HALAMAN OLAHRAGA NUSANTARA (HON)
Jurnal Ilmu Keolahragaan

Volume 9 No I
Tahun 2026

ISSN 2614-2775 (Print)
ISSN 2621-8143 (Online)

ANALYSIS OF THE RELATIONSHIP BETWEEN LIMB MUSCLE EXPLOSIVE POWER AND ACHIEVEMENT MOTIVATION WITH 100 METER SPRINT

Ragil Aditia Saputra[1], Sungkowo[2], Sobihin[3]
Universitas Negeri Semarang[1,2,3]
ragiladitia97@students.unnes.ac.id

Abstract
This research is motivated by the importance of 100-meter running performance as an indicator of athletic ability, which is influenced by physical and psychological factors. The purpose of this study was to analyze the relationship between leg muscle explosive power and achievement motivation on 100 meters running speed in athletes of Pandanaran Athletic Center Semarang. This study used a quantitative approach with a correlational design, involving all short-distance running athletes as samples through the total sampling technique. Data were collected through a standing broad jump test to measure leg muscle explosive power, a questionnaire based on McClelland's theory for achievement motivation, and a 100-meter running test to measure speed. The results of the analysis showed that there was a very strong and significant negative relationship between leg muscle explosive power (r = -0.997) and achievement motivation (r = -0.851) with 100-meter running time. These findings indicate that increasing leg muscle explosive power as well as athletes' internal motivation significantly contribute to the achievement of optimal running performance. This research contributes to the development of sports science by emphasizing the importance of integrating physical and psychological aspects in athlete development.

Keywords: *Limb Muscle; Explosive Power; Achievement Motivation; 100 Meter Sprint*
Submitted : 20th of December 2025
Accepted : 31th of January 2026
Published : 31th of January 2026
Correspondence Author: Ragil Aditia Saputra, Universitas Negeri Semarang, Indonesia.
E-Mail: ragiladitia97@students.unnes.ac.id

DOI http://dx.doi.org/10.31851/hon.v9i1.20981

INTRODUCTION

The Sport is a form of physical activity carried out by humans with the aim of gaining health and maintaining body fitness (Romadhon & Al Ghani, 2024). Sports development is one of the efforts to improve the quality of Indonesian human resources, which focuses on improving physical, mental and spiritual health. In addition, this development also aims to shape character, discipline, and high sportsmanship, while encouraging achievement that can foster a sense of pride in the nation (Nur et al., 2022).

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

One of the materials taught in the physical education curriculum, starting from elementary school to college level, is athletics (Henjilito Raffly, 2019). Athletics is one of the sports that includes activities such as walking, running, jumping, and throwing, which are often done in everyday life. Therefore, athletics is often considered the basis or parent of various other sports.

Athletics is divided into several numbers, namely walking, running, jumping, and throwing. In the running category, there are various types, such as short distance running, middle distance, long distance, and marathon (Henjilito Raffly, 2019). Short distance running itself includes several numbers, including 50 meters, 100 meters, 200 meters, and 400 meters. The 100-meter sprint is a skill that involves the process of moving the body position from one point to another quickly by covering a distance of 100 meters. To achieve maximum speed, there are several important things that must be considered, such as the position of the body leaning forward, the optimal length of the footsteps, the swing of the hands in rhythm with the movement of the feet, and the position of the fingers that can be clenched or opened tightly while remaining relaxed. All of these factors are intended so that the runner can maintain full speed until crossing the finish line (Sartono, 2018). To produce quality runners who are able to achieve optimal performance, it is important to understand the extent of the factors that influence speed in 100-meter short-distance running. By doing so, it is hoped that running achievements at Pandanaran Athletic Center Semarang can be achieved properly. In 100-meter short-distance running, especially in the starting phase, a very strong repulsion or push of the foot is needed. In addition, the speed of the foot in making a repulsion that relies on leg extension, also known as muscle explosiveness, is also an important factor that affects the runner's performance (Henjilito, 2019).

Muscle explosive power is the ability of muscles to produce explosive power, especially in leg muscles, which is very important in running to make maximum repulsion at the start and during running. Explosive power is one of the aspects of physical condition needed by athletes in almost all sports, including

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

short-distance running, because it is related to very important biomotor abilities (Muh. Akmal, 2022). Increasing explosive power requires the development of strength (power) and speed simultaneously to overcome the load in a relatively short time. Therefore, leg muscle explosive power has a close relationship with 100meter running speed. However, in this context, the speed in question is reaction speed. Reaction speed is the body's ability to respond to a stimulus as quickly as possible in order to achieve optimal results. Reaction speed is needed when starting, that is, when the whistle is sounded by the starter, the runner can start the start correctly and in a short time. After that, the runner runs as fast as possible until reaching the finish line. This ability supports running speed and helps finish the race faster (Henjilito Raffly, 2019).

