was very effective in the Greco-Roman wrestling and we recommend to wrestling coaches that they should train wrestlers' passivity actions.

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MUSCLE OXYGENATION DURING EXERCISE IN PHYSICALLY ACTIVE AND OVERWEIGHT 6–19-YEAR-OLD CHILDREN

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ABSTRACT

Background. The purpose of our study was to compare muscle oxygenation during walking exercise in physically active, non-physically active normal weight and overweight 6–19- year-old children.

Methods. Twenty four normal weight, physically non-active (NPA), 27 normal weight physically active (PA) and 17 overweight (OW) 6–19-year-old children participated in this study. Muscle oxygenation was recorded by near infrared spectroscopy during constant (6 min, 6 km/h, 4% grade) and increasing walking exercise (modified Balke test). Heart rate was recorded using Polar system.

Results. Overweight children of all age groups demonstrated slower time constant of muscle oxygenation during constant walking exercise (37.2 ± 3 (6–10-year-old); 29.7 ± 2 (11–15-yr old), 33.4 ± 5.1 (16–19-year-old)) and lower threshold of oxygenation (TO) (84.3 ± 10.1, 104.5 ± 17.1, 188.5 ± 69.4 respectively) during increasing walking exercise as compared NPA (111.8 ± 13.7, 124.4 ± 29.8, 192.6 ± 84 respectively) and PA (106.2 ± 35.2; 122 ± 13.3; 340.8 ± 44.2 respectively) peers. The time constant of Deoxy-Hb during constant walking exercise was the shortest in PA (16.7 ± 2.3, 16.9 ± 2, 15.5 ± 4.7 respectively) in all age groups. The TO was higher in PA as compared to NW only in 16–19 years of age.

Conclusion. Muscle oxygenation during constant or increasing exercise is dependent on both body weight and physical activity status in 6–19-year-old children.

Keywords: muscle oxygenation, children, physical activity, overweight.

INDRODUCTION

More favorable biological cardiovascular disease risk-factor, such as low blood pressure, has association with psychological health, such as higher levels of self-esteem, and lower levels of anxiety and stress have associations with physical activity in young age. In childhood, physical activity maintains an appropriate bone strength, and it contributes to normal skeletal development (Van der Hors, Paw, Twisk, & Van Mechelen, 2007). Physical activity has positive influence on VO2 max and blood cholesterol (Dobbins, Husson, DeCorby, & LaRocca, 2013). Children display a faster exponential rise in the phase II pVO2 kinetics, which can be the rise in muscle O2 consumption during different intensity exercises (Armstrong, Tomkinson, & Ekelund, 2011). Fawkner, Armstrong, Potter, and Welsman (2002) reported faster VO_2 kinetics in children than adults. Some studies showed no difference in kinetics (Hebestreit, Kriemler, Hughson, & Bar-Or, 1998).

Even 49% of children are less physically active that 60 min per day nowadays (Harrison et al., 2017). Since physical activity is decreasing, overweight and obesity among adults and children are increasing. Pediatric obesity can harm multiple body systems: respiratory system, including pulmonary function, exercise intolerance, gas exchange, and airway musculature (Durbin et al., 2017). Maximum oxygen uptake ($\dot{V}O_2max$) may

not be achieved due to reduced motivation and peripheral fatigue among overweight and obese children (Dias et al., 2017). Ventilatory anaerobic threshold and maximal oxygen uptake related to body weight are lower in the obese than in normal weight 9–14-year-old children (Zanconato et al., 1989). The pulmonary oxygen uptake response is deleteriously influenced by obesity in prepubertal children (McNarry, Lambrick, Westrupp, & Faulkner, 2015). Obese children demonstrate significantly slower VO_2 kinetics compared to normal weight children during moderate- and heavy intensity exercise (Lambrick, Faulkner, Westrupp, & McNarry 2013).

Near-infrared spectroscopy (NIRS) has been used to determinate the concentration of light-absorbing chromophores (Ferreira, Hueber, & Barstow, 2007). NIRS is a noninvasive and direct method to determine oxygenation in tissue (Van Beekvelt, Colier, Wevers, & Van Engelen, 2001). Respiratory muscles deoxygenate during incremental exercise and ventilatory threshold can be determined by NIRS in children (Moalla, Dupont, Berthoin, & Ahmaidi, 2005).

The mean time response for muscle tissue deoxygenation is significantly faster in children than adults at the onset of high intensity exercise (Willcokcs, Williams, Barker, Fulford, & Armstrong, 2010). 13–17-year-old boys demonstrate significant changes in absolute hemoglobin concentrations and oxygenation in the exercising muscle during incremental cycling and post-exercise recovery (Ganesan et al., 2016). 9-year-old girls demonstrate an earlier change in [HHb] compared with same age boys during ramp incremental exercise (McNarry et al., 2015). Also, prepubertal, pubertal, postpubertal trained girls demonstrate a significant rightward shift in the sigmoidal response of [HHb] compared with untrained girls (McNarry et al., 2010). The muscle oxygenation and blood volume curves decreased immediately at the beginning of maximal voluntary isometric exercise among 12-year-old untrained children (Moalla, Merzouk, Costes, Tabka, & Ahmaidi, 2006). Also, Vandekerckhove, Coomans, Moerman, De Wolf, and Boone (2016) assessed muscle oxygenation responses and found that they undergo significant changes as work rate increases at high intensity and are strongly interrelated and associated with changes in pulmonary gas exchange.

Training-induced adaptation in aerobic fitness and muscle oxygenation among adults is carefully analyzed, but findings in children still are not clear. Muscle oxygenation in separate children age groups during different exercise load were investigated. No research investigating muscle oxygenation in 6–19-year-old physically active and overweight children was found.

The purpose of our study was to compare muscle oxygenation during treadmill exercise in physically active, non-physically active normal weight and overweight 6–19-year-old children.

METHODS

Participants. Twenty-four normal weight, physically non-active (NPA) 6–19-year-old, 27 normal weight physically active (PA) 6–19-year-old and 17 overweight (OW) 6–19-year-old children participated in this study. OW status was established using age, height and weight. Written informed consent was obtained from the parents and written assent – from the participants. The children were screened using international physical activity questionnaire (IPAQ). The causes which eliminate participants from research were: heart disease, diabetes, epilepsy, musculoskeletal problems.

Ethical approval for the research was obtained from Kaunas regional Ethics Committee.

Measurements. Participants height was measured using stadiometer to the nearest 0.01 m. Body mass was measured using body composition analyzer "TBF-300" (Japanese) to the nearest 0.1 kg beam. BMI was calculated body mass (kg) dividing by height squared (m^2).

Heart rate (HR) was measured with "Polar" system.

Muscles oxygenation was measured using a tissue near infrared spectrometer (NIRS) (Standard System Model 325, Hutchinson Technology). The detector for recording of infrared signal was placed on the left leg (m. vastus lateralis). Before applying the probes, the skin under the probes was shaved if it was necessary. The NIRS detector was fixed to the leg with black rubber holders and adhesive tape to minimize incidental movement. The muscle oxygenation measurements (oxygenized, deoxygenized and total hemoglobin) were collected continuously every 3–5 s throughout the entire protocol. The sample rate was set to 1Hz.

