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Dear Readers

Pamukkale Journal of sport sciences (PJSS), owned by Pamukkale University Faculty of Sport Sciences, has been publishing since 2010 to contribute to sports sciences.

There have been some changes in PJSS as of 2021. First of all, PJSS's editorial board have changed (https://dergipark.org.tr/en/pub/psbd/board ). As the new editorial board, our goal is to become a scientific journal that is highly readable, adhering to ethical principles, does not compromise its research quality, and publishes at international standards. For this purpose, updates were made in PJSS on author guidelines, ethical principles, publishing policy, and reviewer guidelines.

Another change in PJSS is that authors can now upload articles in five key areas ("Leisure & Sport Management", "Physical Activity, Health & Exercise", "Social & Behavioral Sciences", "Sports Performance", and "Teacher Education & Sport Pedagogy"). Also, PJSS will be published three issue per year in April, August, and December as of 2021.

The PJSS editorial board aims to make PJSS a journal indexing in both national and international indexes. First of all, necessary studies have been initiated in TR Dizin and DOAJ, then in Web of Science Emerging Sources Citation Index (ESCI) and SCOPUS. These studies are aimed to be completed as soon as possible.

We are happy to see valuable authors, readers, and reviewers' contributions to achieve these goals.

Yusuf Köklü, PhD
Editor-in-Chief

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**Research Article**

# Classifying the European Football Leagues by Using Balance-Performance Matrix

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Big 5

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## ABSTRACT

European football has transformed over the last two decades both financially and athletically. Although the aggregate revenue generated by the European football increases, some leagues grew richer than the others. The inequality in the distribution of revenue caused the talents to accumulate in the Big 5 leagues and left the others with no chance to compete. Especially after the introduction of Financial Fair Play, teams from other leagues became in desperate need of transfer income which accelerated the accumulation of talent. This paper proposes a matrix, the Balance-Performance Matrix, for classifying leagues with respect to their transfer balance and sportive performance. As the results of the matrix illustrate, some leagues indeed became suppliers for the Big 5 and they have lost their competitive edge whereas some are still competing despite losing their best talents.

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## INTRODUCTION

The Big 5 leagues of Europe, England, France, Germany, Italy, and Spain have dominated Europe both in economic and sportive performance in the last two decades. The top 5 leagues generated about 15.6 billion euros revenue in the 2017/2018 season which is 55% of the total revenue generated by the European football (Deloitte, 2019). There are 55 registered leagues in UEFA (UEFA, 2019) and the Big 5 leagues generated more than half of the total revenue (Deloitte, 2019).

From 2008/2009 to 2017/2018, the total revenue generated by European football increased about 44% and the share of Big 5 increased from 50.3% to 55% in 10 years (Deloitte, 2010; 2019). As the revenues increased, the Big 5 grew richer than the other leagues and were able to spend more on transfers. The talent accumulated from the other leagues to the Big 5 causing the others to lose competitive power. Every year, same teams compete for the titles and trophies in inter-European championships. In the last 20 years, only one team, which is not from the Big 5, has managed to win the Champions League (Porto FC in 2004). In the 15 years prior to the last 20, teams from nine different leagues have managed to win the Champions League. In the last two decades, the competitive balance in European football has been distorted severely in favor of the teams that are generating higher revenues (Özaydın & Donduran, 2019) since these are also the teams that are accumulating talent.

The increasing gap between the Big 5 and the others, in sportive performance, has forced teams from the other leagues to overspent both in terms of transfer fees and wages. Other leagues which have relatively higher income such as Turkey, Portugal, and Russia, try to attract players by overpaying which causes them to compile substantial debts. In the 2018/2019 season, the highest wage to revenue ratio in European football belonged to Turkey with 79% followed by Portugal (75%) and Russia (70%) (Deloitte, 2020). In 2009, UEFA introduced the concept of Financial Fair Play (FFP) to discipline the clubs' finances. The most constraining aspect of FFP has been the break-even rule which sets up limits to clubs' expenditures with their incomes. Starting with the 2012/2013 season, UEFA started investigating clubs' finances in alignment with the break-even rule. If clubs fail to meet the break-even requirements they face punishments depending on the severity of the offense (UEFA, 2015).

As of December 2020, 51 clubs have been sanctioned by UEFA which are all from the leagues outside the Big 5, and the previously mentioned three leagues, Turkey, Portugal, and Russia, are the most sanctioned three leagues sanctioned by UEFA due to failing to meet the break-even requirement (UEFA, 2020). Clubs from other leagues are struggling with financial

regulations on one hand and on the other, they are trying to keep their competitive power. Although UEFA claims that FFP will be beneficial for the inter-European competitive balance in the long-run, it doesn't seem very likely at the moment (Vöpel, 2011). Heretofore, the empirical evidence suggests that FFP affected the domestic competitive balance. The competitive balance has been distorted in Germany, France, and Spain after FFP came into practice (Plumley et. al, 2019).

In European football, accumulation of debt is highly linked to success since hiring talent is costly and often clubs outspend for being able to acquire players (Drut, 2012). Since clubs are no more allowed to overspend after the implementation of FFP rules it is going to affect their competitive power. Especially for the leagues which have lower revenues, transfer income will be key in balancing their accounts therefore they will be exporting all their talent to the richer leagues which will diminish their competitive power even further. On the other hand, over the last decade, rich clubs' willingness to acquire players increased to preempt rival clubs from acquiring talent (Norbäck, et. al, 2016). Especially the clubs of the Big 5 leagues are racing with each other to transfer players from the lesser clubs in European football. As a result, the European football has polarized into two sides, the supply, and the demand side.

To illustrate the polarization in European football and investigate the impact of FFP on European leagues in the last decade, a 2x2 matrix is proposed to classify them by their transfer balance and UEFA competitions' performance. The expected impact of the FFP regulations is that some leagues will lose their competitive power in order to improve their transfer balances. The improvement in transfer balances will be due to the decrease in their transfer expenditures as well as the increase in their transfer income due to the previously mentioned reasons.

Matrices are often used in economics and business for multiple purposes such as decision making, constructing organizational structure, and illustrating frameworks (Lowy & Hood, 2004). In the sports studies literature, matrices are commonly used for constructing ranking and classification systems, predicting match outcomes, and evaluating teams' and tactics' performances (West & Lamsal, 2008; Dahl, 2012; Moura et.al, 2013).

Two five-year periods are investigated and compared to observe the changes in leagues' sportive and financial performances. The first five-year period is between 2008/2009 and 2012/2013 which are the five seasons before the break-even rule came into practice. The second five-year period is between the 2013/2014 and 2017/2018 seasons which are five seasons after the break-even rule. Data regarding the transfer balances are collected from the well-known German website Transfermarkt.com which is often used in academic studies and has no credibility issues.

The proposed matrix in this study enables to differentiate between countries as well as tracking the change in their transfer balance and performance in UEFA competitions.

## METHODS

As mentioned earlier, talent has been piling up in the major leagues of Europe in the last two decades. Major leagues are harvesting players from the smaller leagues and causing them to lose their competitive edge as the results from the inter-European competitions suggest.

A matrix is proposed which can be utilized to classify the European leagues by their transfer balances versus the UEFA competitions performances so that the change in the last decade can be investigated.

Each league is plotted into the matrix subject to its transfer balance and its performance in UEFA competitions for a five-year period. The area consisting of quadrants 1 and 2 is the supply side due to the positive transfer balance and quadrants 3 and 4 form the demand side. Transfer balance and performance indices are computed as follows:

$$B_{it} = Exp_{it} - Inc_{it} \quad (1)$$

$$TB_i = \sum_{t=1}^{5} B_{it} \quad (2)$$

Where $Exp_{it}$ and $Inc_{it}$ are transfer expenditure and income for country (i) at time (t) and $TB_i$ is the transfer balance for a country (i) for a period of five seasons.

Performance Index is computed using UEFA country coefficients. The country coefficient is the total points collected in UEFA competitions by a league divided by the number of teams from that league competing in UEFA competitions.

$$\Delta CC_{it} = CC_{it} - CC_{it-1} \quad (3)$$

$$PI_i = \sum_{t=1}^{5} CC_{it} \quad (4)$$

Where $CC_{it}$ is the UEFA country coefficient for a country (i) at time (t) and $PI_i$ is the performance index for a country (i) for a period of five seasons.

The proposed name for the leagues on Quadrant 2 is “Producers”, these are the leagues that supply talent to the other leagues. They supply talent for the Big 5 or the larger leagues outside the Big 5 and because they sell all the best talent their competitive edge is decreasing. The proposed name for the leagues on Quadrant 1 is “Over-achievers”, these leagues also supply players to larger leagues but they are still able to keep their competitive edge. Quadrants 1 and 2 constitute the supply side. The proposed name for the leagues on Quadrant

3 is "Under-achievers", these leagues have funds and are able to spend but fail to achieve success. Finally, the proposed name for the leagues on Quadrant 4 is "Consumers", these leagues have funds and their spending is increasing their competitive power. Quadrants 3 and 4 constitute the demand side. Figure 1 presents the proposed Balance – Performance Matrix. A total of 25 leagues, the Big 5 and 20 others, are plotted on the Balance – Performance Matrix and the results are presented in the next section.