The achievements achieved by a student athlete are always closely related to the motivation that drives him to achieve success, because motive is an internal drive that makes someone act and do something. Motivation is the force that drives and directs behavior, so student athletes with high achievement motivation will continue to try and take planned steps to achieve the targets that have been set. One important form of motivation is achievement motivation, which is a crucial factor in the continuity of an athlete's career, in addition to practical skills and experience in the sport he is involved in. Achievement motivation refers to the distinctive characteristics that are permanent in a person, which encourage him to complete certain tasks optimally (Lodhi et al., 2021). In addition, achievement motivation is a drive, desire, and determination to achieve excellence, both by exceeding one's own achievements and the achievements of others. Strong achievement motivation is not only needed in coaching and technical training, but also in the entire training process to achieve optimal results. Without high achievement motivation, an athlete will have difficulty achieving maximum performance (Muh. Akmal, 2022). The achievement of one's goals basically aims to satisfy or fulfill needs that are considered important in themselves. Motivation

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

is seen as a social drive to achieve a certain value through action, with reference to the best standards or criteria.

The results of observations made, at the Pandanaran Athletic Center Semarang, with the background reasons why taking samples at the Pandanaran Athletic Center Semarang, in this observation there are still athletics that lack confidence in travel time for 100meter running speed which is still below the specified time, so there are athletics that do not have the motivation to produce maximum running at 100meter running speed. From the observations and background that have been described there is a formulation of the problem that occurs, the author formulates how much the analysis of leg muscle explosiveness and achievement motivation together on the 100meter running speed of Pandanaran Athletic Center Semarang athletes. In general, the purpose of the study was to determine the magnitude of the analysis of leg muscle explosiveness and achievement motivation together on the 100m running speed of Pandanaran Athletic Center Semarang athletes.

Based on the explanation that has been submitted,the author carried out a scientific with the title "Analysis of the Releationship between Limb Muscle Explosive Power and Achievement Motivation with 100 Meter Running Speed in Pandanaran Athletic Center Semarang Athletes"

METHOD

The research method used in this study is a type of quantitative research with a correlational design, which aims to determine the relationship between leg muscle strength and achievement motivation on the ability of 100 meters running speed at the Semarang Athletic Center in Pandanaran.

The population in this study were all athletes of Pandanaran Athletic Center Semarang who focused on short distance running, with a total of 10 athletes. Sampling was done using total sampling technique, where all members of the population were used as research samples.

Data collection techniques in this study were carried out using test and measurement methods. The data collected in this study includes the results of the

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

leg muscle explosive power test and the running speed test at a distance of 100 meters. In accordance with the types of variables involved in this study, the instruments or types of tests used to obtain data include (1) Achievement motivation instrument using a questionnaire with McClelland's theory (Li et al., 2022) (2) Achievement motivation instrument using a questionnaire with McClelland's theory (Li et al., 2022), (3) 100meter running speed instrument measured through a 100meter running test. Data were analyzed by 1) Descriptive test of research variables 2) Correlation test to determine the answer to the research hypothesis.

RESULT AND DISCUSSION

The results of the research conducted by researchers on "Analysis of Leg Muscle Explosive Power and Achievement Motivation with 100m Running Speed at Pandanaran Athletic Center Semarang" will be explained by describing the data and discussing it to answer the problem formulation and test the relationship between variables that have been determined, namely leg muscle explosive power (X1), achievement motivation (X2), and 100meter running results (Y).

Table 1. Descriptive Statistics of Research Variables

Variable	N	Min	Max	Mean	Std. Dev
Leg Muscle Explosiv-eness	10	165	198	181.60	11.881
Achievement Motivation	10	76	96	86.60	6.979
100-meter run	10	12.80	14.00	13.3850	41108
Valid N (listwise)	10				

Based on table 1 descriptive statistical analysis, leg muscles obtained a minimum score of 165, maximum score obtained of 198, average score of 181.60 and std deviation obtained a score of 11,881. Achievement motivation obtained a minimum score of 76, a maximum score of 96, an average score of 86.60 and a standard deviation obtained a score of 6,979. The 100m run obtained a minimum score of 12.80, a maximum score of 14.00, an average score of 13.3850, and a std deviation obtained a score of 41108.

