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To Determine the Stature by Footprint Length

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KEYWORDS	ABSTRACT:			
Height, Footprint , Length	Aim: To determ	ine the stature by Footprint Length		
	MaterialsandMethod: The forensic medicine department conducted this prospective research. The research involved a total of one hundred individuals. Using a measuring device, the length of the footprint is recorded in centimeters, starting at the furthest edge of the heel and ending at the tip of the longest toe.			
	Results: the he Compared to the that both the rig respectively). 7 0.001). The hei two variables. 1 footprint length difference in the regression equa	ight of fifty male participants and ne right footprint, the typical left for ght and left foot lengths were posit. There is a statistically significant ght of fifty female participants, the Research showed that height was p hs ($r = +0.92$ for RFPL and LFP he correlation coefficient ($P = 0$ tho might be used to forecast a girl	the lengths of their right and left footprints. botprint is somewhat shorter. Research showed ively correlated with height ($r = 0.79$ and 0.77, difference in the correlation coefficient ($p =$ length of their right and left footprints, and the ositively correlated with both the right and left PL +0.89). There is a statistically significant 0.001). Because of this strong association, a 's height based on her right foot length.	
	Conclusion: Th and the length height and mea significant.	e current investigation found a stat of the subjects' right and left foot in foot length. The gender gap in le	istically significant relationship between height prints. Males outnumber girls in terms of both eft and right footprint length is not statistically	

Introduction

The ability to positively identify an individual is crucial in all legal proceedings, whether civil or criminal. When trying to determine guilt in a criminal case, investigating officers must act swiftly and accurately. While looking into a crime, many details about the perpetrator are often unknown. That is why it is necessary to use the facts at hand to prove a person's identity. There are many ways to identify a person, but one of the most essential is their height, which is a trait that everyone is born with. Estimating height from various bodily parts, such as the arm, forearm, hand, finger, long bone, foot, shoe, etc., has been the subject of several studies[1]. One common way to estimate a person's height from their measurements is via a linear

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regression model. Because it allows for the calculation of a criminal's size, the examination of foot prints offers crucial evidence in a crime scene investigation. The results of the correlation analysis between stature and footprint measures are statistically significant and positive. The offender almost certainly leaves a fingerprint at the crime site when they conduct the crime. In order to narrow down the pool of potential suspects, it may be more helpful to look for characteristics such as an extra toe, a missing toe, or a flat foot in the foot shape. Because bare feet are so common at crime scenes in underdeveloped nations, their analysis is a common investigative tool. Because feet are often resistant to destruction by aircraft accidents, fires, etc., most nations keep a record of all www.jchr.org

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air-force flying personnel's footprints[2]. The impacts of heredity, diet, lifestyle, and physical activity levels vary from one ethnic group or community to another, and this is true regardless of the established correlations between various bodily parameters.

MaterialsandMethod

The forensic medicine department conducted this prospective research. The research involved a total of one hundred individuals.

Methodology

A 24×24 -inch glass plate is wiped clean and then evenly covered with a thin coating of black painters' ink using a roller. Each student's height and footprint are measured independently. To get rid of filth, have each pupil wash and dry their feet. Next, they are instructed to wash their feet on the stained-glass plate. Then, they are to walk casually on two white sheets, one for each foot, in order to transfer the prints of their right and left feet to each sheet. The avoidance of potential technical-dimensional artifacts is ensured.

Using a measuring device, the length of the footprint is recorded in centimetres, starting at the furthest edge of the heel and ending at the tip of the longest toe. In order to remove any potential for human error in the process, all of the measures are taken at the same time and place, namely between 1:00 and 3:00 pm, in order to account for the natural change in height during the day.

Everyone has to stand on the floor in the correct anatomical posture, contacting the wall where the height markers are already marked, with their heel and occiput touching. On top of the skull rests a thin piece of cardboard. The centimetre measurement is taken from the heel to the horizontal cardboard. This allows us to use a regression method to determine an individual's height in relation to their footprint length. Positive results are seen when the computed height is compared to the real height of the person.

Results

Table 1 show that the gender and age distribution of the participants.

	Number	Percentage	P value
Gender			0.12
Male	50	50	
Female	50	50	
Age			0.16
Below 25	14	14	
25-30	75	75	
Above 30	11	11	
Mean Age	25.23±2.54		

Table 1 Gender and age of the participants

Table 2 displays the link between the height of fifty male participants and the lengths of their right and left footprints. Compared to the right footprint, the typical left footprint is somewhat shorter. Research showed that both the right and left foot lengths were positively correlated with height (r = 0.79 and 0.77, respectively). There is a statistically significant difference in the correlation coefficient (p = 0.001). The data in this table shows that when comparing the lengths of the right and left footprints, there is no statistically significant difference (P = 0.22).

Table 2 :Height, Right and Left Foot Print Length, and the Relationship Between the Two in Male participants

Parameter	Male
	participants
Height Mean	173.02
Sd	3.86
RFLP Mean	25.21
Sd	3.67
R value	0.79

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B value	4.01
LFLP Mean	24.99
Sd	3.21
R value	0.77
B value	3.87
P value	0.001

Table 3. Height, Right and Left Foot Print Length, andthe Relationship Between the Two in Femaleparticipants

Parameter	Female participants
Height Mean	163.32
Sd	3.23
RFLP Mean	22.59
Sd	1.09
R value	0.92
B value	3.98
LFLP Mean	22.58
Sd	3.11
R value	0.89
B value	3.88
P value	0.001

Table 3 shows the link between the height of fifty female participants, the length of their right and left footprints, and the two variables. Research showed that height was positively correlated with both the right and left footprint lengths (r = +0.92 for RFPL and LFPL +0.89). There is a statistically significant difference in the correlation coefficient (P = 0.001). Because of this strong association, a regression equation might be used to forecast a girl's height based on her right foot length. The data in this table shows that when comparing the lengths of the right and left footprints, there is no statistically significant difference (P = 0.14).

Discussion

For this work, we used linear regression equations to calculate the stature of male and female students based

on their right and left footprint lengths, which were assessed independently using parallel axes. The typical adult man is far taller than the typical adult female in any given group, and this disparity is statistically significant. Consistent with the above assertion are the findings of this investigation. Using a regression approach, Philip A. et al. [3] calculated a person's stature based on their known foot size.

This research derives regression models for both sexes to predict height based on the length of their right and left feet individually. The results are consistent with the current investigation. One hundred and twenty-five male and female students were used in the research by Kumar A. A. et al. [4] to estimate height using the length of the left foot. The results showed a very significant (P<0.001) general multiple linear regression model with a multiple correlation coefficient (r) of 0.877. The current research comprised 50 male and 50 female participants. The correlation coefficients for the right and left footprint lengths in the males were +0.79 and +0.77, respectively. For the females, the right and left footprint lengths were +0.92 and +0.92, respectively.

Sarma A et al. [5] discovered a statistically significant relationship between a person's height and the length of their bare feet while they are walking (P0.001). He did not include any women in his investigation. For the purpose of height estimation, he devised a regression formula.

Conclusion

The current investigation found a statistically significant relationship between height and the length of the subjects' right and left foot prints. Males outnumber females in terms of both height and mean foot length. The gender gap in left and right footprint length is not statistically significant.

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