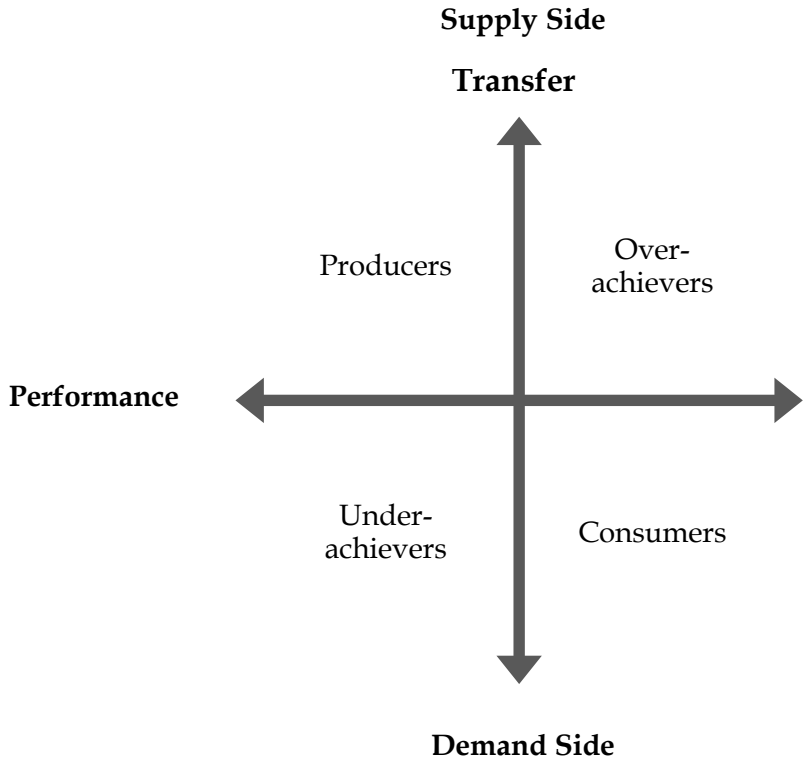


**Figure 1** Balance – Performance Matrix

## RESULTS

The plots of leagues in the Balance – Performance Matrix are presented in Figures 2 and 3. Figure 2 illustrates the smaller leagues for periods 1 and 2 and Figure 3 for the Big 5. Transfer balance is on the Y-axis and performance is on the X-axis.

It is observed from Figure 2 that, after the implication of break-even regulation all leagues with negative transfer balances have improved their transfer balances. In period 2, almost all leagues are on the supply side and, there is evidence that some leagues performed athletically worse in period 2 when compared to period 1. As can be seen from the figure, most of the leagues outside the Big 5 are on the supply side with a few exceptions. Turkey, Greece, Russia, and Ukraine are below the X-axis therefore they are on the demand side in the first period. After FFP came into practice, only Turkey and Russia are left on the demand side.

These two leagues are the most revenue-generating two leagues after the Big 5 leagues (Deloitte, 2019) therefore they have more disposable income for transfers.

Figure 3 illustrates the position of the Big 5 in terms of transfer balance and UEFA competitions performance for the first and second periods. Even though Italy and Spain have improved their balances, all of the Big 5 have negative transfer balances and they are all on the demand side as expected. English Premier League has the highest negative transfer balance in both periods thanks to their high revenues. In the 17/18 season, English Premier League generated about 5440m euros revenue which is about 70% more than the second most revenue-generating league, German Bundesliga (Deloitte, 2019).

The growing revenues, in the last decade, in European football especially in the Big 5 have influenced the transfer market. According to the Transfermarkt data, the total transfer expenditure for the twenty-five leagues in the data set (Big 5 and the others) increased from 13,859m Euros to 21,768m Euros from 2008/2009 – 2012/2013 period to 2013/2014 – 2017/2018 period which is an increase of more than 50%.

Figure 4 illustrates the transfer expenditures for each season. The grey line represents the total expenditure for the 25 leagues, the maroon line for the Big 5, and the navy line for the other 20 leagues. The expenditure for the Big 5 increased continuously after 2012/2013 whereas there is a decrease in the others starting in 2013/2014 and continuing in 2014/2015.