Table 1. **Participants' characteristics**

Years	NPA			PA			OW		
	6–10	11–15	16–19	6–10	11–15	16–19	6–10	11–15	16–19
Age (yr)	8.3 ± 1.96	11.16 ± 0.4	18.66 ± 0.89	9.37 ± 1.14	12 ± 1	19 ± 1	9 ± 0.6	13 ± 0.71	17.83 ± 1.47
Heigh (cm)	134.3 ± 24.1	150.83 ± 2.79	179.83 ± 12.9	142.25 ± 10.57	152.6 ± 6.1	184.66 ± 4.32	145.3 ± 8.1	164 ± 5.48	178.66 ± 4.97
Weight (kg)	34.3 ± 7.15	41.86 ± 5.06	69.74 ± 15.25	37.39 ± 7.02	42.8 ± 3.9	76.33 ± 7.12	46.16 ± 6.4	72.4 ± 7.54	91.5 ± 9.85
BMI (kg/m^2)	18.94 ± 1.2	17.75 ± 0.68	21.5 ± 1.02	18.35 ± 1.3	18.5 ± 1.56	22.4 ± 0.7	26.1 ± 1.44	26.7 ± 1.6	28.7 ± 1.25

Constant walking exercise. It was 6 min walking at 6 km/h speed and a 4% grade treadmill test. During each session StO2 data were collected at subject's rest and during walking (at 6 km/h and a 4% grade treadmill) for 6 minutes. The testing protocol was then started as follows: 1min baseline with participants standing on the treadmill; 3-min unloaded warm-up, participants slowly walked on treadmill (at 3 km/h, 0% grade); brake for 1 min (treadmill lifts up till 4% upgrade, speed increase till 6km/h, participants were standing on the sides of treadmill); participants were walking 6 min (at 6 km/h and 4% grade treadmill); participants were resting for 5 min in lying down position.

Increasing walking exercise. It was modified Balke test. Following a 1 min period of standing gas exchange, subjects began a step transition into a 3-minute stage at 3 km/h speed and 0% grade. The progressive protocol continued with a 4-min stage at 6 km/h and grade of treadmill was increased to 2, 4, 6, 8, 10% and so far till subject can continue. Subjects were verbally encouraged to give maximal effort during the test until volitional exhaustion was achieved. StO$_2$ data were collected at subjects during test and in resting.

Study design. Participants started the experimental procedure at least intense exercise for 24 h before testing. Participants had to come to laboratory 2 times.

Two consecutive walking exercises sessions (separated by 45 min) were performed on the first arrival.

Increasing walking exercise – Balke – was performed the next week after consecutive walking exercise (the second arrival time). Participants were walking on the treadmill at 6km/h speed, every minute treadmill angle was raising up 2 degrees during high intensity test. Subjects continued walking till exhaustion.

Data analysis. The kinetics deoxygenized hemoglobin (Deoxy-Hb) was assessed applying monoexponential equation Deoxy-Hb (t) = Deoxy-Hb (b) + A $(1 − e^{−t/τ})$, where Deoxy-Hb (t) is the Deoxy-Hb at any time point; ˙Deoxy-Hb (b) is the baseline Deoxy-Hb at rest (standing); A is the amplitude of Deoxy-HB response, and $(1 − e^{−t/τ})$ is the exponential function describing the rate at which Deoxy-Hb is rising towards the amplitude. In the exponential function, t is time; τ is the time constant.

Threshold of muscle oxygenation (TO) was calculated analysing relationship between Deoxy-Hb and walking power during increasing walking exercise. The power at which Deoxy-Hb started to decrease was considered as TO.

Statistical analysis. All statistical analyses were performed using SPSS version 22.0. All values were expressed as mean ± standard deviation. Comparison of threshold of oxygenation, muscle oxygenation time constant and HR were analyzed by nonparametric data analyze Mann - Whitney Test. Significance was accepted at $p < .05$.

RESULTS

Time constant kinetics of Deoxy-Hb during constant walking exercise was significantly different ($p < .05$) among all age groups: 6–10-year-old group PA (16.7 ± 2.3) NPA (21.7 ± 1.5), OW (37.2 ± 3.1); 11–15-year-old group PA (16.9 ± 2), NPA (20.2 ± 1.3), OW (29.7 ± 2.8), 16–19-year-old group PA (15.5 ± 4.7), NPA (19.9 ± 2.3), OW (33.4 ± 5.1) (Figure 1).

TO during increasing walking exercise was significantly different between 6–10-year-old PA (106.2 ± 35.2) and OW (84.3 ± 10.1) groups and between NPA (111.8 ± 13.7) and OW (84.3 ± 10.1) groups ($p < .05$), between 11–15-year-old PA (122 ±

13.3) and OW (104.5 ± 17.1) groups and between NPA (124.4 ± 29.8) and OW (104.5 ± 17.1) groups ($p < .05$), between 16–19-year-old PA (340.8 ± 44.2) and OW (188.5 ± 69.4) groups and PA (340.8 ± 44.2) and NPA (192.6 ± 84) groups ($p < .05$). There were no significant differences in TO between 6–10-year-old PA (106.2 ± 35.2) and NPA (111.8 ± 13.7) groups, 11–15-year-old PA (122 ± 13.3) and NPA (124.4 ± 29.8) and 16–19-year-old OW (188.5 ± 69.4) and NPA (192.6 ± 84) groups ($p > .05$) (Figure 2).

Relative threshold of muscle oxygenation (RTO) during increasing walking exercise was significant different ($p < .05$) between NPA (3.25 ± 0.7) and OW (1.49 ± 0.45), PA (2.84 ± 0.56) and OW (1.49 ± 0.45) in 6–10-year-old group, between NPA (2.97 ± 0.54) and OW (1.82 ± 0.45), PA (3.06 ± 0.23) and OW (1.82 ± 0.45) in 11–15-year-old group, between NPA (2.76 ± 0.65) and OW (2.06 ± 0.43), PA (4.46 ± 0.75) and OW (2.06 ± 0.43), NPA (2.76 ± 0.65) and PA (4.46 ± 0.75) in 16–19-year-old group. There was no significant difference ($p > .05$) between NPA (3.25 ± 0.7) and PA (2.84 ± 0.56) in 6–10-year-old group, between NPA (2.97 ± 0.54) and PA (3.06 ± 0.23) in 11–15-year-old group (Figure 3).

