CHAPTER I

INTRODUCTION

Everyone's handwriting exhibits natural variation depending on several factors. The use of different types of writing instruments, such as a pen, pencil, marker, or crayon, can affect our handwriting. Our mood, our age, and how hurried we are all contribute to the differences we notice in our own handwriting. Despite these minor variations in handwriting, each person has a unique handwriting style. Characteristics such as the slant and curl of the letters, the height of the letters, or even how the page is filled with text can distinguish our identity. This is because the brain is doing the writing Adults show only slight variation in handwriting, because as children we learn to write through basically the same method. However, once a person starts writing subconsciously, with characters formed as a result of habit, unique handwriting is formed Like fingerprints, every person's handwriting is unique and personalized. Because handwriting is difficult to disguise and forge, handwriting analysis is a good tool for including or excluding persons when determining a match between known material, known as an exemplar, and a questioned document.^[5]

Document analysis, a very broad area in the field of forensics, is the examination and comparison of questioned documents with known material. Experts establish the authenticity of the documents and detect any changes, erasures, or obliterations that may have occurred^[3]. A questioned document is any signature, handwriting, typewriting, or other written mark whose source or authenticity is in dispute or uncertain. Checks, certificates, wills, passports, licenses, money, letters, contracts, suicide notes, receipts, and even lottery tickets are some of the questioned documents of interest. Experts in this field may examine, type writing commercial printing, paper material, and the type of ink in these documents.

A document expert is a specially trained person who scientifically analyses handwriting and other features in a document. For example, a document expert may be called into a crime-scene area or to the lab to examine the handwriting of threatening notes, ransom notes, or suicide notes. Investigators analyse and compare various traits, such as the appearance of letters, of suspicious documents with known samples to help identify the author of the document. Investigators might also be asked to detect changes that may have occurred in an original document. A document expert is different from a graphologist, who studies the personality of the writer based on handwriting samples. The study of graphology is not necessarily accepted as part of forensic science, but it can be used as a possible indicator of the writer's personality type.

A person's handwriting - the script - and its placing on the page express the unique impulses of the individual: logically, the brain sends signals along the muscles to the writing implement they control. By examining a handwriting sample, an expert graphologist is able to identify relevant features of the handwritten script, and the way the features interact. The features, and interaction between them, provide the information for the analysis. (No single handwriting sample will exhibit all 300 different features of course - a typical analysis will involve far less). No single handwriting feature proves anything specific or absolute by itself; a single feature alone can only identify a trend. It is the combination of features, and the interaction between them that enable a full and clear interpretation. Graphology is actually a very old and respected science - the study of handwriting and its analysis was first developed by the Chinese 3,000 years ago. The Romans used graphology, and through the centuries since then various civilisations and cultures have analysed handwriting to identify the essence of the person who produced it.

The modern approach to handwriting analysis was established by a group of French clerics, led by Abbe Michon, who defined key aspects of the science in the 1870s, after 30 years of study. This work formed the basis of modern graphology, although the science is still being researched and expanded today.

Professional graphologists operate to a strict code of ethics, and these experts are constantly in demand; those who use it recognise its value in the workplace as an additional method of understanding character. It is therefore an extremely useful tool in identifying the quality and capacity of an individual's talents and potential, particularly in career guidance and improving relationships. Like other powerful behavioural or intuitive models, it is not easy to explain how and why graphology works, nevertheless it continues to be used, respected and appreciated by many because it achieves a high level of results.^[4]

However in this research work we focus on studying the changes and cause that happens to a person's handwriting taken while sitting, standing & walking. Writing is a dynamic activity, the forensic document examiners must understand how the writer hold his pen position of the paper, movement of finger, hand, wrist, Body postures etc. When examining a writing the examiner should be able to visualize the movement of the writer, evaluate pen direction, and determine the significance of factors, such as relative relationship between the various parts of a writing, the influence of writing on paper having and not having a pre-drawn baseline, etc. He should also know the importance of system of writing and how they influence the writer during his formative years and even as graphically mature writer.

CHAPTER II

LITERATURE REVIEW

Dong-Eun Lee et.al (2017) "Analysis of body imbalance in various writing sitting postures using sitting pressure measurement"This study set out to substantiate the importance of the right sitting posture by measuring the sitting pressure. It also described the influence of an imbalanced sitting posture on the body. The subjects included 30 healthy adults. A pressure mapping system was used to measure the sitting pressure in the right, one side prone, chin propped, and slumped sitting positions. The WDI showed a statistically significant difference between the 3 incorrect postures (one side prone, chin propped, and slumped sitting) and the right sitting posture. With regard to the WDI (XLR), there was a statistically significant difference between the one side prone sitting posture only. One side prone sitting was found to affect the body balance most adversely. This imbalanced posture may have an indirect effect on chronic diseases. The results prove that it is important to assume a proper posture to maintain body balance.