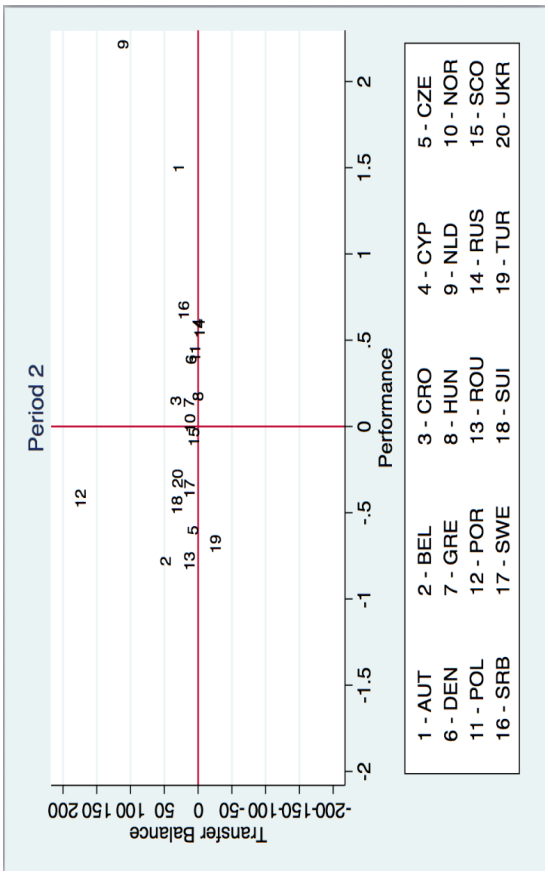


**Figure 2** Other Leagues' Balance – Performance Matrices

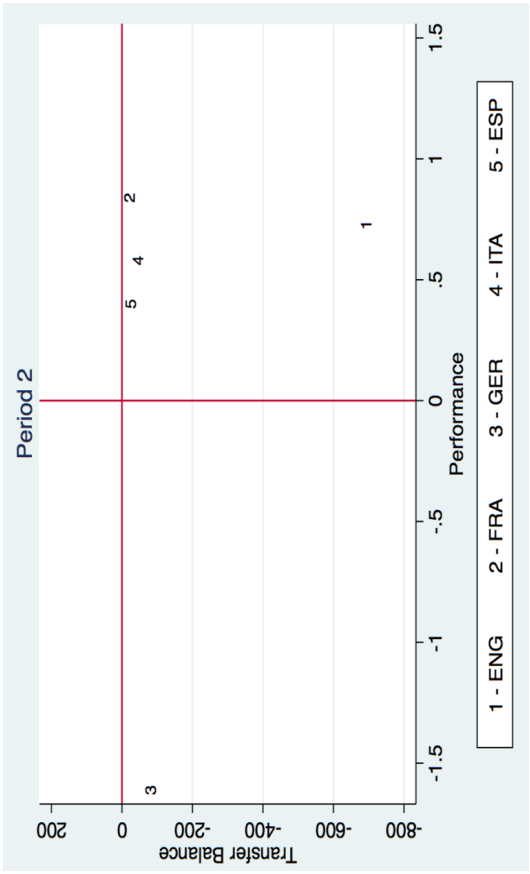


**Figure 3** Big 5's Balance – Performance Matrices

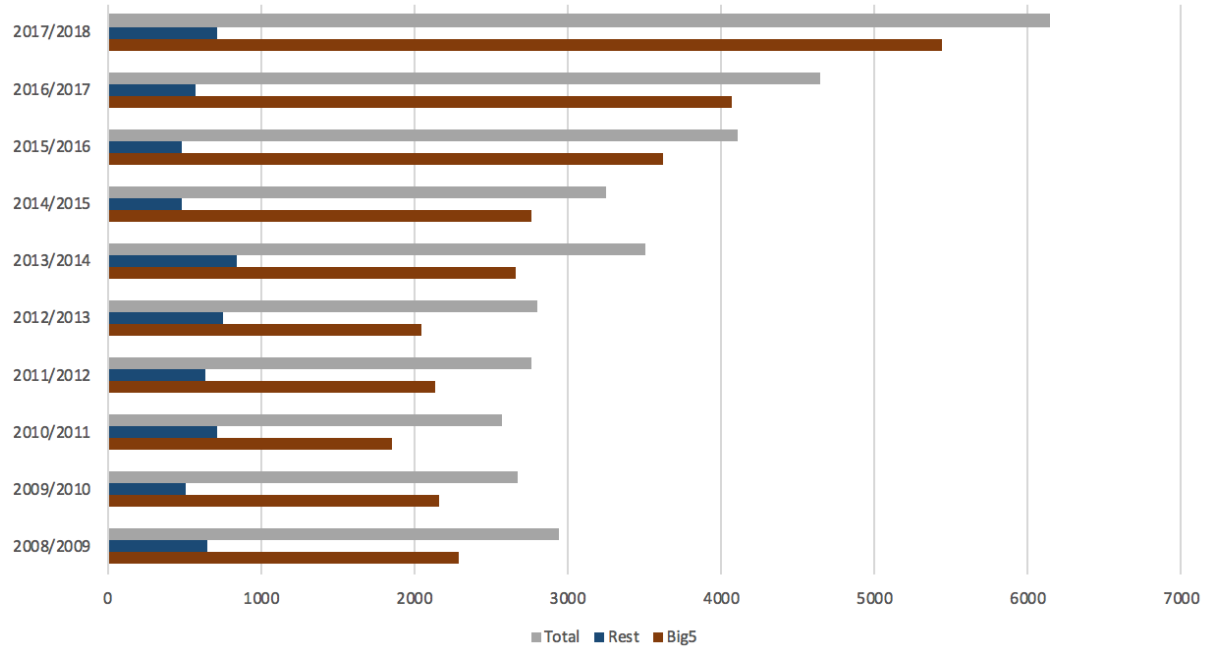


**Figure 4** Transfer Expenditures per Season

Figure 5 presents the share of Big 5 and the others in total expenditure for each season. As the figure illustrates, there is an upward trend in the share of Big 5 therefore a downward in the share of others. European football's transfer market is being dominated by the teams of the Big 5 leagues due to their high revenues. In the 17/18 season, the Big 5 leagues generated 55% of the total revenue generated by European football (Deloitte, 2019).

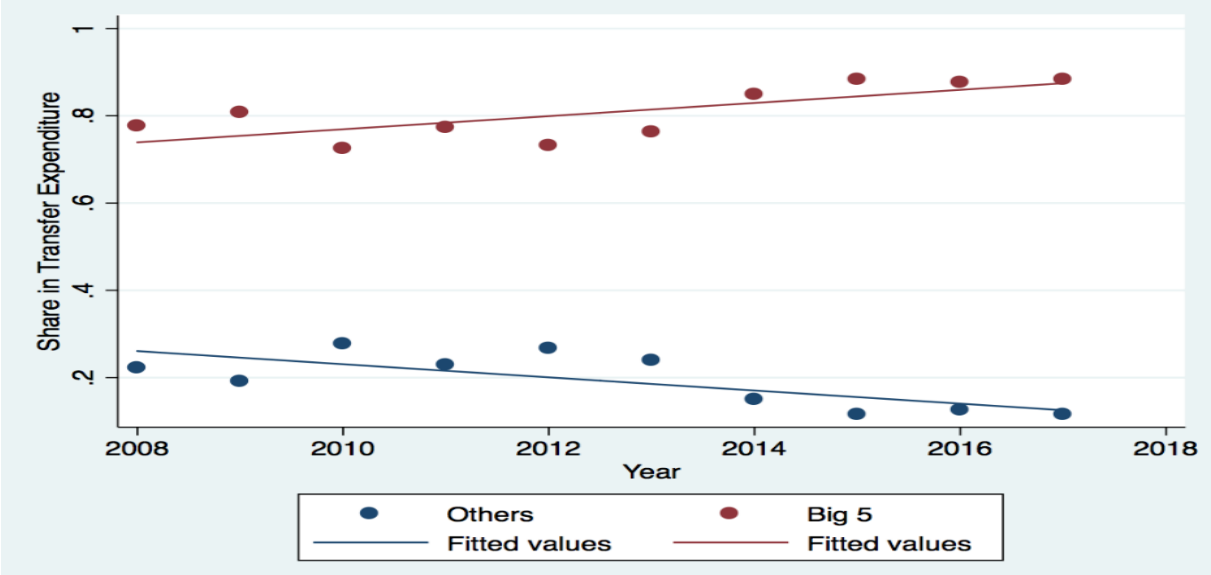


**Figure 5** Expenditure Shares

## DISCUSSION

Growing transfer expenditure also means growing number of transfers, especially in the Big 5. The report published by the Centre International d'Etude du Sport (CIES) (2017), presents the percentage of club-trained players in Europe between 2008/2009 and 2016/2017 seasons. As the report suggests, transferred players are invading European football. The percentage of club-trained players decreased from 23.2% to 18.5% from 2009 to 2017.

The same report also contains statistics regarding the share of club-trained players in European leagues. The highest percentage of club-trained players are in Slovakia with 33.4% and the lowest in Turkey with 6.8% furthermore none of the Big 5 leagues are in the top 10 and Italian, English and German leagues are all at the bottom. More than 85% of all the players playing in these three leagues have been trained outside their clubs indicating that teams from these leagues rely heavily on transfers (CIES, 2017)

The Balance – Performance Matrix introduced here, enables the classification of leagues as well as tracking their performances concerning their transfer balance over the two periods. In the first period, there are four leagues with negative transfer balance which are Russia (103.7m Euros), Turkey (57.7m Euros), Ukraine (23.2m Euros), and Greece (6m Euros) as can be seen from Figure 2. The two leagues with the highest deficits are also the two leagues with the highest number of teams that had issues with UEFA regarding financial fair play. Six Turkish and four Russian teams failed to meet the FFP requirements and were sanctioned (UEFA 2019).

In the first period, out of the twenty leagues, thirteen were able to score positive on performance index whereas in the second period eleven of them were able to do so. In financial performance, the improvement in transfer balances cannot be disregarded. Ukrainian and Greek teams have managed to provide positive transfer balances, Russian teams have managed to improve their balance from -103.7m to -0.97m and Turkish teams from -57.7m to -24.5m. Turkish league has the worst transfer balance in the second period which is no surprise when the number of teams with issues with FFP is taken into consideration. The improvement in financial status came with a cost, Ukrainian and Turkish, Turkish teams have performed significantly worse in the second period in UEFA competitions than in the first. Russian teams have also performed worse in the second period however their performance did not deteriorate as much as Ukrainian and Turkish teams. The leagues which have performed better in both indicators in period 2 are Austria, Cyprus, Denmark, Greece, Netherlands, Romania, and Scotland whereas; Czechia, Croatia, Hungary, and Poland have performed worse in both indicators in the second period.

Out of the twenty leagues, ten of them did not switch places on the matrix from period 1 to period 2. The Russian league is a consumer in both periods meaning that Russian teams are spending money and get success in return. Austria, Croatia, Cyprus, Hungary, Poland, and Serbia are all over-achievers which manage to perform well both on and off the field. Romania, Scotland, and Sweden are suppliers which means that even though they provide positive transfer balance they lose their competitive edge and perform worse in UEFA competitions in the last ten years. The rest of the leagues have switched places over the two periods.

In the case of Big 5, all of the leagues are on the demand side as expected. From period 1 to period 2, transfer balance has improved for Italy and Spain and deteriorated for England, Germany, and France. The transfer deficit for the Premier League has increased more than 400m Euro after the break-even rule came into practice.

The revenue generated by the Big 5 has increased radically over the last decade, it increased from 7944m Euros in 2008/2009 to 14662m Euros in 2016/2017 (Deloitte, 2010; 2018). Thanks to the increasing revenues, Big 5 teams are able to spend more on transfer which causes the deterioration of their transfer balances. Unlike smaller league teams, Big 5 teams can afford to spend money on transfers even with no transfer income, thanks to their broadcasting agreements, sponsorships, etc. Premier League has managed to increase its total revenue by 120% from 2008/2009 to 2016/2017 with a total of 5297m Euros, whereas the rest of the Big 5 are all below 3000m Euros. Since English teams have much higher revenues when compared to the teams from the other leagues, they are able to spend more on transfers.

As Figure 4 illustrates, the aggregate transfer expenditure for the 25 leagues in the data set is increasing. Revenue generated by European football leagues has grown dramatically over the last decade and as revenue grew so did the transfer expenditure. Figure 4 also presents the influence of break-even on the other leagues. Although the Big 5's transfer expenditure did not decrease after break-even, the total expenditure of the other 20 leagues has decreased dramatically. From 2013/2014 to 2014/2015, the aggregate transfer expenditure decreased from 836 million euros to 488 million euros which is a decrease of 41.5%. From 2014/2015 to 2015/2016 there is a decrease of 11 million euros and after 2015/2016, other leagues started spending on transfers again.

The average share of Big 5 in transfer expenditure in the first period is 76.3% whereas in the second period it is 85.1%. Every year clubs from the Big 5 are spending more and more hence accumulating more and more talent. As the share of spending increases, so does the number of transferred players. Figure 6 suggests that the share of club-trained players is decreasing all over Europe however the Big 5 are leading the way. About 90% of players

playing in Italy and England are not club-trained players. The best performing league, in terms of club-trained players, is the Spanish league with 22.8%.

Among the other leagues, four leagues are on the demand side of the Balance-Performance Matrix in the investigated period which are Russia, Turkey, Greece, and Ukraine. Out of these four leagues, Russia, Turkey, and Greece are at the bottom in the club-trained players' rankings. Teams from these leagues transfer players rather than growing them furthermore Russia and Turkey are the two leagues that have been punished the most by UEFA for failing to meet FFP requirements.