Heart rates during increasing walking exercise in NPA, PA and OW groups were not significantly different ($p > .05$) (Figure 4).
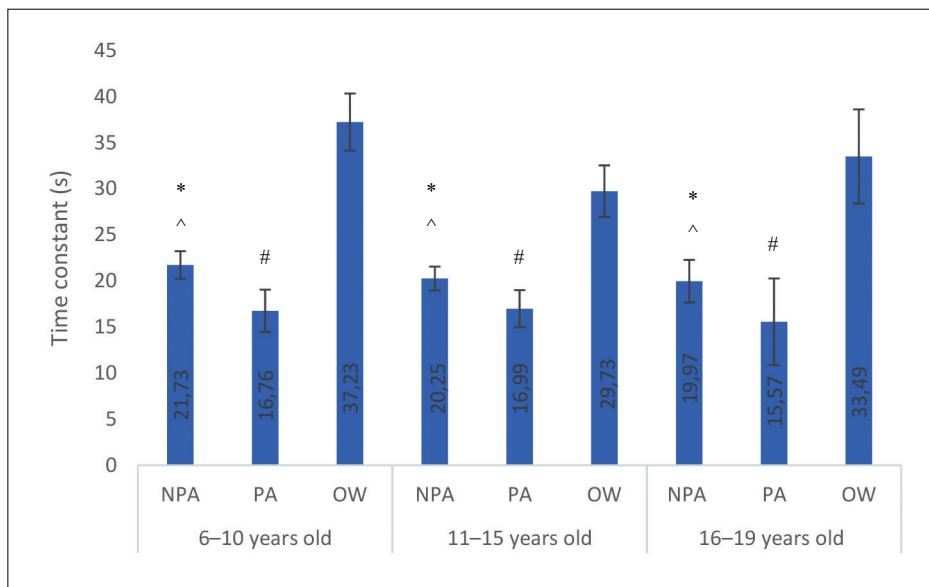
Figure 1. **Time constant of muscle oxygenation kinetics during constant walking exercise in non-physically active (NPA), physically active (PA) and overweight (OW) 6–19-year-old children**

Note. * significant difference between NPA and OW ($p < .05$), # significant difference between PA and OW ($p < .05$), ^ significant difference between NPA and PA ($p < .05$).

Figure 2. **Threshold of muscle oxygenation during increasing walking exercise in non-physically active (NPA), physically active (PA) and overweight (OW) 6–19-year-old children**

Note. * significant difference between NPA and OW ($p < .05$), # significant difference between PA and OW ($p < .05$), ^ significant difference between NPA and PA ($p < .05$).

Figure 3. **Relative threshold of muscle oxygenation during increasing walking exercise among non-physically active (NPA), physically active (PA) and overweight (OW) 6–19-year-old children.**

Note. * significant difference between NPA and OW ($p < .05$), # significant difference between PA and OW ($p < .05$), ^ significant difference between NPA and PA ($p < .05$).
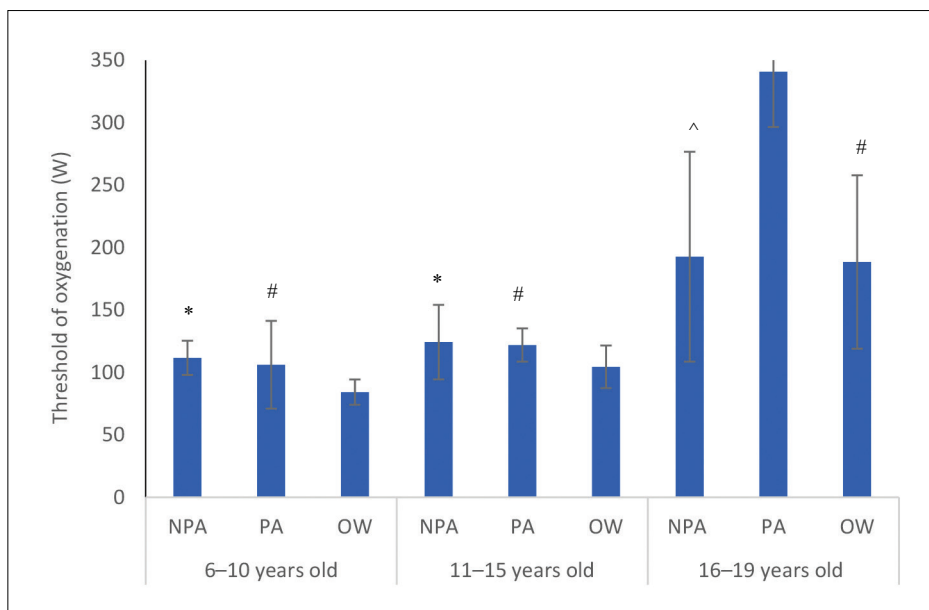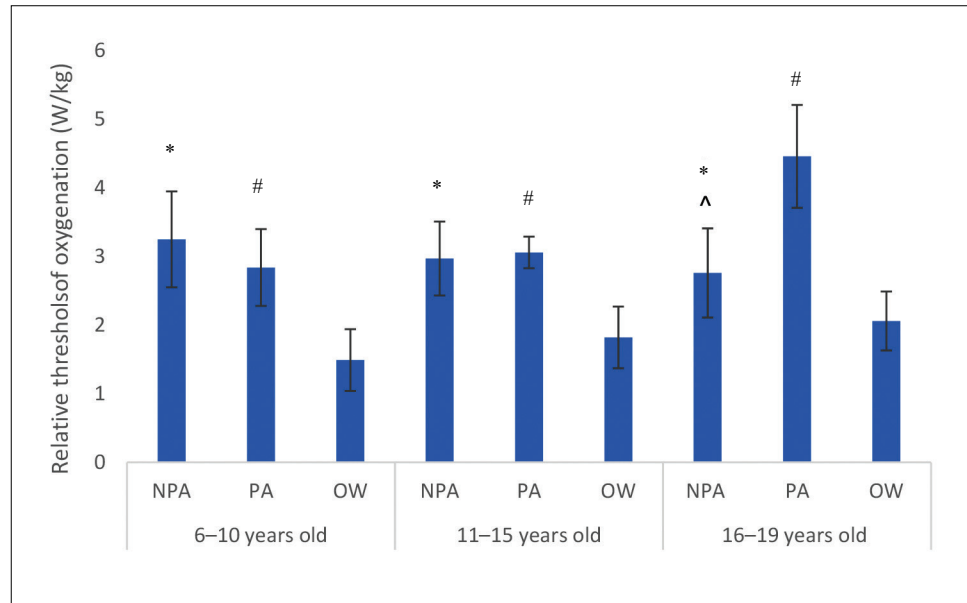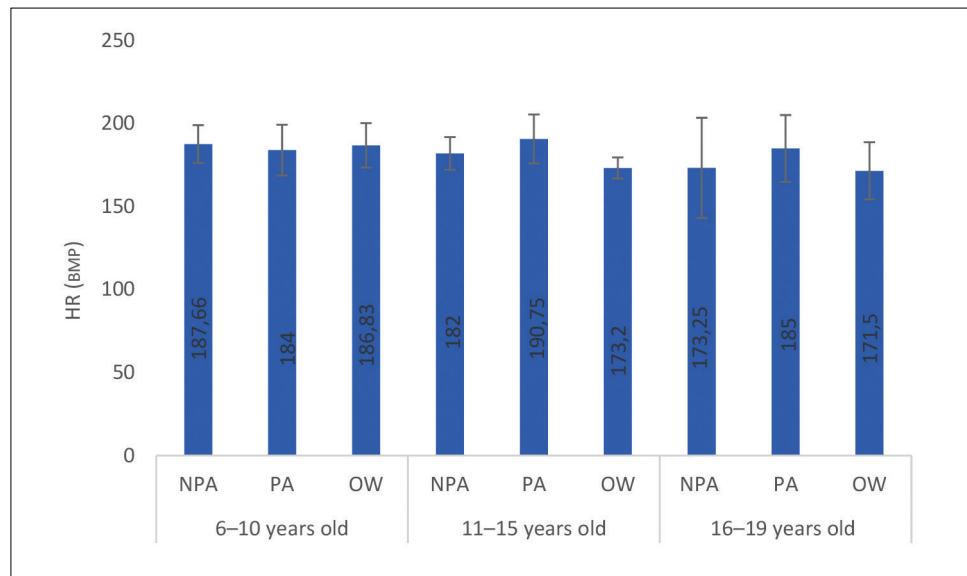
Figure 4. **Heart rates during increasing walking exercise in non-physically active (NPA), physically active (PA) and overweight (OW) 6–19-year-old children**