Tomasz Dziedzic (2016) "The Influence of Lying Body Position on Handwriting" The research provided a number of information about the influence of body posture on handwriting. First, it was revealed which features may vary in the handwriting of one person, produced in sitting and lying positions. The characteristics that were most often affected by the position factor were as follows: pen pressure, width and shape of the left margins, and direction and shape of the baselines as well as height of the MZ letters. Second, the experiment showed how often various features may change significantly enough to evaluate them as different. Third, the research revealed what the direction and the extent of changes may be. Despite all the differences observed, the results of the blindtest phase suggest that when lying position is the only factor that influence handwriting features, determining the authorship of the writings is not problematic. As stated above, the problem of conducting forensic examination of handwriting in last will cases is more complex than in the presented experiment. The circumstances affecting natural variation of handwriting usually include not only body posture but also such issues as age, condition, and the use of medications as well. In such instances, the range of variation in the disputed writings may result from a combination of two or more factors. It is then appropriate for an expert, who is to deal with this kind of a case, to study the results of relevant experimental research before preparing a report.

Ian Flatters et.al (2014) "The relationship between a child's postural stability and manual dexterity" The neural systems responsible for postural control are separate from the neural substrates that underpin control of the hand. Nonetheless, postural control and eye-hand coordination are linked functionally. For example, a stable platform is required for precise manual control tasks (e.g. handwriting) and thus such skills often cannot develop until the child is able to sit or stand upright. This raises the question of the strength of the empirical relationship between measures of postural stability and manual motor control. This study suggest that poor performance in one domain is not necessarily a reliable indicator of difficulties in another domain. This suggests that a child with manual dexterity problems may not benefit from a therapeutic approach that encourages improved posture (if the child has no postural difficulties). It follows that children should be assessed in depth to produce a profile of their strengths and weaknesses. This would allow targeted therapy so the child with postural difficulties receive help with maintaining balance, whereas the child with manual control problems could obtain help directed

towards improving their manual dexterity. We note that the objective measures described in this study would allow therapists to provide such targeted interventions.

Frank szeligo et.al (2010) "Adaptation of writing posture in response to task Demands for left- and right handers" While levy and Reid's model and the research it has evoked represent an interesting point of view on left handedness, its basic presumption is that an extreme behaviour such an inverted writing posture must represent an extreme underlying case such as neurological problem. Alternatively the present result concur with other result that suggest, in its characteristics, Invertedness contain information about lefthander's adjustment to right hand world. Consequently, as a method for investigating and measuring this adjustment invertedness may be of even greater interest. Considering the implication of the present version of the adaptation hypothesis, if we right handers has been taught to right with lefthand/backward slant to our letters, then many of us would have been inverters. Given the inversions reported on present study, standard postureitethen have been prescribed.

Jerre Levy University of Chicago (1984) " A Review, Analysis, and Some New Data on Hand-Posture Distributions in Left-Handers" Different methods have been employed to assess handwriting posture in lefthanders, and different dimensions of hand posture have been used for categorization. Within North American samples, there is a remarkable consistency between studies in the distributions when the same assessment method is used, but there are very large and highly significant differences for different methods of assessment. The various methods and dimensions of categorization evidently index different variables, and these are likely to have different relations with neuropsychological factors. This study shows that different methods of hand-posture assessment in lefthanders and different dimensions of hand posture show very different distributions, even within North American samples, and for some dimensions and methods, vary across populations. This means that different variables are being assessed, and these are likely to have different relations with neuropsychological factors. What those relations might be are questions for the future. These researchers had subjects classify their own hand posture from pictorial prototypes, and as shown, the distributions obtained from this procedure differ very significantly from those obtained when experimenters assess hand posture according to Levy and Reid's (1976, 1978) criteria. Nonetheless, the reliability study suggests that other self-assessment procedures can yield classifications highly similar to those made by an experimenter, and if this were to be confirmed in future studies, it would be useful for survey research.

CHAPTER III

AIM AND OBJECTIVES

AIM:

To Study the Influence of Walking & Standing Activities on Normal Handwriting.