## CONCLUSIONS

European football clubs are going through a financial transition however it is too soon to decide whether it is good or bad. Although FFP is claimed to beneficial for both the clubs and the competitive balance in European football. So far, the only visible impact of FFP has been the increase it has caused in the accumulation of talent in Big 5 leagues. Teams from other leagues became dependent on transfer incomes more than ever and therefore they lose all their best talent to Big 5 teams. The increasing volume of exports from other leagues to Big 5 is causing a domino effect which results in an increase in the number of players transferred. All leagues have started using more transferred players over the last decade.

There are some other resourceful leagues in Europe that can spare funds for transfers such as Turkey, Russia, Ukraine, and the Netherlands however the majority of the leagues are just producing players for the Big 5. One probable spill-over effect is the increasing national team performance of smaller leagues. Despite not having enough resources to achieve success at the club level, leagues like Croatia, Belgium, and Switzerland over-achieve at the national level thanks to their players playing in the Big 5 leagues.

The gap between the Big 5 and the others is widening every day both in sportive and financial performance. Competitive balance is an important issue that might have serious consequences on attendance and sponsorship revenues therefore it has to be handled.

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### Authors' contributions

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

## Declaration of conflict interest

The author declares there is no conflict of interest.

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**Research Article**

# Destination Marketing of Antalya City Port for Sports Organizations and Its Effect on Perceived Organizational

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**Keywords**
Urban image, Destination marketing, Sports organizations, Organizational satisfaction

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## ABSTRACT

The aim of this study is to examine the relationship between the image of Antalya City and destination marketing in sports organizations and satisfaction. In accordance with of this aim, the study group consists of 430 participants ($n_{manager}$=4, $n_{trainers}$=43, $n_{athletes}$ =315 and $n_{referee}$=68) participating in Turkey Interuniversity Wushu Sanda and Taolu Championship between the dates of May 9 - 11, 2016, and the First International Mediterranean Wushu Championship between the dates of March 16 -21, 2017, held in Antalya city. In the study, it was revealed that the sub-dimensions of the perceived urban image significantly affect the destination marketing sub-dimensions and overall organization satisfaction in sports organizations. With this study, it is considered that perceived urban image can be a resource for forming a resource in the identification of the influences it exerts on destination marketing for sports organizations and organizational satisfaction, and sustainable plans formed in the stage of organizing this kind of activities.



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## INTRODUCTION

At present, cities, in the competition they start in the name of being able to acquire place for themselves in a competitive environment that comes together with globalization, want to increase their publicities thanks to the cultural, artistic, and sportive activities. All of these activities are realized to form a positive image in the minds and, thus, become s more preferable city. The features coming from the past of a city (natural and human structure, trade past, historical-cultural features, etc.) as well as the actual activities of that city (festivals, social activities, sportive organizations) make a contribution to the formation of urban image. While the urban image is generally qualified as a concept related to how a city is perceived, [it is also] is expressed as urban infrastructure, architecture, facilities, art, city-dwellers, and products (Spio, 2011). In addition, the urban image includes behaviors of those living in a city such as artisan or public attitude (Özdemir & Karaca, 2009). Urban image can also be expressed as a total of the perceptions, beliefs, connotations, impressions, of ideas of people (Alhemoud & Armstrong 1996; Kotier et al., 1999). Therefore, cities marketing and branding activities try to transform the perception created, belief, connotation, impression, or ideas, i.e. in general, the image perceived, into a positive or desired state. For these reasons, at present, bringing identity in cities' in planned way has great importance and, in this context, the various sportive, social, and cultural activities integrating into city are paid attention. In forming an urban image, identifying marketing strategies to be used in determining, ordering, and developing the specified values is highly important. In addition, when considered that cities compete any longer like companies and countries, it reveals that marketing strategy has to be accurately structured. In this study, urban image is perceived as an instrument to be able to be used in the sports management process.

In scope of urban image, sociocultural and sportive organizations to be held in the city are seen as instruments that are important in attracting attention to the city in local and global meaning. Smith (2005) in the study he carried out, tried to identify the contribution of sportive activities to renewing the image of a city. As a conclusion of the study, a large part of visitors reported that sportive activities had a positive effect on an urban image. Economic and non-economic advantages of holding this kind of organizations in a city play significant role in developing urban image. The studies conducted introduced that the highness of participation level in organizations that organizations are in a strong directional relationship with economic utility. In addition, while these activities and facilities are held in city, on the one hand, direct sportive activities to here, on the other hand, they enable citizens to

benefit from sport facilities. However, that activities take place in media, increasing awareness related to city, makes positive contribution to urban image (Ritchie & Smith, 1991).

For achieving that cities can form a positive image and are marketed, it is necessary for visitors to enable to be satisfied with the cities they visited. This case emerges as an important factor in forming a positive and strong urban image (Laws et al., 2002). In sportive organizations, the trainer, athlete, and sports-related people (referees, press members, proponents) become effective in publicizing the city. Spread of the name of the city at the national and international level can be provided by hosting a successful sportive organization (İlgüner & Asplund, 2011). The satisfaction of this group can be affected from not only organizational success but also many cases related to the city. The quality of transportation, accommodation, and food drink service quality, recreation opportunism, behaviors and attitudes of local people and artisans as well as many reasons such as price applications in the places visited can play important role in the evaluation of visitors (Kozak, 2003). That Hankinson (2004) emphasized that consumers' destination preferences depended on the level of image destinations had reveals how important positive image, which will be obtained in sports competitions.

Any place (e.g. region, city, town) targets on reaching a suitable and satisfying position for being able to market their activities and attractive position for these organizations. A place presenting opportunities and having opportunities a positive image for participants becomes a more satisfying place for them and an important place for attracting activities/organizations (Gertner &Kotler, 2004). For organizations, how cities are perceived has gained importance, and image has been positioned as an effective factor in urban development. As a result of this, countries and cities, like business, have also found themselves in competition in global markets, where the competition of interest prevails.

Antalya city is a destination, where a great variety of tourism activities can be realized in the sense of tourism. The archeological, cultural, and natural- geographical resources of Antalya city has caused the distinctive power of the region to be better understood and, thanks to this, Antalya city has become an important destination in terms of urban image. Besides that tourism approach of Antalya city is generally viewed as sea, sand, sun, recreation, or culture-purposed activity, Antalya city has gained an important power in recent times in terms of its hosting for the sports, organizations, and activities in the region. As a conclusion, cities have transformed into a space of image and consumption. In preferring cities with the approach of competitive cities, their images become effective,

because the cities having positive image attract capital and investment and can be effective at the points such as shopping, settlement, working place, touristic organization, and location selection.

When the relevant literature is examined, there are the studies, in which the role of sports organizations in the formation of brand-city (İşler & Tüfekçi, 2014) their effects of destination marketing (Tüfekci, 2014), and quality and satisfaction (Akdağ et al., 2015; Genç et al., 2019) are mentioned, any study has not been met, where the model, established for the study relevant to the contribution of the image of the city, in which organization is held, to destination marketing and satisfaction of sports organizations, is tested on the administrators/managers, trainers, athletes, and referees who participate in the activity.

With the study carried out, it was aimed to eliminate the deficiencies in the literature of sports marketing and sports management. In this study, according to the perceptions of the administrators/managers, trainers, athletes, and referees who participate in the activity, the relationship between urban image and destination marketing and organizational satisfaction in sports organizations will be identified, and the effects of the urban image will be tried to be revealed. This study has also a feature to guide institutes, federations, organization companies, and accommodation companies

Changes occurring in the expectations and habits of consumers make it necessary to strategically evaluate destinations and include them in the marketing process. From this aspect, destination marketing is realized via different activities. It is necessary for expectations of consumers to be compatible with features of attraction place (destination) (Ateşoğlu & Bayraktar, 2011) and overlap driving factors directing the consumer to attraction place with the features of destination (Çakıcı et al., 2007). Sports organizations that are an instrument of destination marketing undertake an important role in this scope. Destination marketing in sports organization can be defined as a philosophy of sports management aiming at making research, prediction, and selection related to sportive products and covering the decisions and applications regarding o these subjects, considering the features of sports services to be included in sports products they produce in compatible with the target of destination to obtain the highest gain. Image of city in a complementary attribute sport organizations, where organizations are held, is considered to be an important factor. Urban image is a marketing element making an emotional relation between a city and visitor or investor arriving to city, which forms the views of visitors regarding the city, highlighting city from among the other cities, and which provides to make it different. It expresses the geographical position of the city, its historical and cultural structure, infrastructure and

superstructure facilities, urban planning, the number and attributes of facilities in city, characteristics of city-dwellers, and urban values such as attractive facilities of city, and totally, all process that comes into existence (Tezcan, 2011).

Urban image has a highly important place in destination marketing. In travel decisions of visitors, recognizing important features of urban image becomes important in the scope of destination marketing. In recognizing all factors (product, service, city, country, etc.) to be able to be included in the area of image marketing and creating competitive advantage in market, [these] serve as effective factors. At this point, forming an urban image having a high value in the mind of people interested in a city will be quite effective in increasing the quality perceived for the city (Pekyaman, 2008) and attracting the new organizations of activities to the city. According to Gilboa et al., (2015), the cities having a positive image better meet the desires of their stakeholders (city –dwellers, businessmen or organizations, tourists). Loi et al., (2017) also identified that the image of destination hosting a spots activity was positively affected. A similar study demonstrated that Calgary Winter Olympics positively changed the image of Calgary on the people out of this city (Ritchie & Smith, 1991).