DISCUSSION

Our findings confirm slower muscle oxygenation and faster peripheral fatigue among overweight and non-physically active children of 6–19-year-olds compared with physically active children of the same age. Similar findings were detected by other researchers: Breese with coworkers (2010) found that high – intensity exercises have influence not only on slower phase II τ and a greater pVO_2 slower component but also hypothesized about age dependent change in muscles and mitochondrial oxidation and differences in muscle fiber recruitment patterns. It is known that trained adults and children have more developed muscles. This leads to the bigger number of mitochondrias, therefore physically active children demonstrate slower peripheral fatigue compared with non-physically active children. Our findings demonstrate faster changes in [HHb] among 6–19-year-old physically active children compared with same age non-physically active children and overweight children.

Since the capacity of sustainable exercise depends on supplying the contrasting muscle with O2 in proportion to their metabolic requirements

(Okushima et al., 2015), physically active children demonstrate better endurance compared with overweight or physically non-active children.

Our research involved children of various ages (6–19 years old), some results might be and are influenced by puberty. The peak VO_2 increases with age and maturation. The responses of the components of aerobic fitness vary in relation to age and maturation during youth. Physically active children demonstrate higher peak VO_2, a faster primary time constant at the same relative exercise intensity compared with same age physically non-active and overweight peers. Our findings are in agreement with those of Armstrong et al. (2011) and McNarry et al. (2012).

Since we did not find any research in muscle oxygenation changes among overweight or obese children and it is confirmed that NIRS significantly positively correlate with peak VO_2, so we can compare our findings with those of other researchers who evaluated oxygen uptake differences among overweight children. Overweight children demonstrated the worst muscle oxygenation in all age groups compared with physically active and non-physically active children. Since ventilatory threshold could be determined by NIRS (Moalla et al., 2005) our findings are supported by Lambrick and colleagues' (2013) findings that pre-pubertal obese children during moderate and high intensity treadmill exercise demonstrated significantly worse results. During moderate intensity exercise, the phase II τ, mean response time, phase II gain and oxygen deficit were significantly higher in the obese children. During high intensity exercise, the τ and phase II gains were similarly higher in the obese children.

Ratel and Blazevich (2017) state that prepubertal children were metabolically comparable to well-trained adult endurance athletes because of faster contribution of energy delivery from aerobic metabolism in working out muscle and reduced susceptibility to muscular fatigue. The results of our research support Ratel and Blazevich (2017), there were no significantly different results in muscle oxygenation among 6–10-year-old non-physically active and 6–10-year-old physically active children, as well as among 11–15-year-old non-physically active and 11–15-year-old physically active children.

Heart rate was not significantly different among physically active, non-physically active and overweight children of 6–19-year-olds. Mean of heart rate was similar in all groups. It might be because overweight children got tired very fast, physically active children completed high intensity treadmill test, but did not reach the maximal heart rate. Our findings agree with those of Cheatham, Mahon, Brown, and Bolster (2000) who found out that responses of cardiovascular system were similar among boys (10–13 yr) and men (18–25 yr). We did not find research to confirm or deny our findings in children population, but Gayda et al. (2017) found that obese adults have a lower VO_2 peak and muscle oxygenation, higher systolic blood pressure compared to non-obese peers during maximal cardiopulmonary exercise testing on ergo cycle. The reason of lower VO_2 and muscle oxygenation possibly is a lower mitochondrial density/function, oxygen transport capacity and to endothelial dysfunction. These findings demonstrate risks that overweight, obesity and physical inactivity can have consequences for overweight and non-physically children and adolescents in the future.

Time constant was significantly different among children of different age and fitness. Physically active participants demonstrated faster mean response time of muscle deoxyhemoglobin compared with physically non-active and overweight children. Our findings agree with those of Marwood, Roche, Garrard, & Unnithan (2011), who assessed trained and untrained 15-year-old young males. Researchers found that trained subjects demonstrated faster mean response time of muscle deoxygenation compared with untrained individuals in exercise at a workload equivalent to 80% lactate threshold (trained 24.2 ± 9.2 s vs. untrained 34 ± 13 s). Our findings demonstrate that in all age groups (6–10, 11–15, 16–19 yr) the slowest mean response time of muscle deoxygenation was in overweight children groups. Obesity and overweight can affect respiratory system by several mechanisms: direct effect of fat in the chest wall, abdomen reduces lung volume, particularly expiratory reserve volume and causes structural changes (Brazzale, Pretto, & Schachter, 2015).

CONCUSION

Muscle oxygenation during constant or increasing exercise is dependent on both body weight and physical activity status in 6–19- year-old children.

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QUALITATIVE INVESTIGATION OF COACHES' PERSPECTIVES ON MORAL EDUCATION IN SPORT

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ABSTRACT

Background. Moral behaviour and moral education of young athletes still remain an important issue in sports context. This study was designed to examine coaches' perspectives on moral education in sport.

Methods. In this study, aiming at establishing the perspectives of coaches on the moral education of athletes in sports activities, qualitative research was selected. Primary data were collected via semi-structured interviews with nine basketball and football coaches of different experience and age. The data were analysed applying thematic analysis.

Results. Thematic analysis indicated that coaches identified goals of athletes' education as the development of athletes' personality, motivation, the development of sports excellence and the encouragement to achieve victory. Coaches defined moral education as the development of the authority of an athlete, fair play, compliance with rules, and integrity. The most common means coaches used for moral education were explanation, discussion, lectures, meetings, personal examples, case analyses. Such means are important for athlete's personal development, pursuit of results, and career planning. The qualities of good coach were professional knowledge, authority, competences of creating motivational climate, and also moral competences.

Conclusion. A central finding of the study is that coaches define moral education in sport through the education of moral values and the goals set by coaches related not only to the sports results, but also to the development of the personality of athletes. Personal role of coaches in moral education encompassing professional knowledge and moral competences of athletes is of great importance.

Keywords: morality in sport, moral values, coaches' role, athletes' education.

INTRODUCTION

A number of scholars emphasize that sports activities are one of the most influencing and significant factors playing an important role in the development of personality traits, value orientations (Moreno & Cervello, 2005; Popescu, 2012), positive youth development (Holt et al., 2017). Thus, the close relationship between sport activities and moral education is quite reasonable (Hardman, Jones, & Jones, 2010). Moral education of athletes is important not only for internalization of moral values and models of moral conduct. Recent findings indicate that athletes' moral behaviour also positively relate to their effort, perceived performance, and enjoyment (Al-Yaaribi,

Kavussanu, & Ring, 2016). However, the moral values grounding athletes' education basically depend on the coach (Pelaez, Aulls, & Bacon, 2016). Besides, athletes also tend to embrace the values and behaviours that are provided by the coach (BergmannDrewe, 1999). Thus, the moral education of athletes depends on the favourable athletic environment developed by the coach and their relationships with athletes, which is special in that they can, to a certain extent, replace relationships with parents (Holt & Knight, 2014).