OBJECTIVES:

- Collection of Handwriting samples in Physical activity like Standing & Walking.
- Comparison of Standard handwriting with questioned Standing & Walking handwriting sample.
- Observation of variations occurring due to Physical activity influence, Especially while standing & Walking.

CHAPTER IV

MATERIALS AND METHODOLOGY

MATERIALS REQUIRED:

- Pen
- Bond Paper
- Magnifying lens
- Sample writing
- Light source

METHODOLOGY:

Handwriting samples are collected by providing printed content to participants. Handwriting samples are collected from different individuals in sitting, standing, and walking activities. Handwriting characteristics are examined by Magnifying glass and White light source.

A person's handwriting exhibits unique characteristics that make it distinguishable from other samples. The handwriting of any document can be examined or analysed in many different types of ways. In this study strokes, pressure of the strokes, slants of the strokes, size of the letter, spacing between the letters, spacing between the words, strings of the letter, base line and alignment of letters, shape of the letter and word was analyzed to study the variations in handwriting collected from Sitting, Standing and Walking activities. After collection of Handwriting samples, Samples of sitting can be considered as Standard quality and Handwriting obtained from Standing and Walking are considered as questioned documents for comparison with standard handwriting. Hence, effects of standing and walking activity influence on handwriting can be determined. Before conducting cross examination for particular characteristics, overall handwriting examination was conducted which gives understanding about selection for characters prominent to detect variation. In current study, we have considered following characteristics for detection of variations from sitting to Standing and Walking.

- 1. Slant
- 2. Size and Proportion
- 3. Spacing
- 4. Pressure
- 5. Rhythm

Sample – 1 Sex: M Age: 20					
	Activities				
Characteristics	Sitting (Standard)	Standing (Questioned)	Walking (Questioned)		
Slant	Irregular	Irregular	Irregular		
Size& Proportion	Normal	Increase	Increase		
Spacing	Normal	Decrease	Increase		
Pressure	Normal	Normal	Decrease		
Rhythm	Normal	Dissimilar	Dissimilar		
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Sample – 2 Sex: M Age: 20					
		Activities			
Characteristics	Sitting	Standing	Walking		
	(Standard)	(Questioned)	(Questioned)		
Slant	Vertical	Vertical	Vertical		
Size& Proportion	Normal	Increase	Increase		
Spacing	Normal	Decrease	Increase		
Pressure	Normal	Normal	Decrease		
Rhythm	Normal	Dissimilar	Dissimilar		

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has gone to switzesland and I hope for
good news the will be there bora week adward
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and Rome and will Join colonal parry
and arrive at Athens Orrese November
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and Robert unges. Ensy. left on the y.x.
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Figure 2.1 Sitting

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Figure 2.2 Standing

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Figure 2.3Walking

Sample – 3 Sex: F Age: 20				
		Activities		
Characteristics	Sitting	Standing	Walking	
	(Standard)	(Questioned)	(Questioned)	
Slant	vertical	vertical	vertical	
Size& Proportion	Normal	Normal	Increase	
Spacing	Normal	Normal	Increase	
Pressure	Normal	Decrease	Decrease	
Rhythm	Normal	Dissimilar	Dissimilar	

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Figure 3.1 Sitting

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addressed buy three Bud. Stor. We except charles to
Fuller Tuesday, Dr. L. McQuard and Robert agen, Eng.
left on the N.X' Capoon bought
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Figure 3.2Standing

Our London burness is good, but Vissian and Ballin are quick the Dilloyd has about the Suntractand and I have for good news the will be three for a write on 1426 toronto State and her goests twilling and Reone and will Jam colling I know and Reone and will Jam colling I know and a and at Marine Concere Discourses of a Decours 2 letter than the day addressed togo to be able of the Analytic Contest & Entrange The day as the analytic Contest & Entrange Contest of the Mr. Analytic Contest & Entrange Contest of the Mr. Analytic Contest & Entrange Contest of the Mr. Marine and Polyce of Ungay Contest of the Mr. Marine and Polyce of Ungay Contest of the Mr. Marine Statest brought.