According to modern marketing theories, one of the most effective marketing methods is to provide customer satisfaction at the advanced level. When evaluated in terms of sports organizations, many reasons such as organization as well as the transportation accommodation, quality of food-drink services, recreation facilities, behaviors and attitudes of local people and artisan, and price applications in the city, where the organization is held, can lead to whether or not those participating in organizations, athlete, trainer, manager, audience, referee) are satisfied. Even beyond this, when we accept the experience of a sports organization as a whole, a disturbance to form in any part of this whole will be able to affect general satisfaction (Duman & Öztürk, 2005; Jafari & Quarterly, 1983). Participants, in the regions they go to, utilize many activities such as shopping, recreation, and resting, nature, culture, history, archeology, sea, sun, etc. Although the original aim of travel in sports tourism seems to be sportive activities, one wants to know the natural and cultural activities in the places visited. Providing continuous intensive participation in sportive activities in a region depends on the natural and cultural attractions of that region (Göker, 2018). In order to achieve marketing cities, it is necessary to enable visitors to be left satisfied from the cities they visit. This state can be provided by a positive and strong urban image (Laws et al., 2002). The satisfactions of the participants that come to participate in sport organizations held in a city with city and organization play important role in terms of

publicity and image of the city. Since positively increasing components of urban image will add value to the city, participants arriving in the city for sports organization will feel themselves better, and it will provide an increase in their satisfaction with organizations. A place presenting opportunities for participants and having a positive image becomes a more satisfying organization and an important place for attracting an investor. From this point of view, it can be said that there is a natural relationship between satisfaction and developedness and attraction of the region (Yamaç & Zengin, 2015). That Hankinson (2004) emphasized that destination preferences of consumers depended on the level of image destinations had reveals how much important urban image to be obtained in sport organizations is.

## METHODS

The "Perceived Urban Image", "Sports Organizations Destination Marketing" and "Organizational Satisfaction" scales were used in the research. Information (validity and reliability) of the scales are presented below.

*Study Group*

The study group consists of 430 participants, who participated in Turkey Interuniversity Wushu Sanda and Taolu Championship between the dates of May 9-11, 2016 and 1st International Mediterranean Wushu Championship, between the dates of March 16-20, 2017, held in Antalya city, and selected by easy sampling method ($n_{administor/manager}$=4, $n_{trainer}$=43, $n_{athlete}$=315 and $n_{referrer}$ = 68) The data were obtained over both organization. The questionnaires of administrator/manager, trainer, athlete, and referee were completed in the hotels the groups stayed in.

*Data Collecting Instrument*

In the study, the scales of “Perceived Urban Image”, “Sports Organizations Destination Marketing”, and “Organizational Satisfaction” were utilized.

*Perceived Urban Image Scale*

“Perceived Urban Image Scale” was developed by Demirel & Yaşarsoy (2016). The scale consists of 43 expressions and 7 factors. These factors are Factor 1: Transportation services, Factor 2: Historical and touristic values, Factor 3: Tradesman attitude, Factor 4: Geographical and social structure, Factor 5: City ınfrastructure, Factor 6: Public attitude and Factor 7: Health services. It was determined that it was explained with a total of 69,389%

with these seven basic factors. For analysis, the sample adequacy coefficient (SAC) is 0.87. ıt was identified that the value of Cronbach's Alpha coefficient was 0.97 for all scales. When all values associated with the scale were taken into consideration, we can say that the reliability and validity level of the scale is considerably high.

*Sports Organizations Destination Marketing Scale*

"Sports Organizations Destination Marketing Scale" is a scale developed by Tüfekci (2014). The scale consists of 20 expressions and 6 factors. These factors are: Factor 1: Factors Associated with Recreation, Factor 2: Contribution of Organization, Factor 3: Area, where activity is made, Factor 4. City, where activity is made, Factor 5: Organizational Structure, Factor 6: Accommodation and Food-Drink Businesses. 6 factors obtained to account for 67.22% of total variance. Sample Adequacy Coefficient (SAC) for analysis is 0.86. It was identified that the value of Cronbach's Alpha coefficient for all scale was 0.97. It was seen that the values of Cronbach's Alpha coefficient for all variables tested were over 0.70. These values show that the scale can be considered reliable. In addition, in this study, assessments were made through the score of scale.

*Organizational Satisfaction Scale*

"Organizational Satisfaction Scale" was adapted from the studies by Kozak and Rimmington (2000), Duman, (2004), Hede, (2005) and Tüfekci, (2014). The scale consists of 6 satisfaction expression and only one factor. As a result of the explanatory factor analysis made by researchers. It was identified that these factors accounted for 46.86 of the total variance. Sample Adequacy Coefficient (SAC) for analysis is 0.73. It was identified that the value of Cronbach's Alpha coefficient regarding scale is 0.74. When the values regarding scale are considered, we can see that the scale is reliable and valid.

*Data Analysis*

After collecting data, analyses were made through SPSS 23.0 (The Statistical Package for the Social Sciences) software. For checking for the state of normal distribution, the Kolmogorov-Smirnov test was used and identified that the value of normal distribution turned out smaller than the statistical significance level ($p<.05$). In view of this, the values of kurtosis and skewness were applied for normal distribution. As a result of the normality test made, it is seen that kurtosis coefficients are between – 0.006 and 1.602 and, skewness coefficients are between -.674 and 1.006. In analyses, it is paid attention that points do not deviate excessively compared to normal points. It can be said that the points remaining in

the range of +1 and -1 did not show excessive deviation compared to normal distribution (Tabachnick et al. 2007). It was determined that the data showed normal distribution (Albayrak et al., 2005). Namely, it was identified that the data satisfied normality assumption and that there were no problems with excessive kurtosis and excessive skewness. In testing, hypotheses of the study, the multivariable regression analysis technique was applied.

## RESULTS

In the study, the relationship between urban image and sports organizations destination marketing and organizational satisfaction was introduced by correlation and regression analyses and results were shown in Table 1, Table 2, and Table 3.

**Tablo 1.** The Relationship between subdimensions of urban image and sports organizations destination marketing and organizational satisfaction

| Urban Image | X (Sd) | Correlation | Sports Organizations Destination Marketing [X (Sd) (3.77 (.46)] | Organizational Satisfaction [X (Sd) (3.88 (.55)] |
|---|---|---|---|---|
| **Transportation Services** | 3.80 (.49) | r | .480** | .538** |
| | | p | .000 | .000 |
| **Historical and Touristic Values** | 3.82 (.54) | r | .528** | .542** |
| | | p | .000 | .000 |
| **Tradesman Attitude** | 3.71 (.56) | r | .549** | .506** |
| | | p | .000 | .000 |
| **Geographical and Social Structure** | 3.75 (.51) | r | .494** | .415** |
| | | p | .000 | .000 |
| **City Infrastructure** | 3.73 (.52) | r | .485** | .422** |
| | | p | .000 | .000 |
| **Public Attitude** | 3.69 (.62) | r | .482** | .429** |
| | | p | .000 | .000 |
| **Health Services** | 3.74 (.61) | r | .432** | .512** |
| | | p | .000 | .000 |

When the correlation table was examined, the highest correlation value between the destination marketing of sports organizations and the independent variables in the research model was calculated as 549.

It is seen that there is a higher correlation between tradesman attitude corresponding to this value and the destination marketing of sports organizations compared to the other variables. This result can be considered as a result that should be emphasized in terms of the importance of the tradesman attitude in destination marketing.

The highest correlation value between organization satisfaction and independent variables in the research model was calculated as 542. It is seen that there is a higher correlation between historical and touristic values corresponding to this value and organizational satisfaction compared to other variables.

This result is an indication that the historical and touristic values of the city will increase organizational satisfaction. It can be considered as a result that should be emphasized in terms of cities where sports organizations can be held.

**Tablo 2.** Multivariable Regression Analysis Results related to Sports Organizations Destination Marketing and Sub Dimensions of Antalya City Urban Image

| Dependent Variables | Independent Variables | B | *Standard Deviation* | β | t | p |
|---|---|---|---|---|---|---|
| **Sports Organizations Destination Marketing** | (Constant) | 1.024 | .158 | | 6.460 | .000 |
| | Transportation Services | .103 | .044 | .111 | 2.310 | .021 |
| | Historical and Touristic Values | .149 | .042 | .176 | 3.554 | .000 |
| | Tradesman Attitude | .168 | .041 | .206 | 4.086 | .000 |
| | Geographical and Social Structure | .139 | .042 | .155 | 3.304 | .001 |
| | City Infrastructure | .091 | .043 | .104 | 2.101 | .036 |
| | Public Attitude | .073 | .036 | .099 | 2.055 | .041 |
| | Health Services | .010 | .036 | .013 | .269 | .788 |
| | *Multiple R= .663 $R^2$=.440* | | | | | |
| | *Adj $R^2$ = .430 $F_{(7,422)}$ = 47.300, p=0.00< .05* | | | | | |

According to the results of the study, dependent variable "Sport Organizations Destination Marketing" forms a significant whole with independent variables "transportation services, historical and touristic values, tradesman attitude, geographical and social structure, city infrastructure, public attitude, health services" that are subdimensions of urban image. Independent variables explain 44.0% of the total variance of the sports organizations destination marketing dependent variable (R= .663 R2=.440, F (7.422) = 47.300, p=0.00< .05).