It should be noted that issues of athletes' moral behaviour and its determining factors related to coach's behaviour have been widely researched.

The investigation of coach character-building effectiveness and competency showed that rugby players who perceived that their coach was effective and competent in instilling an attitude of good moral character, fair play, and respect for others, and in promoting good sportspersonship, were more likely to report prosocial behaviour (Boardley & Kavussanu, 2009; Boardley, Kavussanu, & Ring, 2008). The analysis of coaches' fair play attitudes revealed that adolescent soccer players who perceived their coach as having fair play attitudes were less likely to engage in antisocial behaviour while playing soccer (Rutten et al., 2008).

A number of studies investigated motivational climate and athletes' moral behaviour. Results of these studies suggest that performance climate is related to adolescent athletes' antisocial behaviour (Bortoli, Messina, Zorba, & Robazza, 2012; Sánchez-Miguel, Amado, & García-Calvo, 2012) and perceived mastery climate is associated with athletes' sportspersonship (Ntoumanis, Taylor, & Thøgersen-Ntoumani, 2012). Boardley and Kavussanu (2009) also indicated that coaches created a task-involving climate, which was associated with prosocial behaviour. A coach can structure the sports environment to be either autonomy supportive or controlling. As autonomy motivation has been shown to be positively associated with moral behaviour (Winstein & Ryan, 2010), studies in sport found that autonomy-supportive coaching style related to prosocial behaviour of athletes (Hodge & Lonsdale, 2011).

Prevailing studies exploring the moral behaviour of athletes are quantitative. It is worth mentioning only a few qualitative studies that explain the moral disengagement mechanisms athletes use when they engage in antisocial behaviours in soccer (Traclet, Romand, Moret, & Kavussanu, 2011). Bruner and colleagues (2016), applying stimulated recall interview, explored the importance of prosocial intra-team behaviour to their social identity in sport.

The morality and moral education from coaches' perspectives have not been widely investigated. Romand and Pantaleon (2007) analysed rugby coaches' attitudes toward the values they tried to teach their players, means they used to teach game rules, and prosocial norms. The data obtained during the interview revealed the complexity of the coach's role during the training sessions and the controversy between what they say and do. Rudd and Mondello's (2006) study examined how 12 head coaches of individual and team sports defined character. Findings from this study showed that most coaches defined character with a combination of moral and social values. On the other hand, the definitions given by coaches were too general, lacking specificity. Another study by Pelaez, Aulls and Bacon (2016) examined the perspectives on morality in sport of coaches of different gender, level of competition and sports. It was found that the coach perceived morality in two ways: from the moral perspective (distinction between right and wrong, doing what is right) and from the social perspective which dealt with issues that enhanced and facilitated sport involvement and pertained to the domain of team dynamics. The aforementioned studies revealed that coaches struggled to define morality in sport, and it was easier for them to describe not their own moral behaviour but that of others. It should be noted that previous studies did not deal much with the perspectives of coaches about moral education in the context of athletes' goals. Coaches also value the benefits of moral education in sport for athletes themselves. So the complexity of defining morality encourages further research by exploring coaches' perspectives on moral education in sport. Taken together, most previous studies revealed links between coaching characteristics and moral behaviour of athletes. In order to increase our understanding of moral education in sport and to address the limitation of previous questionnaire-based studies (e.g., not capturing the perception of moral education itself), and few qualitative studies, in this study we used qualitative methodology to examine coaches' perspectives on moral education in sport.

METHODS

Study overview. In this study, aiming at establishing the perspectives of coaches on the moral education of athletes in sports activities, qualitative research was selected. Semi-structured interviews were applied to coaches of various experience and age.

Participants. Purposeful sampling was applied to select coaches of team sports for the study. One woman and eight men aged between 22 and 50 participated in the research ($M = 33.4$). The coaches' work experience was from 4 to 17 years ($M = 7.6$). Two coaches were training professional basketball teams participating in the highest national leagues, one coach was training a basketball team of adult

men, another one – adolescent football team, four informants were working with pre-school (4–6 years) and school (7–18 years old) basketball teams, and another one was working with both children and adult basketball teams. Eight coaches had higher education, and one was studying in the last year at university.

Data collection. Semi-structured interviews were used to collect the study data. The choice of the method of semi-structured interviewing was determined by its immediacy, flexibility, the ability to collect data from a small group of informants, use of wider research questions and reveal social reality from the point of view of the research participants. As Sparkes and Smith (2014) suggest, "*Although researchers do not ask the questions in the same way or form to each participant, the relatively tight structure allows them to collect the important information about the topic of interest while giving the participants the opportunity to report on their own thoughts and feelings*" (p. 84). Thus, the chosen research method has the following advantages: it gives more freedom to the research participants than a structured interview; it provides the respondents with a certain degree of flexibility in expressing their thoughts, feelings and opinions; the informant can reveal more of the meanings associated with his or her experiences and thus allow the investigator to get to know them more deeply than this could be achieved through a structured interview (Sparkes & Smith, 2014). Preliminary interview questions for the respondents were prepared, first of all asking the respondents to tell about themselves aiming at collecting socio-demographic data. After that, they were asked to tell if they were satisfied with their profession, what goals of their own as a coach they set to educate athletes, and what kind of goals athletes set for themselves. Further coaches were asked about moral education in sport, honourable behaviour, a good coach.

Procedures. The second author conducted individual interviews with each coach lasting between 20 and 70 minutes. The interview was designed to facilitate participants' ability to discuss their perspectives about moral education in sports. At the beginning of the interview participants were reminded of the study purposes and were asked for permission to record the interviews.

Data analyses. The interview data were analysed using the methodology of thematic analysis, which is a widely-used qualitative data analysis method. The purpose of thematic analysis is to identify patterns of meaning across a dataset that provide an answer to the research question being addressed (Braun & Clarke, 2006). Thematic analysis was also chosen because it is particularly appropriate when research questions relate to people's opinions, attitudes about something or personal experiences. The thematic analysis includes the steps that were followed in analysing the data of this study. Firstly, researchers were familiarized with the transcribed data, which were read several times, and the preliminary ideas were marked. Subsequently, meaningful units were coded. Attempts were made to highlight as many code as possible. Later we searched for links between individual codes, non-linking codes are grouped into themes. At this stage, the first and the second authors analysed the data separately. After that, the themes were reviewed, some were merged, evaluated how they fitted with all data. Subsequently, the codes constituting the distinguished themes and sub-themes were reviewed giving labels to them. At this stage, the study was joined by the third author, who reviewed the emerging themes and sub-themes and evaluated how much they revealed a certain story related to the coaches' opinions on moral education in sports activities. In the last stage, the research data were described. In describing them, the most specific informants' citations depicting certain themes and sub-themes were selected.

Trustworthiness. In order to ensure the quality of the data, the study included coaches with different work experience, which allowed a wider range of opinions on how moral behaviour could be developed in sports activities. The audio-recorded conversations made it possible to analyse the exact statements of the informants. On the other hand, in case of uncertainty, the data obtained during the interviews were revised for the second time. Verification of data by the research participants was used, i.e. in case of doubt, the text was presented to the interview participants for consultation if they agreed with it. For data transferability and repeatability, we aimed at describing the process of data collection, processing and analysis in detail (Creswell, 2009).