Figure 3.3Walking

Sample – 4 Sex: M Age: 21					
		Activities			
Characteristics	Sitting	Standing	Walking		
	(Standard)	(Questioned)	(Questioned)		
Slant	Vertical	Vertica	Vertica		
Size& Proportion	Normal	Normal	Normal		
Spacing	Normal	Normal	Decrease		
Pressure	Normal	Normal	Decrease		
Rhythm	Normal	Dissimilar	Dissimilar		

The London Letter

Our London business regood, but verno and Berlin are quiel. Mr. D. Mayel has gone to Switzer land and I hope for good rows. He will be three for a week at 1496 Jarmath sheet and then goes to Turin and Rome and will join colored pary and wrive at Athons Greece, No vernber 27 or December 2. Letters there Should be addressed king Jarms Rived. 3580. We expect charles E. Fuller Tuesday . Dr. L. Mcqueed and Robert Urger, Esq. Left on the Y.Y. Express burght

Figure 4.1 Sitting

Our London business is good, but Vienna and Berlin one quict. Mr. D. Mayel has gone di Switcherland and Thope for good news the will be there for a week at 1496 terhatt about and then goes is turn and Pore and will jurn colonel pergy and arrive at Athens, breeze, Movember 27 or December 2. Lettes there should be helt on the H.X. Engores dogsta

Figure 4.2 Standing

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Figure 4.3Walking

Sample – 5 Sex: F Age: 20					
Activities					
Characteristics	Sitting	Standing	Walking		
	(Standard)	(Questioned)	(Questioned)		
Slant	vertical	vertical	vertical		
Size& Proportion	Normal	Normal	Increase		
Spacing	Normal	Normal	Normal		
Pressure	Normal	Normal	Normal		
Rhythm	Normal	Dissimilar	Dissimilar		

Our London business is good but vienno. and Berlin are quiel. Mr. D. Hoyd has gen The switzen and and I hope for good news. The will be there for a week at 1426 Zermett Street and them goes to Jurin and Rome and will fin Solonel party and areive at Alliens, Greece, November 27 or December 7. Letters Phone should De addussed Ling James Bled 3580. We expert Charles F. Fuller Tuesday. Dr.L. McQuaid and Robert Unger Eng. Left on the Y.T. Express tonight.

Figure 5.1 Sitting

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Figure 5.2 Standing

Our London business agreed but Vienn and Bestin are wiret, Mr. D hloge has gone to switch viend and I hope for mod news. fle will be there for a wreat at 1496 zermalt street and arrive at A theory Greece November 2705 December 2. Letters the se chang be addressed king James 8 (vd. 33) We aspect f. Fuller Tuesday Os L MC and cobort Unges, Eg. ... Jett on the CY. X. * Express to night.

Figure 5.3 Walking

Sample – 6 Sex: F Age: 19					
		Activities			
Characteristics	Sitting	Standing	Walking		
	(Standard)	(Questioned)	(Questioned)		
Slant	Left	Vertical	Vertical		
Size& Proportion	Normal	Increase	Increase		
Spacing	Normal	Normal	Normal		
Pressure	Normal	Increase	Decrease		
Rhythm	Normal	Similar	Dissimilar		

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Figure 6.1 Sitting

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Figure 6.2 Standing

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Figure 6.3 Walking

Sample – 7 Sex: F Age: 21					
Activities					
Characteristics	Sitting	Standing	Walking		
	(Standard)	(Questioned)	(Questioned)		
Slant	Vertical	Vertical	Vertical		
Size& Proportion	Normal	Normal	Normal		
Spacing	Normal	Normal	Normal		
Pressure	Normal	Increase	Decrease		
Rhythm	Normal	Similar	Dissimilar		

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Figure 7.1 Sitting

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Figure 7. 2 Standing

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Figure 7.3 Walking

Sample – 8Sex: M Age: 21					
	Activities				
Characteristics	Sitting (Standard)	Standing (Questioned)	Walking (Questioned)		
Slant	Vertical	Vertical	vertical		
Size& Proportion	Normal	Increase	Increase		
Spacing	Normal	Decrease	Decrease		
Pressure	Normal	Normal	Decrease		
Rhythm	Normal	Normal	Dissimilar		
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Sample – 9 Sex: F Age: 21			
	Activities		
Characteristics	Sitting (Standard)	Standing (Questioned)	Walking (Questioned)
Slant	Vertical	Vertical	Vertical
Size& Proportion	Normal	Normal	Increase
Spacing	Normal	Normal	Increase
Pressure	Normal	Normal	Decrease
Rhythm	Normal	Normal	Dissimilar

Our London business is good, but vienna and Genin and Ruiet Ma. D. Lloyal has gone to swittleenland and I have for good news the will be there for a weak at 1496 Zearnatt street and then goes to Twin and Rome and will Join colonet page and arrive at Athens, creece, November 27 or December 2 Lettors there should be addressed king James Blud 3580 We expect chartes F Fuller Twesday. Dr L Mc Qualid and Robert unger, FS2, left on the 'y.x' Express traight