Health services alone do not contribute significantly to the model. The most important factors of urban images affecting the factor "*sports organization destination marketing*" are tradesman attitude (β=0.168; p<0.01), historical and touristic values (β=0.149; p<0.01), geographical and social structure (β=0.139; p<0.05), transportation services (β=0.103; p<0.01), city infrastructure (β=0.91; p<0.05), and public attitude (β=0.073; p<0.05) in order.

According to the findings of the research, it constitutes a meaningful model with the dependent variable of organization satisfaction, sub-dimensions of urban image, transportation services, historical and touristic values, tradesman attitude, geographic and social structure, city infrastructure, public attitude and health services. Independent variables that contribute significantly to the model explain 44.0% of the total variance of the organization satisfaction dependent variable (R= .663 $R^2$=.440, $F_{(7,422)}$ = 47.401, p=0, 00< .05). Geographical and social structure, city infrastructure, and public attitude alone do not contribute significantly to the model.

**Tablo 3.** Multivariable Regression Analysis Results Related to Organization Satisfaction and Sub Dimensions of Antalya City Urban Image

| Dependent Variable | Independent Variables | B | *Standard Deviation* | β | t | p |
|---|---|---|---|---|---|---|
| **Organizational Satisfaction** | (Constant) | .611 | .190 | | 3.210 | **.001** |
| | Transportation Services | .239 | .053 | .216 | 4.492 | **.000** |
| | Historical and Touristic Values | .214 | .050 | .211 | 4.255 | **.000** |
| | Tradesman Attitude | .141 | .049 | .144 | 2.853 | **.005** |
| | Geographical and Social Structure | .041 | .050 | .038 | .811 | .418 |
| | City Infrastructure | -.018 | .052 | -.017 | -.346 | .730 |
| | Public Attitude | .046 | .043 | .051 | 1.062 | .289 |
| | Health Services | .187 | .043 | .208 | 4.380 | **.000** |
| | *Multiple R= .663 $R^2$=.440* | | | | | |
| | *Adj $R^2$ = .431 $F_{(7,422)}$ = 47.401, p=0.00< .05* | | | | | |

The most important factors affecting the organizational satisfaction factor are transportation services (β = 0.239; p <0.01), historical and touristic values (β = 0.214; p <0.01), health services (β = 0.187; p <0.05) and the tradesman attitude (β = 0.141; p <0.05).

## DISCUSSION

At present, every sort of activity creating tourism demand is accepted as attractive an element for the destination. Although activities are multifarious in respect of their dimensions and objectives, especially, festivals, carnivals, fairs, congress as well as sports organizations take place among activities creating important demand of tourism for destinations. Although sports organizations are the primary reason for visiting destination, it can be an extra attractive element in visiting a destination. The geographical position of the city, where organization is held, features such as its historical and cultural structure, infrastructure and superstructure facilities, urban planning, the number and quality of facilities in the city, characteristics of city -dwellers, and facilities of city attracting attraction can be exemplified for this case. Thus, a destination creating an impression of a developed city can develop image for itself and strengthen its existing image.

In this study, it was aimed to examine the relationship between Antalya city urban image and destination marketing and satisfaction specific to participants (athlete, trainer, manager, and referees) in sports organizations

In respect of study results, it was identified that the athletes, trainer, managers, and referees participating in an organization had direct (in positive direction) effects of transportation services, historical and touristic values, tradesman attitude, geographical and social structure, urban infrastructure, and public attitude among subdimensions of urban image on the perception of destination marketing. Cities like Antalya city, where festivals

are continuously held, and perceived as the city of culture, recreation, and activities, both strengthen their images and economically develop in the increasing global competition (Evans, 2003).

It came into existence that the transportation services, historical and touristic values, tradesman attitude, geographical and social infrastructure, urban infrastructure, and public attitude among Antalya City Urban Image sub-dimensions significantly affected the participants' perception level of sports organizations destination marketing. Hence, it is considered that the awareness of historical and cultural elements the city has, artisan and public attitude will increase this kind of organizations that will be held in the city and will also positively affect destination marketing. Albeit it dıes not seem to be very important, city infrastructure is highly effective in destination marketing. The developedness of the existing infrastructures and superstructures of the city is seen as a feature distinguishing urban areas from rural areas. Hence, it is thought that the development of infrastructure and superstructure of a city and having a proper feature will bring together with positive results about destination marketing. These results point out that the public and private sectors and federations that will hold sports organizations have to pay attention to non-organizational factors (transportation services, historical and touristic values, tradesman attitude, geographical and social structure, urban infrastructure, and public attitude ), considered that they are effective related to the city in the selection of organization location, at the high level Thus, especially the institutes that hold or will hold the organization in Antalya, That all of the other stakeholders that are authorized and responsible for destination marketing act, considering and developing image factors of interest, has great importance in increasing the demand and interest to organization, depending on this, achievement of organization.

When generally evaluated, it is seen that the perceptions of athletes, trainers, managers, and referees related to Antalya city urban image, participated in organization affect destination marketing. At this point, it is considered that the factors identified in this study will be highly effective in forming a high-valued urban image related to city in minds, increasing the perceived quality of a city, and attracting new organizations and activities to the city, However, in urban areas, it is aimed to transmit positive image to target mass (Frey and Zimmer 2001), because it is expressed that a positive urban image will bring city into a more attractive position for its individuals and visitors (Schonland & Williams, 1996).

Another important issue to be addressed in this study is; that the athletes, coaches, managers and referees participating in organizations have direct (positive) effects on

transportation satisfaction, historical and touristic values, tradesmen's attitude and sports services' organizational satisfaction. In addition to this, Antalya city image sub-dimensions, geographical and social structure, city infrastructure and public attitude do not have a significant effect.

Hence, it can be said that the developments to be provided in transportation, historical and touristic values, tradesman attitude and health services positively reflect to urban image and increase organizational satisfaction of sports organization participants (athlete, trainer, manager, and referee). Thanks to this, the case of becoming a livable city, transmitted by urban image, will please participants coming to the city for this kind of organizations and make a contribution to the city from both image and economic point of view; thus, urban development will accelerate much more. As a result, it was introduced that urban image has an important effect in being able to host organizations and increasing satisfaction of participations. Therefore, urban image affects sports organizations destination marketing and organizational satisfaction.

The elements belonging to urban image, image features of the place to be visited such as transportation, historical and touristic values, tradesman attitude, geographical and social structure, urban infrastructure, and public attitude can create the effect of organizational satisfaction or sports organization destination marketing. Hence, it is thought that improving the elements of the urban image will cause improvement in increasing organizational satisfaction.

In addition, with a contribution of urban image, when considered this kind of organizations contribute to economic and cultural development, satisfaction level will be determinative in bringing other organizations in the city. With moving from this point, also considering study results, it can be expressed that the effect of transportation services, urban infrastructure, suitability of geographical and social structure, publicizing historical and touristic values as well as exhibiting of urban artisan and public positive behavior play a key role in terms of destination marketing. In addition, transportation services, historical and touristic values, tradesman attitude, and sport service has an important effect in terms of organizational satisfaction.

As a consequence of the study, the following suggestions can be offered for the possible studies on urban image and sports organizations. This study was made during Turkey Interuniversity WushuSanda and Taolu and 1st International Mediterranean Wushu Championship in Antalya city. Similar studies can be made in different cities and sports organizations. In addition, in this study, evaluations were made by means of the dependent

variable "destination marketing and organizational satisfaction", moving with the phenomenon of urban image. Except for these variables, making evaluations related to urban branding, urban vision, expectations, and attitude, enlarging the scope of the model suggested in this study can be possible.

**Authors' contributions**

I would like to thank all researchers who contributed to the publication of the research. First researcher conceived the idea, wrote the first draft, worked on all drafts and formatted the manuscript for submission. Second researcher helped develop the main idea and draft the paper. All authors have read and approved the final version of the manuscript, and agree with the order of presentation of the authors.

**Declaration of conflict interest**

The article does not find any personal or financial conflict of interest of the authors.

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Research Article

# The Effect of Movement Education Studies Applied to Children with Specific Learning Disability on Psychomotor Development

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## ABSTRACT

Specific learning disability is a condition that causes academic and mental processes, problems in motor development, balance, and coordination. This study was conducted to determine if some psychomotor skills of children with a specific learning disability develop with movement education. The working group consists of a total of twenty-eight children aged 7-14 with specific learning disabilities, who are trained in a private rehabilitation center operating and selected through simple random sampling in Kocaeli. In this research, fourteen experimental groups and fourteen as control groups were determined of the total of twenty-eight students. The data were obtained through observational tests applied before and after the 8-week training program. Experts prepared the observation results in the form of a 5-point Likert and marked the form. SPSS 25.0 was used to analyze the data. The Wilcoxon test was used because the data didn't show a normal distribution, and the research included correlation measurements. As a result of the study, no statistically significant difference was found between the test values of the control group before and after the training ($p>.05$), but there was a significant difference between the test values before and after the training in the experimental group ($p<.05$). It is concluded that movement training studies have positive effects on some psychomotor skills.