RESULTS

The analysis of research results while examining the coaches' opinions on moral education in sports activities revealed the themes and sub-themes

about the goals set in sport activities, the concept of moral education and fair play, dishonest behaviour in sports activities, moral education measures and their impact on learners, as well as the qualities of a good coach.

The goals pursued by coaches in the process of education and the goals of athletes in sports activities. According to the informants' responses reflecting their opinions on the goals in the education process, four themes were identified covering such goals pursued by educating athletes as the *development of athletes' personality, motivation, the development of sports mastery and the encouragement to achieve victory* (Table 1).

The interview data showed that the coaches in setting their goals related to the development of the personality of the students seek to develop their social skills and moral values. Among social skills, communication, teamwork, self-confidence and trust in team members were particularly emphasized. This is especially important in team sport aiming at achieving sports results and becoming more resistant to failures: *"...while communicating they are learning to work in a team; on the other hand, communication helps them make friends, when communicating they improve their*

image, feel significant and at the same time realize their personal aspirations". The coaches mentioned that it was important to develop moral values such as responsibility and respect: *"in sport it is also very important to be polite, tolerant, and resolve disputes without violence and aggression <...>. It is important to feel responsibility for yourself, your actions, discipline"*. It is also important to convey the knowledge and skills as well as their experience to the learners, thus enhancing their motivation for sports: *"I am trying to get children interested in basketball as much as I am interested in it as well as the bigger part of Lithuania so that they will love basketball as I love basketball"*. Two informants noted that it is important to develop athletes' life skills: *"they need to be taught from an early age so that they could adapt to the modern world"*.

Among the goals mentioned above, there were the desire to develop sport skills in teaching sports techniques and tactics and the ability to make the necessary decisions in the match. As one informant pointed out, *"it's important for them to convey all the subtleties of sport when working with children"*. The coaches also mentioned the importance of psychological training for athletes. According to one informant: *"the coach's duty is to teach*

Coaches' goals		Coaches' approach to athletes' goals
Theme	**Subtheme**	**Subtheme**
Personality education	Education of moral values *("<...> educate as personalities – honest, strong ...morally")* Development of social skills *("<...> to teach self-esteem, so that they did not give up")* Development of life skills *("<...>prepare them for life")*	**Children sport** — Feeling joy *("<...>feel the pleasure"; "<...>experience good emotions")* Active leisure time *("<...>sport also means a healthy lifestyle")*
Motivation	Arousing interest in sport *("<...>it is important to make them interested in sport...> ")*	Competition *("Achieve the highest possible athletic performance". „<...> want to be champions")*
Education of excellence	Development of mental skills *("Most important is <...> teach them teamwork, teach how to manage emotions, trust teammates and themselves")* Development of competitive skills *("<...> to teach sports subtleties, techniques, tactics")*	**Adult sport** — Material well-being *("<...>there is no longer such an aspiration as high goals". "<...>athletes become consumer personalities")*
The pursuit of victory	The top pursuit *("<...>squeeze out the maximum from themselves and the team to win every match")*	Achievements and career *("To achieve the highest possible sports results thinking about the career")*

Table 1. **Coaches' approach to their goals and the goals of athletes in their sports activities**

athletes not to give up while training or during the tournament". Besides, the latter objectives relate to the goal of achieving the highest sports results. It is worth mentioning that the goals related to personal development and motivation were more emphasized by the coaching staff for younger children, and the development of excellence and maximizing the results, seeking victories – coaches working with older and adult athletes.

The goals of the athletes mentioned by the coaches are partly in line with their own expectations (Table 1). According to the coaches, athletes seek goals related to both internal and external motivation. Sport for children is active leisure and occupation, social self-realization, experience of positive emotions or joy: *"For kids, sport is primarily a game, have fun, spending time in a "cool" way"*. All informants draw attention to the importance of children's social recognition as a goal of participation in sport: *"They aim show off, make as many shots as possible or just want to be part of a team"* We observed that coaches who trained older children emphasized the athletes' desire to win. The study also revealed another important goal for athletes - seeking career and material well-being. As one coach said: *"As a coach with many years of experience, I can say that today's athletes are practicing sports without an idea or purpose, but in order to gain more financial advantage. There is no longer such an aspiration as high level goals"*.

The concept of moral education. The study revealed how coaches perceived moral education in sport (Table 2). Coaches defined moral education through such moral values as the development of the authority of an athlete, respect for fair play, compliance with rules, and integrity. At the same time, it was observed that they were trying to shift responsibility of moral education to parents, indicating that the family played the leading role in the formation and development of moral values in young athletes *("The most important values, including moral ones, athletes bring from the family", "in education, the coach plays a very important role but after the family")* as well as the school *("First of all, children are morally educated at school, where they get the basics")*, but only then the sports coach. Thus, athletes already bring certain values from the immediate environment – parents, teachers and friends, which are deep-rooted in sports activities, or athletes develop new

values, i.e. sport provides opportunities for wider expressions of moral values. As coaches link moral education with value education, the study allowed their perspectives to be interpreted about what specific values are important in training athletes (Table 2). The table shows that respect, honesty, and justice were mentioned. However, the coaches also reveal the reasons why it is important to nurture these values in particular. For example, development of respect for each other makes it possible to achieve team awareness: *"the team is like a fist, all its members are equal"*. This is related to the pursuit of team spirit and, at the same time, to the promotion of affection to the sport itself. On the other hand, the values and attention to be developed must be constantly considered. As one coach posted, values must be "inventoried", reviewed: *"here we could compare the athlete with the flower. If the flower is honestly watered every day, it grows green and nurtures. If the players take care of themselves, "water themselves", they will improve"*. In addition, existing differences between generations can be challenging when developing certain values in sports activities: *"a modern athlete comes with altered moral values. For example, respect for an adult is already understood differently"*.

The concept of Fair Play. In defining moral education, coaches often mention respect, honourable behaviour, fair play. Therefore, the data revealed how the coaches understood fair play. In addition, during their interviews, their attitudes towards dishonest behaviour were also highlighted (Table 3). Coaches linked fair play with honesty, justice and respect for others and sport. Thus, fair play was associated with a friendly contest. The concept of respect for others and the sport itself was not perceived as a specific slogan among coaches. Their statements revealed deeper meanings: *"For example, at the end of the match, the team has a 100-point lead – so longer kick the ball, put it on the ground and shake opponent's hand. Show dignity", "If the opponent defeated me, on that day I have to show him special attention and respect because he won. I bow to him and thank him"*. No coincidence that when the coaches were asked if fair play in modern sport was important, everyone said that it was very important.