Figure 9.1 Sitting

Our London business is good, but Vienna and Basilia and Jusite Mir D. Light has gone to Switzerland and J hope for good news. He will be these for a week at 1496 Zarmatt street and then goes to Timin and Rome and will Join Colonel parsy and arrive at Athens, and energy and arrive at Athens, and expression be adopted to the Joins Blud 35880. We expect charles & Poster Tresslay. Or 1 Mc Bludid and Robert Unger, Ess., Left on the 'y.x' Express tonight.

Figure 9.2 Standing

Our London business is good, but Vienna and Bentin are Quiet Ma. O. May d has gone to swittlearland and I hape For good news the will be there for a weets at 1996 Zermott street and then goes to Twin and Rome and with Join colored paring and arrive at Athens, Crucesce, November 27 or December 2 Letters there Smutch be addressed thing Jonnes Bind. 5500 we capped charles there, Tisesday on & McQuaid and Robert orges, Est, Well on the "girk Expose tarilati

Figure 9.3 Walking

Sample – 10 Sex: F Age: 18				
		Activities		
Characteristics	Sitting (Standard)	Standing (Questioned)	Walking (Questioned)	
Slant	Vertical	Vertical	Vertical	
Size& Proportion	Normal	Normal	Normal	
Spacing	Normal	Normal	Normal	
Pressure	Normal	Normal	Decrease	
Rhythm	Normal	Normal	Dissimilar	

The London Letter Our London business is good, but Vienna and Berlin are quiet Mr.D. Lloyd has gone to Suitzerland and I hope for good news. He will be there for a week at 1496 Zermath Street and then goes to Time and Rome and will goto sclonel paray and arable at Athens, Graece November & Ton Decoders Letters there should be addressed king James Blut 3580. We expect Challes E Fuller Tuesday. Do L. McQuard and Robert Unger, Esque IdPon the "YX" Express tonlight.

Figure 10.1 sitting

The London Letter Our London business to good, but Vienna and Bartin are quiet. Mr Diligid has gone to Surtisaland and likepe Gr good news the Turin and Rime contail. Jose colonel party and arrive at Athens, ancea, Novanter et a Departer Letters there should be addressed long Tomes Blind as so he capped charlest Fully Turesday Do L McQuaid and Ribert Longon at Say 2 left on the VX? Express tomsget

Figure 10.2 Standing

The London Letter Our London Letter Vienna and Benlin are quiet the Dilly has goed to suffer and quiet the Dilly for good nourse the writt there bisarout at Oldge Zennet shall and there goes to Timo and Rome and will join Octobel parag and andre at Allers Cheese Navand 210 December & Letters Tame Blid 3580 We expect charles t tailes Thesday Dr. L. McGuald and Robert Unger Esgender on the YX? Express to right

Figure 10.3 Walking

Sample – 11 Sex: F Age: 19			
Activities			
Characteristics	Sitting (Standard)	Standing (Questioned)	Walking (Questioned)
Slant	Vertical	Vertical	Vertical
Size& Proportion	Normal	Increase	Increase
Spacing	Normal	Normal	Increase
Pressure	Normal	Normal	Decrease
Rhythm	Normal	Dissimilar	Dissimilar

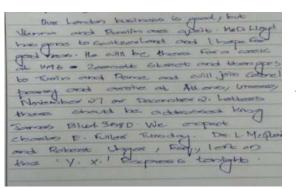


Figure 11.1 Sitting

and London bookness is god , but thermal and Product and Those first glad has gone to Existentiated and Those first glad reads the will be theme for a constitute that control to there and them goes to their and tonce and call this Colony) proggi and arreits at Aters, blockey November at arrive at Aters, blockey November at arrive at Aters, blockey there chants be addressed bings there of Solard be addressed bings there of the tone to the conject chants Blud 3080. We conject chants to follow to be Maple

Figure11.2 Standing

Due London heiners in grad, but Vierna and Frailip are queit. Mr D Hayd has give to Scitterstore and I have for a cret at 1426 2000 the closed and theory to Form and Rome and colling the Colorest protogrand works of an Mitches lance, November of Draw box 2. Letter three Chard be addressed King June Dud. 3950 We capat chards I False theory Dre L. Mc Quelt and Robert Unger Fay I Lett on the 'Y. X.