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

Table 2. Normality Test

Variable	Shapiro Wilk	Description
Leg Muscle Explosiveness	0.534	Normally Distributed
Achievement Motivation	0.593	Normally Distributed
100-meter run	0.655	Normally Distributed

Based on table 2 of the normality test, because the value in the variable Limb Muscle Explosiveness, Achievement Motivation and 100meter Running is more than 0.05, all data is normally distributed.

Table 3. Pearson Correlation Test Result

Variable		Leg Muscle Explosiv-eness	Achieve-ment Motivati-on	100-meter run
Leg Muscle Explosiv-eness	Pearson Correlation	1	.834**	-.997**.
	Sig. (2-tailed)		.003	000
	N	10	10	10
Achieve-ment Motivati-on	Pearson Correlation	.834**	1	-.851**
	Sig. (2-tailed)	.003		.002
	N	10	10	10
100-meter run	Pearson Correlation	.997**	-.851**	1
	Sig. (2-tailed)	.000	.002	
	N	10	10	10

Based on table 3 Pearson correlation test, obtained the relationship between Leg Muscle Explosiveness and 100 Meter Running Results, the results show the Pearson correlation coefficient value of r = -0.997 with a significance value of p = 0.000 (p < 0.01). This negative correlation means that the higher the leg muscle explosive power, the faster the 100-meter running time tends to be (because the time is getting smaller), and the relationship is highly significant. This indicates that leg muscle explosive power is very influential on 100-meter running performance.

The relationship between Achievement Motivation and 100-meter Running Results, obtained a Pearson correlation coefficient value of r = -0.851 with a significance value of p = 0.002 (p < 0.01). This means that there is a very strong and significant negative relationship between achievement motivation and 100-meter running results. That is, the higher the achievement motivation of an athlete, the better (faster) the running performance.

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

Overall, it can be concluded that both leg muscle explosive power and achievement motivation are strongly and significantly negatively related to the 100meter dash. The higher the leg muscle explosive power and achievement motivation, the better the running performance (the smaller the travel time).

Overall, the three variables in this study were significantly interconnected, indicating that both physical (leg muscle explosive power) and psychological (achievement motivation) factors contribute to 100-meter running results.

Based on the results of the research that has been done, it is known that there is a very strong and significant relationship between leg muscle explosive power and achievement motivation with 100meter running speed in athletes of Pandanaran Athletic Center Semarang. Leg muscle explosive power showed a very strong negative correlation with 100-meter running time ($r = -0.997$; $p = 0.000$), which means that the greater the explosive power the athlete has, the faster he/she will complete the 100-meter distance. This is in accordance with the biomechanical principle that the explosive strength of the leg muscles plays a very important role in providing impetus during the start and acceleration (Sistiasih et al., 2024). The results of this study conducted by on long jump athletes, who found that leg muscle explosive power and running speed had a high positive correlation ($rx_1y = 0.969$) and achievement motivation also showed a significant correlation with athlete performance ($rx_2y = 0.982$). The component of leg muscle explosive power has a direct effect of 31.5% on 100-meter sprint speed (Humairoh et al., 2023). Explosive strength of the leg muscles also has a significant role in sprinting ability, with a positive contribution to short distance running speed (Bakti et al., 2024). Physical conditions such as muscle power are important aspects that cannot be ignored in the development of athlete performance (Marpaung & Priyonoadi, 2020).

The relationship between leg muscle strength and short distance running ability is very close, because the ability to run short distances will require strong leg muscle power so that the results of the jump can be carried out optimally. Thus it is

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

clear that leg muscle power has a close relationship and has an important role in running 100 meters. Without having good leg muscle power, it greatly affects running speed when running 100-meters(Ahmad Azkal Azkiyaa et al., 2024).

In addition, achievement motivation also showed a significant negative relationship with running results (r = -0.851; p = 0.002), which indicates that the passion and drive for achievement contribute to improving athlete performance. success in sports such as not only determined by physical abilities, but also influenced by psychological aspects (Zafira et al., 2024). Motivation and plyometric training in improving leg muscle explosive power support the hypothesis that mental aspects are the main support in translating physical capacity into performance (Jurdila et al., 2023). If the coach uses a good form of training without being supported by high athlete achievement motivation, then the athlete will not feel a conducive and pleasant training situation, and is not eager to follow the training process This will cause the goal not to run well and the training material will not be absorbed perfectly by athletes (Putra et al., 2021). Therefore, the development of an exercise program should include physical coaching as well as a mental psychological approach to achieve optimal results (Nazario et al., 2025).