Unfair behaviour in sports activities. Coaches observe the manifestations of unfair behaviour and evaluate it negatively: "evil,

Table 2. **The concept of moral education in coaches' perspectives**

The concept of moral education	Theme	Moral values important in athlete education
Sub-theme		Sub-theme
Authority *("The very important thing in sport is the authority. The athlete must strive to be an authority in their team…")* Fair play *("This is comparable to the Fair Play game, which means a decent game…<…> teaching honest behaviour")* Respect *("<…>teaching respect for oneself and their opponent or rival")* Compliance with the rules *("This is a compliance training <…> it is not possible to specifically push, bounce, deliberately make fouls, show disrespect to the opponent")* Honesty *("<…> in order to achieve good results in sport you cannot cheat because doing so you deceive yourself")*	Moral values	Respect *("<…> respect for yourself, team, coach, rivals and referees. Athletes are an example to everyone else, so their morals will be worth nothing without respect for other")* Team spirit *("understanding the teammates, comforting when necessary, giving a hand when needed")* Honesty *("<…> honesty and also compliance with the rules")* Justice *("<…> high results can be achieved only in a right way, not cheating")* Discipline *("<…>discipline, compliance with the regime. These are the cornerstones, the most important things")* Devotion, love for sport *("<…> love, dedication to your own sport. Without it, you will achieve nothing <…> Without love, you will not achieve any high results in sport")*

Table 3. **Coaches' perspectives about fair play and unfair behaviour**

The concept of Fair Play	Theme	The concept of unfair behaviour
Sub-theme	Theme	Sub-theme
Cultural behaviour *("… this is a cultural struggle". "<…> You need to play and fight against the opponent culturally")* Honesty *("<…> the honourable struggle is important, because it is first and foremost a fair play; "<..> it's a fair fight because otherwise you can be disqualified")* Justice *("<…>this is the right fight, fight without some calculations, without deception and lies")* Friendly fight *("<…>a respectable fight is a friendly fight. When you respect yourself and your opponent")* Compliance with the rules *("<…> within certain limits, in accordance with all rules")* Respect for others, sport *("Fair play is important for the sport itself and for the athlete himself/herself." <…> fair play means playing to the end, not giving up, playing honestly"; "Respecting a rival during the match")*	Behaviour during the sports fight	Cheating *("I've heard about manipulating the outcome of the match")* Intentional foul play *("intentional fouls are often while playing")* Aggressive game *("Before the competition, I have heard that one team coach said to his athletes that it is necessary to beat the opponent because he plays very well.")*
	Advance manipulations	Advance agreements *("I've heard about betting arrangements, gambling, gaming")* Negative prejudicial provisions of referees *("In my practice, there was not a single case where the referees were against the team and I was incapable of changing something")* Use of prohibited substances *("In the modern sport, there are many doping scandals. Athletes who use doping seek for an advantage over others at all costs")*

Table 4. **Coach's opinions on the means of moral education and their impact**

Means of moral education	Impact of moral education
Explanations, talks („Moral values are educated in explanations." "explaining <...> that the team members do not deserve anger, they must adhere to the fact that one is not a soldier in the combat field <...> talks with children and parents ...") Lectures, meetings ("<...>there are lectures, meetings") Personal example ("<...>They are very receptive, they follow each step of yours, every word, so you have to show a good example.") Case analysis ("<...>...After the competition, cases of an unpardonable behaviour with an opponent are discussed" <...> discussing various situations of misconduct"	Personal development ("<...>helps to become a better person"; "<...>improves as a personality") Pursuit of results ("<...> greatly affects the results of the athlete", <...> releasing his powers, helps them to unfold") Career planning ("<...>has an effect on the athlete's future life" <...> "gain teamwork experience")

immoral and shameful". The unfair behaviour mentioned by coaches can be linked to behaviour in matches and advance manipulations (Table 3). The first group includes fraud and aggressive behaviour, while the second group includes doping and advance agreements. It should be noted that athletes behave in this way not only encouraged by coaches *("I've heard when a team coach was telling his athletes before the competition ... only when we are aggressive we can win")* but also without their encouragement *("they want to be cannier than each other").* Doping was seen as a particularly dishonest behaviour, as illustrated by the words of one coach: *"In the modern sport, there are lots doping scandals. Athletes who use doping seek advantage over others at any cost. This is very bad because sport is no longer a real charm. Doping simply violates the principle of fair competition."* On the other hand, fraudulent actions used by athletes during a match are not regarded as cheating or unfair struggle. However, the question *"Do you discuss unfair competition, judging, and doping scandals during training sessions?"*, was responded negatively by some of the coaches.

Means of moral education and their impact on learners. The analysis of measures used for moral education showed that coaches usually used explanations and talks with athletes during training sessions or in the informal environment (Table 4). They discussed cases of unfair behaviour both in competitions and training sessions. As one coach said: *"It is important and useful to discuss their own unfair competition situations or those seen by other athletes on the court in order to avoid this in*

the future". The importance of personal examples for athletes was also highlighted in the speeches of coaches working with both younger and older athletes: *"the coach cannot relax <...> and this is especially important in the training of the youngest athletes who are prone to anything that simulates adult behaviour",* the coach's communication culture, dedication to sport, his/her attitude to negative events in sport, etc. affects the morale of the athletes themselves". However, there are also challenges when a personal example does not easily produce results, because, as revealed in the statements of informants: *modern athlete comes with alternated moral values. For example, respect for an adult is already understood differently".* In addition, during the interview it turned out that two coaches were absolutely unable to say anything about the means of moral education used.

According to coaches, the moral education tools they used affected not only athletes' personal development, but also contributed to their achievements in sports results (Table 4). The developed skills of cooperation and teamwork will affect their trainees in their further careers.

Qualities of a good coach. The study revealed that good coaches should feature a series of qualities. First of all, they must be professional: *"<...> the one who has much knowledge and is able to convey it correctly and purposefully, i.e. which conveys knowledge methodically" <...> must know what they are doing".* Also, the coach must be an authority: *"<...> you need to be an example. Then your trainees will appreciate and respect you"<...> able to motivate them",* be

insightful as it allows you to discover future sports talents. A good coach should be able to create a good psychological climate in a team, be able to manage their emotions well: *"<...> who is able to communicate with trainees <...> able to maintain a real good relationship"<...> the coach must control their emotions"*. The study showed that informants payed attention to the coach's honesty, emphasizing that not only achievements in sport wee important. As one informant noted, *"it is very important to be honest with yourself and your trainees"*. Thus, describing the characteristics of a good coach, along with the subject competences, they also emphasize moral competences.

DISCUSSION

The purpose of this study was to reveal the opinions of coaches about moral education of athletes in sports activities. Interview data revealed a more diverse view of coaches about the concept of athletes' moral education in the context of their goals in sports activities, evaluations of fair and unfair behaviours in sport as well as moral education tools applied by coaches, their opinions about the impact of these tools on developing young athletes, and the qualities of a good coach.

The study revealed that the objectives of coaches included the development of moral values as well as social skills and sport competences. This partly echoes previous research, which grounded the effect of the development of social skills in sports activities on the personal development of athletes (Milavič, Grgantov, & Milič, 2013). The goal of coaches to motivate athletes is of no surprise because it is important not only to encourage children and young people to take part in the activity, but also to achieve sports results. This explains the purpose of coaches to develop sports excellence. Besides, the possibilities for a coach to affect athletes' motivation and intentions to make certain behavioural decisions are great, as confirmed by previous research (Curran, Hill, Hall, & Jowet, 2015; Kavusannu, Boardley, Jutkiewicz, Vincent, & Ring, 2008). Thus, the goals of coaches are diverse, including the ambition to train athletes as personalities, as well as their sports excellence, while also contemplating their achievements.