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## INTRODUCTION

When the definitions related to specific learning disability are investigated, it can be seen that different sources make different definitions in the literature. For example, the American Psychiatric Association (APA), specific learning disability the Diagnostic and Statistical Manual of Mental Disorders (DSM) in the "a neurodevelopmental disorder with a biological origin with the underlying abnormalities in cognitive level (APA, 2013)" as defining, Turkey Ministry of National Education The Specific Education Services Regulation states that "specific education and support education service, due to the difficulty of listening, speaking, reading, writing, spelling, concentration, or performing mathematical operations that occur in one or more of the information retrieval processes necessary to use the language in written or verbal understanding individuals in need (MEB, 2006)" defines the form.

As a result of psychological and neurological factors, which are not clear, a specific learning disability is a situation in which the normal development of the child is significantly impaired in academic programs, language, mental processes, and motor development levels (Özmen, 2010).

According to another definition, the child's reading, writing, arithmetic or listening, speaking is the difficulty in gaining experience in using and reasoning ability (Singh et al., 2017). Although the studies in this field started in the 1800s, the term learning disorder was first used by Kirk in 1963 (Courtad & Bakken, 2011).

Considering the general behavioral characteristics of children with a specific learning disability; speech delay can be seen, failure to tie shoes, right-left confusion, confusion of time and direction concepts, distraction and early forgetting are observed, reading is learned late and difficult, adaptation problem is seen, d and b, p and b letters are mixed, lack of self-confidence, excessive irregularity is observed, the order of the letters is mixed, there is a slowness in visual and auditory perception, there is difficulty in organizing, synthesizing and analyzing, difficulty in mathematics (Salman et al., 2016). In addition to academic and mental processes, problems in motor development, balance, and coordination can be observed in specific learning disability (Miciak & Fletcher, 2020). These skills are essential for success at school and work and for coping with life in general (Pullen et al., 2017).

Numerous studies have pointed to the importance of early diagnosis and intervention. The results of the research have shown that children in the risk group can be identified in the pre-school period (Litt et al., 2005) and that appropriate motor programs can increase educational achievement (Deng, 2017). These programs include large motor, fine motor,

attention, and social skills to increase the general developmental levels of children (Doğan, 2012).

Learning disability is a situation that causes various difficulties in acquiring knowledge, skills, and behavior during the lifelong education process (Chordia, Thandapani & Arunagirinathan, 2020). Although the intellectual (mental) capacities of children with learning difficulties are normal or close to normal, they cannot show the success expected from them (Deniz et al., 2009). In addition to skills such as reading and writing in specific learning disability, there are various problems related to fine motor skills, balance, and motor coordination (Cavioni, Grazzani & Ornaghi, 2017). Individuals with specific learning disability experience motor skills that are predicted to be automated as they are repeated (Demirci & Toptaş Demirci, 2016). These motor skills are preferred for fine motor skills, hand holding, pen holding, cube, and lego-like games, etc. rhythmic movement, bouncy play, throwing, and catching balls, jumping rope, etc. it can be expressed as.

Movement in childhood is an essential element for a child's growth (Carmen, 2020). Although it is known that physical activity makes learning an active process, it also improves the skills of the child playing games (Arabacı & Çıtak, 2017). Sports meets the movement needs of individuals, has certain rules, entertains, socializes; it can be defined as competitive physical activities in itself (Heper et al. 2012). Children interact while doing sports and learn certain rules. Children become conscious of doing and undertaking a job (Yıldız & Çetin, 2018). A well-designed motor program can help children to grow skills related to daily life, improve the mental status and increase self-esteem (Larouche et al., 2013). With physical activities to be performed in children in need of specific education, social competence, development in motor skills, physical and motor fitness, free time skills, stress relief, and game skills can be improved (Koparan, 2003).

Since the practices in public schools for children diagnosed with a specific learning disability may be insufficient, private education and rehabilitation centers are used, or private schools with low-class sizes are preferred (Aksoy, 2019). In this context, our study was carried out in order to determine whether some of the psychomotor skills of children with specific learning disability and support education in private schools other than public schools develop with movement training studies. In Görgün & Melekoğlu's (2019) study, the specific learning disabilities field is limited scientific knowledge and innovation in Turkey, the nature of the work to be done in this area, and the quantity as is stated to increase. In addition, it is aimed to contribute to the literature with this study.

## METHODS

This research is research designed and implemented as a trial model. According to Karasar (2015), the experimental model is the research model in which the data to be observed are produced under the control of the researcher in order to try to determine the cause-effect relationships, and it definitely contains a comparison. In this study, the pre-test, post-test control group model, which is a trial model, was used. The reason why this model is preferred in our research is that it allows determining more clearly whether the training program to be applied will have a positive effect on the experimental group.

*Participants*

The working group consisted of 28 children selected by simple random sampling from 158 children studying in a private rehabilitation center in Kocaeli province and were diagnosed with specific learning difficulties. Seven of the children in the study group are girls, and seven are boys, and their ages range from 7-14. The children in the study group continued their education regularly. The characteristics of the working group can be seen in Table 1.

In the simple random sampling method, each item that is likely to be included in the study is given an equal chance to be selected for sampling, and in order to apply this sampling technique, the sampling frame list must be in the hands of the researcher (Gürbüz & Şahin, 2018). In this sampling type, each element should have the chance of being selected equally, and at the same time, the selection of one should not affect the selection of the other (Coşkun et al., 2017). In this study, the sample frame list was composed of 158 children who were educated in the institution where the study was conducted. A number was given to each of the children, and it was determined who would be included in the working group by pulling numbers from a closed bag with the name picking method.

*Data Collection Instruments*

The Movement Training Skill Test prepared by Tekin (1987) in the form of a 5-point Likert was used for the motor development behaviors to be measured as a data collection method. Movement Training Skill Test is a test that is applied as a pre-test and a post-test. The test consists of nine motor behaviors, including static balance, dynamic balance, ball handling with a racket, throwing a ball to the target, cross bounce, dribbling, changing the ball, crossing an obstacle, and passing between slalom. Related trails used for measuring motor behavior were created by respecting the eligibility age range of the sample group by the researchers. Movement training skills of all individuals can be tested with this test. Cronbach's Alpha value

of the measurement tool was determined as .937 in our study. This value indicates that the measuring tool has high reliability (Alpar, 2010).

In our study, no personal information form was used; only the ages of the participants were noted. Information on the specific learning disability levels of the participants was obtained from the reports given by the Guidance Research Centers.

**Table 1.** Percentage Frequency Values of the Participants

| Experimental / Control | Gender | Age | f | % |
|---|---|---|---|---|
| **Experimental Group** | Female | 7 | 1 | 14.3 |
| | | 9 | 1 | 14.3 |
| | | 10 | 2 | 28.6 |
| | | 11 | 1 | 14.3 |
| | | 14 | 2 | 28.6 |
| | | **Total:** | **7** | **100** |
| | Male | 8 | 1 | 14.3 |
| | | 9 | 1 | 14.3 |
| | | 10 | 1 | 14.3 |
| | | 11 | 2 | 28.6 |
| | | 12 | 1 | 14.3 |
| | | 13 | 1 | 14.3 |
| | | **Total:** | **7** | **100** |
| **Control Group** | Female | 8 | 1 | 14.3 |
| | | 9 | 1 | 14.3 |
| | | 10 | 2 | 28.6 |
| | | 11 | 2 | 28.6 |
| | | 13 | 1 | 14.3 |
| | | **Total:** | **7** | **100** |
| | Male | 7 | 1 | 14.3 |
| | | 9 | 1 | 14.3 |
| | | 10 | 1 | 14.3 |
| | | 12 | 2 | 28.6 |
| | | 13 | 1 | 14.3 |
| | | 14 | 1 | 14.3 |
| | | **Total:** | **7** | **100** |

*Data Collection Procedure*

This study was conducted in accordance with the Helsinki Declaration (2013) standards following ethical principles. The necessary permissions were obtained from the private rehabilitation center in Kocaeli, which is the institution where the study was conducted, regarding the conduct of the study. In the study, detailed information about the general and specific characteristics, content, purpose, method, location, time, and duration of the study was given to the children with a specific learning disability and their families who are included in both the experimental and control groups. An information form about working was distributed to the families of all children, and written consent was obtained from the families regarding their child's participation in the study. Families and children were informed that participation in the study is voluntary and that they can leave at any stage of the study if they wish. However, at the time of the application, the parents of the students in the working group were not taken into the test environment, considering that they could have a negative impact on the students' attention.

The data were obtained through observational tests applied before and after the 8-week training program applied to children studying in the relevant institution. During the observations made, whether the students perform the specified movement or not is marked by the experts, and the 5-point Likert form, which ranges from "Can't Ever Do It - Makes It Very Good."