CONCLUSION

Based on the results of research conducted on the relationship between leg muscle explosive power and achievement motivation to 100 meter running speed in athletes of Pandanaran Athletic Center Semarang, it can be concluded that both variables simultaneously make a significant contribution to improving athlete performance in short distance running. The findings show that the higher the leg muscle explosive power owned, and the stronger the achievement motivation in athletes, the faster the running time can be achieved. This is evidenced through correlation analysis which shows a very strong and significant negative relationship between leg muscle explosive power ($r = -0.997$; $p < 0.01$) and achievement motivation ($r = -0.851$; $p < 0.01$) with 100 meters running time. Thus, this study confirms that success in sprint sports is not only determined by

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

physical factors alone, but also influenced by psychological aspects in the form of an internal drive for achievement. The main contribution of this research to sports science is to provide a more thorough understanding of the importance of integration between the development of physical conditions and psychological approaches in athlete development programs, especially in improving short distance running speed and performance.

REFERENCES

Agung Nanda, F., Ilmawan, A. W., Lumintuarso, R., Gusdernawati, A., & Alzaid, M. T. (2023). Caffeine supplementation in the sport of futsal: How does it impact athletes' endurance and speed? Journal Sport Area, 8(1), 62–67. https://doi.org/10.25299/sportarea.2023.vol8(1).9897

Anggara, T. (2017). Hubungan koordinasi mata kaki, daya ledak otot tungkai dan percaya diri dengan hasil lari sprint 100 meter pada atlet pplp bangka belitung. Gladi jurnal ilmu keolahragaan, 8(2), 135–146. https://doi.org/10.21009/gjik.082.06

Clara Dwi Oktaviani, R. S. F. U. (2022). Gambaran Motivasi Berprestasi Pada Atlet Mahasiswa. Jurnal Riset Mahasiswa Psikologi, 1(1), 38–46.

Hanafi, S., Musfira Amahoru, N., Studi Pendidikan Jasmani Kesehatan

Henjilito, R. (2019). Correlation of Muscular Leg Explosion Power Toward Short Distance Running Speed 100 Meters. JUARA : Jurnal Olahraga, 4(2), 99. https://doi.org/10.33222/juara.v4i2.540

Henjilito Raffly. (2019). Pengaruh Daya Ledak Otot Tungkai, Kecepatan Reaksi Dan Motivasi Terhadap Kecepatan Lari Jarak Pendek 100 Meter Pada Atlet Ppl Pprovinsi Riau. Journal Sport Area Penjaskesrek FKIP Universitas Islam Riau, 70–78.

Jannah, M., Dwi Permadani, F., Widohardhono, R., & Artikel, R. (2022). Motivasi Berprestasi Olahraga Pada Atlet Pelajar Ketika Pandemi Covid-19 Di Jawa Timur Info Artikel Abstrak. 13(1), 60–65. https://doi.org/10.31764

Li, Y., Zhang, Y., & Zhang, F. (2022). Materialism Predicts College Students' Entrepreneurial Intention: A Serial Mediation Model. Frontiers in Psychology, 13. https://doi.org/10.3389/fpsyg.2022.864069

Lodhi, A., Biswas, N., & Khakha, L. (2021). A comparative study of achievement motivation and sports competition anxiety among physical education students. International Journal of Physical Education, Sports and Health, 8(5), 176–178. www.kheljournal.com

Mackala, K., Fostiak, M., Schweyen, B., Osik, T., & Coch, M. (2019). Acute

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

effects of a speed training program on sprinting step kinematics and performance. International Journal of Environmental Research and Public Health, 16(17). https://doi.org/10.3390/ijerph16173138

McClelland, D. C. . (2009). Human motivation. Cambridge University Press.

Muh. Akmal, R. H. S. N. (2022). Analisis daya ledak tungkai, koordinasi matatangan, dan motivasi berprestasi terhadap ketepatan smash pada atlet club bola voli universitas muhammadiyah palopo.

Nasution, M. M., & Yusnaldi, E. (2022). The Efforts of Tahfidz Quran Teachers in Developing Arabic Language Communications for SD/MI Levels. Jurnal Basicedu, 6(4), 5542–5548. https://doi.org/10.31004/basicedu.v6i4.2917

Nur, R., Rusli, M., Saman, A., Penjaskes-Rek, P., Fkip, /, Universitas, /, & Oleo, H. (2022). Hubungan Daya Ledak Otot Tungkai Dengan Kecepatan Lari 100 Meter Pada Siswa Kelas Xi Sman 1 Kulisusu. Journal Olympic, 2(1).