Coherence between coaches and athletes' expectations is essential for success in sport, as was partly revealed by the study. According to coaches, athletes seek both positive emotions and active leisure time. The coaches also think that sport provides the opportunity for athletes to compete and achieve victory. Such goals in sport are also raised by the coaches themselves. These results confirm previous data that participation in sports activities involves various forms of emotional expression, including the experiences of joy and pleasure (Koh, Wang, & Chew, 2014; MacDonald, Côte, Eys, & Deakin, 2011). On the other hand, while giving children the joy of small achievements, in the long run sport becomes a motivating factor for them, an interesting and meaningful activity, later transforming into a way of life (McMillan, McIsaac, & Janssen, 2016; Perrotta & Pannelli, 2014; Prichard & Deutsch, 2015). However, the goals set for the development of a personality, the realization of the desire for experience of joy and the pursuit of winning can raise many challenges for coaches when choosing priorities. Other research on coaching shows that due to the demands of competition, coaches sometimes found it difficult to balance the teaching of values with the need to win (Romand & Pantaleon, 2007).

Sport based on moral values has a special educational effect on the personality as it broadens the field of a person's culture, excites positive emotions to make moral decisions, and give meaning to positive behaviour in a particular situation (Budreikaitė, 2013). According to the research findings, coaches also define moral education through perception of moral values – respect, authority, honourable behaviour, compliance with rules and honesty. Similarly, the coaches refer to these values when talking about the values that are important in the development of athletes. In other studies explaining how coaches perceive morality and moral character, they emphasized the values they were trying to teach their athletes (Pelaez, Aulls, & Bacon, 2016; Rudd & Mondello, 2006). It should be noted that these values are divided into moral values (doing what is right on behalf of the others' wellbeing) and social values (hard work, caring about others) (Rudd & Mondello, 2006). Our research results extend the previous ones as the coaches' statements on moral education include love, commitment to sport and discipline. Devotion and discipline should be attributed to more instrumental values that are important for the athletic outcomes. We should similarly evaluate love to sport mentioned by the coaches which is explained by a certain dedication as the key to achieving success in sport.

Coaches also relate moral education to fair behaviour, which they also identify with honesty,

justice, friendliness, and compliance with rules. Analysing these data, we may raise the question of how much such evaluations of fair play are declarative and not actually associated with the cultivating of these values or moral behaviour. As previous studies showed, that it is much harder for coaches to characterize their own moral behaviour than that of others (Pelaez, Aulls, & Bacon, 2016), which can be an explanation that coaches either do not agree with the values they have to transmit or that they perceive that athletes' moral development is not their responsibility. This position has been described as 'partisanship' (Simon, Torres, & Hager, 2014). It should be noted that some research participants also stated that they did not analyse examples of abusive behaviour with their trainees. However, at the same time they advocate negatively about the disgraceful behaviour in sport, which embraces aggressive behaviour and intentional fouls, and various manipulations of the game outcomes. They also have very negative attitudes about doping in sport. This is a reflection of previous coaches' surveys with the most negative assessments of forms of cheating that involve various prior agreements (Šukys & Nickus, 2009). However, in our research about dishonest behaviour, the coaches often referred to others, and that did not reflect their own personal behaviours.

The study also sought to identify ways in which moral values were conveyed. The results revealed that the most suitable method for conveying moral values to trainees was talks with athletes, especially if this happened in an informal environment. In addition, personal example of a coach is also important, which confirms the coach's role not only in motivating athletes (Keegan, Harwood, Spray, & Lavallee, 2014) but also creating the team's moral atmosphere (Shields, LaVoi, Bredemeier, & Power, 2007). Previous studies also confirm the importance of the coach's personal example, as he/she is an influential person in the athlete's life because the coach is regarded as an expert in their field, which can have a significant influence on their decisions and behaviour (Kavusannu et al., 2008). The coach's mastery enables the athletes to trust them, to respect them, to learn from a constantly observable example (Boardley & Jackson, 2012; Delgado & Gomez, 2011). Meanwhile, creating a conflict environment when unsuccessful athletes are laughed at and condemned for failures predicts poor sport behaviours of athletes (Davies, Stellino, Nichols, & Coleman, 2015). Besides, according to coaches who participated in the research, the moral education measures affect the development of the personality of the trainees and help them to achieve sports results and pursue further career. We suggest that the measures of moral education applied at the same time help create motivational climate of excellence, which affects athlete's confidence, dedication, enthusiasm and vigour in sports activities (Curran et al., 2015), and which is also related to sports results.

The work of a coach is responsible, complex and challenging (Lisinskienė, 2016), so a good coach must have certain characteristics. The finding of our research also showed that research participants attributed the ability to encourage moral behaviour as an important quality of a good coach. Coaches also recognized the ability to create a good microclimate in the team, to be in authority, and to be a professional in their field. Thus the informants mentioned the qualities of a good coach which partly reiterated their opinions about what was important in developing moral behaviour and achieving goals in sports activities. It also reflects the coach's ability to develop athlete's skills, motivate, build character, mentioned in the coaching efficiency model (Boardley, 2017). Besides, the ability to build good team relationships is important not only working with children. This is also important in professional sport as previous research with Olympic medallists showed that athlete–coach relationship has an important role to play in the athlete's development both as a performer and as a person (Jowett & MCockerill, 2003). On the other hand, as other studies show, coaches rate themselves according to coaching efficacy higher than their athletes (Kavussanu et al., 2008).

Coaches' perspectives on moral education in sports activities also revealed the emerging challenges in developing children athletes. The system of values and behavioural models for children are primarily affected by the family (Hardy, PadillaWalker, & Carlo, 2008), as well as school and peers (Barni, Ranieri, Scabini, & Rosnati, 2014). Therefore, a coach who works with children can face a great challenge, especially if his/her system of values in sports is different from that of trainees. On the other hand, when it comes to working with adolescents, it is important that at this age they tend to seek new meanings in values, and this puts a special responsibility on the coach. It is worth mentioning the role of

parental involvement in children's sports activities, which can also challenge the coaches. i.e. parents can influence both positive and negative (Holt & Knight, 2014; Knight, Berrow, & Harwood, 2017). Therefore, in the education of moral behaviour in athletes, the coach also has to have the ability to cooperate with the parents.

Although our findings extend the understanding of moral education in sport, this research possesses limitations that must be acknowledged together with future research perspectives. The study involved only one female coach. Therefore, in further studies, it would be relevant to further analyse the views of female coaches on moral education in sport as well as its progress. It should be mentioned that the study involved only football and basketball coaches. We believe that in further research it is relevant to analyse the opinions of coaches in other sports. The obtained findings further raised the question of whether coaches tended to observe only the dishonest behaviour of

others in sports and how their negative attitudes were in line with their personal decisions and behaviour in sport.

CONCLUSION

This qualitative study presents the perspectives/ views of coaches regarding the youth moral education in sport. The findings suggest that coaches define moral education in sport through the education of moral values. It has been determined that the goals set by coaches are also related not only to the sports results, but also to the development of the personality of athletes. According to coaches, in the education of moral behaviour of athletes, the personal role of the coach is of great importance, i.e. the coach's authority, professionalism, insight, self-control, honesty, and the ability to create a favourable team psychological climate, which at the same time helps to develop both the athlete's personality and the athletic performance.

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Acknowledgements. On the Acknowledgement Page the authors are required to state all funding sources, and the names of companies, manufacturers, or outside organizations providing technical or equipment support (in case such support had been provided).

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