All children were given mobility skills once and for testing purposes. With the method of drawing names from the working group, a total of fourteen children, seven girls, and seven boys, were selected as the control group, and fourteen children, seven girls and seven boys, were selected as the experimental group. Then the working group was rested and pre-tested. A movement training program was applied to the children in the experimental group for eight weeks. After eight weeks of training, the study group was re-tested.

A sports trainer, a specific education teacher, a psychologist, and a physiotherapist were kept as observers during the implementation of the training program and the children's movements. It was paid attention that the temperature of the environment in which the test was performed was between 20-22 degrees.

*Movement Education Program*

Within the training program that lasts three days a week, 60 minutes a day, and a total of 8 weeks; Studies selected from the locomotor, manipulative, and balancing movements,

which include children's static balance, dynamic balance, racket-to-ball, throw-to-target, cross-jump, dribbling, ball-changing, obstacle-passing, and slalom-passing skills is located. Training programs were implemented by gamification. At the end of the training program, the training program applied to the experimental group was applied to the participants in the control group of the study, thereby preventing the disadvantaged situation of the control group.

*Data Analysis*

SPSS 25.0 package program was used in the analysis of the data. Shapiro-Wilk test was used in case the group size is less than 50, and Kolmogorov-Smirnov (K-S) test was used to examine the compliance of the data to the normality (Büyüköztürk, 2018). In order to determine whether the data shows the normal distribution in line with this information, the Shapiro-Wilk test was applied since the group size was less than 50, and it was determined that the data did not show normal distribution ($p < 0.05$). Since the data did not show a normal distribution and the research included correlation measurements, the Wilcoxon signed-ranks test was used for the related measurements from nonparametric tests. In addition, average and standard deviation values were used in the interpretation of the data.

## RESULTS

The findings obtained as a result of the study were given in this section.

When table 2 is examined, it can be seen that the post-test average scores are higher than the average pre-test scores in all motor behaviors, especially in the dynamic behavior of the experimental group, especially ball behavior, ball change, and slalom making motor behaviors. On the other hand, there is not a big change in the motor behavior of the control group between the average pre-test scores and the post-test average scores.

Also, in table 2, it can be seen that the Wilcoxon test is used to determine whether there is a statistically significant difference between the motor behavior scores of the experimental group and the control group. As a result of the applied test, there was not a statistically significant difference in the static balance of the nine motor behaviors, which were the test parameters in the experimental group ($p > 0.05$). A statistically significant difference was found in all of the other motor behaviors such as dynamic balance, carrying ball with racket, ball throwing, cross bounce, dribbling, ball changing, obstacle passing, and slalom making ($p < 0.05$). There is no statistical difference in all of the motor behaviors measured in the control group. In addition, average and standard deviation values were used in the interpretation of the data.

**Table 2.** Means and Standard Deviations of the Experimental and Control Groups According to Motor Behaviors and Wilcoxon Test Results

| | | Pre-Test | | Post-Test | | Wilcoxon | |
|---|---|---|---|---|---|---|---|
| | *Motor behavior* | **Mean** | **Sd** | **Mean** | **Sd** | **Z** | **p** |
| **Experimental Group** | Static balance | 4.79 | .57 | 4.93 | .26 | -1.414[a] | .157 |
| | Dynamic balance | 3.21 | 1.31 | 4.79 | .42 | -2.739 [a] | .006* |
| | Carrying ball with racket | 2.57 | 1.22 | 4.50 | 1.09 | -3.109 [a] | .002* |
| | Throw the ball to the goal | 3.50 | .76 | 4.14 | .86 | -2.460 [a] | .014* |
| | Cross bounce | 3.79 | 1.12 | 4.57 | .64 | -2.414 [a] | .016* |
| | Dribbling | 3.43 | 1.15 | 4.50 | .96 | -2.762 [a] | .006* |
| | Changing the ball | 2.93 | 1.43 | 4.29 | 1.06 | -2.701 [a] | .007* |
| | Crossing obstacle | 4.21 | .80 | 4.79 | .57 | -2.271 [a] | .023* |
| | Making slalom | 3.50 | .85 | 5.79 | .57 | -2.972 [a] | .003* |
| **Control Group** | Static balance | 4.21 | .97 | 4.57 | .93 | -1.518[a] | .129 |
| | Dynamic balance | 4.36 | 1.08 | 4.21 | 1.05 | -1.000[b] | .317 |
| | Carrying ball with racket | 2.93 | 1.20 | 3.36 | 1.44 | -1.561[a] | .119 |
| | Throw the ball to the goal | 3.43 | .93 | 3.43 | 1.01 | .000[c] | 1.00 |
| | Cross bounce | 3.29 | 1.204 | 3.50 | 1.345 | -1.000[a] | .317 |
| | Dribbling | 3.36 | 1.550 | 3.36 | 1.393 | .000[c] | 1.00 |
| | Crossing obstacle | 3.07 | 1.492 | 3.14 | 1.406 | -.276[a] | .783 |
| | Crossing obstacle | 4.00 | .784 | 4.07 | .730 | -.577[a] | .564 |
| | Making slalom | 3.71 | 1.267 | 3.43 | .938 | -1.265[b] | .206 |

[a] Based on negative ranks
[b] Based on positive ranks
[c] The sum of negative ranks equals the sum of positive ranks
*p<.05

## DISCUSSION

It can be said that a specific learning disability is a mild mental disability. In addition to attending classes with their peers, children with a specific learning disability can receive support education from other institutions. This study was carried out to determine whether some of the psychomotor skills of children with a specific learning disability and those who receive supportive education outside of school in this direction develop with movement training studies.

As a result of the study, no statistically significant difference was found between the pre-training and post-training values of the control group (p> 0.05), but a statistically significant difference was found between the pre-training and post-training values in the experimental group (p <0.05). The reason for this is that the movement training application program implemented for eight weeks is suitable for the age and education level of the

children, and at the same time, due to the fact that the applications are in-game content, the children can enjoy the program and be able to participate in the activities regularly. Gamification of the activities included in the movement training program implemented has a positive effect on children's motivation to participate. As stated by Yavuzer (2005), the child has the opportunity to discharge his accumulated energy through play.

Movement training work after the children have specific learning disability with the test parameters compared to pre-education movement has been seen more successfully they fulfill. The reason for this may be due to the improvement in movement skills by providing the need to move, which is inherented in human nature and has an important place, especially for children. Similarly, in a study conducted by Demirci & Toptaş Demirci (2016), they concluded that children were late in learning some motoric behaviors before the teaching process, but during the teaching process, they developed these motor behaviors, and their movements were more comfortable. Krebs (2005), it was concluded that giving the sportive skills in the game form in the applications performed in the mentally handicapped increased both motor behaviors and life and communication skills.

As a result of an 8-week motor skills-focused study conducted with children with a specific learning disability, it was found that physical activities had positive effects on children's learning problems (Deng, 2017). Keskin et al. (2017), as a result of the study, which the effects of exercise practices on sportive performance were investigated in autistic children, reached the conclusion that exercise applications contributed positively to the development of gross and fine motor skills of all autistic children who participated in the study. Alp & Çamlıyer (2016) concluded that in their study with autistic children, movement education and physical activities applied to autistic children support their social development. Although the sample groups of these studies are different from our study, it is possible to say that exercise has positive effects on rough and fine motor skills in almost all individuals in general. In the study, the exercise course and fine motor skills contribute positively to the conclusion that has been reached.

Since motor and balance problems are not noticed in children with special learning difficulties, physical problems are in the last place for parents. (Selçuk et al., 2018). However, physical problems can directly affect the child's success in other fields. Movement training to be implemented in children with a specific learning disability are likely to develop both physical problems and problems in children. In a study conducted with intellectual disability children, it was observed that a 16-week psychomotor training program had positive effects on children's attention and behavior control and school activities (Fotiadou et al., 2017). Many

studies have shown that physical exercises contribute to the development of social behavior and mental skills as well as physical capacity (Badau, 2017; Sönmez, 2017; Yılmaz & Soyer, 2018).

As a result, it can be said that the movement training activities to be applied to children with specific learning disability affect their psychomotor development positively if care is taken regularly and systematically, taking into account the age, level of development, and individual characteristics of the children. This information is in line with the Ministry of National Education with the organizers of education in Turkey (MEB) to enact a program that includes specific learning disability in children with movement education studies will be very useful in terms of the development of these children psychomotor in schools. The implementation of such a program will not only provide positive advances in the psychomotor skills of the individuals concerned but will also ensure that these individuals are healthy and happy.

We think that investigating the changes in the problematic behaviors or academic situations of children with a specific learning disability who underwent movement training or sportive training in later researches will contribute significantly to the relevant literature.

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**Authors' contributions**

The first author conceived the idea, wrote the first draft, worked on all drafts. The second author handled develop the main idea, collected data and worked on all drafts. The third author handled the statistics, article writing and directed publishing process. All authors have read and approved the final version of the manuscript and agree with the order of presentation of the authors.

**Declaration of conflict interest**

The article does not find any personal or financial conflict of interest of the authors.

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