Pérez-Castilla, A., García-Ramos, A., Janicijevic, D., Miras-Moreno, S., De la Cruz, J. C., Rojas, F. J., & Cepero, M. (2021). Unilateral or bilateral standing broad jumps: Which jump type provides inter-limb asymmetries with a higher reliability? Journal of Sports Science and Medicine, 20(2), 317–327. https://doi.org/10.52082/jssm.2021.317

Rahmawati, D., Sujiono, B., Ika, D., & Marani, N. (2019). Hubungan antara panjang tungkai dan daya ledak otot tungkai terhadap hasil lari 100 meter atlet atletik. In Jurnal Ilmiah Sport Coaching and Education (Vol. 3).

Romadhon, A. D., & Al Ghani, M. (2024). Minat Siswa dalam Ekstrakurikuler Olahraga Futsal di SMP Negeri 3 Tangerang Selatan.

Stkip, S., & Kuningan, M. (2018). JUARA : Jurnal Olahraga pengaruh latihan double leg speed hop dan double leg box boundterhadap kecepatan lari 100 meter. in juara : Jurnal Olahraga (Vol. 3, Issue 1). http://jurnal.upmk.ac.id/index.php/juara

Ahmad Azkal Azkiyaa, Nur Subekti, & Nurhidayat, N. (2024). Hubungan Power Otot Tungkai dan Panjang Tungkai dengan Kemampuan Lari 100 Meter. VENUE : Jurnal Olahraga, 1(1), 34–38. https://doi.org/10.71264/venue.v1i1.18

Bakti, A. P., Kusnanik, N. W., Wahjuni, E. S., Firmansyah, A., Susanto, I. H., & Khuddus, L. A. (2024). The Correlation of Leg Length, Jump Height, and Leg Muscle Explosive Power Toward Sprint Ability. Retos, 51(December), 1463–1468. https://doi.org/10.47197/retos.v51.101052

Fadiga Nazario Aimar Deafiga, Sungkowo, I. R. (2025). Interrelationship of Mental Health and Self- Confidence Performance Athlete Badminton PB Tugu Muda Semarang. ABDIMAS Jurnal Pengabdian Kepada Masyarakat, 29(1), 130–138.

HALAMAN OLAHRAGA NUSANTARA
JURNAL ILMU KEOLAHRAGAAN
Jendral A. Yani Street Lorong Gotong Royong 9/10 Ulu Palembang South Sumatera
email jurnal: jurnalhon@univpgri-palembang.ac.id
situs web: http://www.univpgri-palembang.ac.id

Humairoh, Z., Yendrizal, Y., Arsil, A., Pranoto, N. W., & Zarya, F. (2023). The effect of leg muscle explosiveness, agility, and flexibility on the Padang Club Athletics 100 sprint. Jorpres (Jurnal Olahraga Prestasi), 19(1), 21–31. https://doi.org/10.21831/jorpres.v19i1.60701

Jurdila, F., Hb, B., Rifki, M. S., & Zarya, F. (2023). The effect of plyometric training and motivation on the explosive power of leg muscles of extracurricular volleyball students of SMPN 2 Bantan. JORPRES (Jurnal Olahraga Prestasi), 19(2), 145–156.

Khairul rizal, P. A. (2023). Relationship between speed and leg muscle explosive power with long jump results Pasi athlete Indragiri Hilir. Jurnal Olahraga Indragiri, 10(2), 39–43. https://doi.org/10.32520

Marpaung, H. I., & Priyonoadi, B. (2020). The Correlation between Leg-arm Muscle Power and Volleyball Players' Open Smash Ability. Proceedings of the 3rd Yogyakarta International Seminar on Health, Physical Education, and Sport Science in Conjunction with the 2nd Conference on Interdisciplinary Approach in Sports., 379–385. https://doi.org/10.5220/0009786803790385

Putra, M. A., Manurizal, L., Janiarli, M., & Sinurat, R. (2021). Speed Ability Training on Football Basic Movement Skills. Pelita Eksakta, 4(2), 154. https://doi.org/10.24036/pelitaeksakta/vol4-iss2/159

Sistiasih, V. S., Nurrohman, D., & Rumpoko, S. S. (2024). The Relationship Between Wrist Flexion And Leg Muscle Explosive Power Against Volleyball Smash Ability. Journal Coaching Education Sports, 5(1), 97–108. https://doi.org/10.31599/jces.v5i1.3670

Zafira, N., Rani, A., & Candra, D. (2024). The relationship between mental toughness, anxiety with the achievement motivation adolescent badminton athlete. Jurnal Patriot, 6(3), 89–96. https://doi.org/doi.org/10.24036/patriot.v%vi%i.1078