Figure 11.3 Walking

Sample – 12 Sex: F Age: 21			
Activities			
Characteristics	Sitting (Standard)	Standing (Questioned)	Walking (Questioned)
Size& Proportion	Normal	Normal	Increase
Spacing	Normal	Normal	Increase
Pressure	Normal	Decrease	Decrease
Rhythm	Normal	Dissimilar	Dissimilar

Our London business is good but usern and Berlin are swritet Mr D Hoyd has gone to Switzenland and I hope for good hears. He will be these firs a cueck at 1446 zommott Street and then goes to Tunn and Rome and will Join colored paray and another at Athens, Greece, Novarcher 2.1 or December 2. Letters there Should be addressed king. Hances Blud. 3580 we expect chartes E Full or Thesday. Dr. L. McGwaid and Robert Org. Cr. Esq., left on the "Y.X." Depress toright

Figure 12.1 Sitting

Our landor business is good but vienna and events are suited Mr D. Lingd has gone to scottrensland and I have by good news the could be there for a creak at lasse sermost there and will torn goes to Turn and Rome and will torn colored puring and arother at athens Groece, Novemb 27 or Decamber 2 Letters there should be addressed king James Glud 2580 we expect chades to talker tursday. Dr L. Hasuald and Robert lunger, Esq., left on the 'g. r'Express to night

Figure 12.2 Standing

and landon business & goad but Henna and Berles are aided. Mr. D. Lloyd has gone to switzerland and I hope for good hows the corll be there for a week at 1996 zermat served and Uhen goes to twinn and Rome and will Join colonel passing and anoral all Join colonel passing and anoral all strend be admess ed horg passes Blud 35.80 we caped charles & Faller tweeday. In L. M. august and Robert unger, Esq. in left on the "4 x" Expanse tonight.

Figure 12.3 Walking

Sample – 13 Sex: M Age: 20			
Activities			
Characteristics	tics Sitting (Standard)	Standing	Walking (Questioned)
		(Questioned)	
Slant	Vertical	Vertical	Vertical
Size& Proportion	Normal	Normal	Increase
Spacing	Normal	Normal	Normal
Pressure	Normal	Normal	Decrease
Rhythm	Normal	Normal	Dissimilar

Que souden business is good, but vienna mid Bentla are, quiet - Ma Dilloyd, heiggane to switzerstand, and thope for good news the will be these for a week at 1196 Zesmoth sheet and then goes to train and Roma and will join colored harry and around at Alberts areed, novimber 2703 Decembers 2. Letter there should be address king somes Blied 3550, we expect charles E. Fuller Tuesday Da 1. He quardand Robert, 652 - lette on the 'Y.x' supress to night

Figure 13.1 Sitting

and London homessis good built inner and being as quick Mr. Dialyd has gane to existential and buese hope for good new ne will be hiere hope for good new ne will be hiere hope for good news ne will be hore. Too week at 1496 zeemot street and hon goes to Tosin and Rome and will join where to Tosin and Rome and will join where to Tosin and Rome and will hore observe at a December 2. Letters there should be addressed king james. Blud 3500 we sepect challes & Fallers Thesday to 2. He Guard, and Ebberth ungers Cosq., Lett on the Y.X. express barright

Figure 13.2 Standing

Our hondon business is good but wiennamel Berlin and quict Nan holy hous gone to switch land and prove avered and the switch land and the hous gone to switch land and the avered at 1196 zeometh stars and then goes to the zon and Roma and will som colonel bory dual and addressind king some blud 3500 we except charles & fullos Treaday to b the fullos the stars and a stars the stars and the should and hous and a stars and the stars and the should and hous and the stars and the stars and the should and hous a stars and the stars and the should and hous a stars and the stars and the should and hous a stars and the stars and the should and hous a stars and the stars and the should and hous a stars and h our hendon business is good, but

Figure 13.3 Walking

Sample – 14 Sex: M Age: 21			
Activities			
Characteristics	Sitting (Standard)	Standing (Questioned)	Walking (Questioned)
Slant	Right	Irregular	Irregular
Size& Proportion	Normal	Increase	Increase
Spacing	Normal	Normal	Normal
Pressure	Normal	Normal	Decrease
Rhythm	Normal	Dissimilar	Dissimilar

Our Lenden business is good but vienno and De-tin are guiel. Mr. D. Hayd has gen to switzenland and I hope for good news He will be there for a week at 40.76 Bermett street and then goes to Twin and Rome and will join Johnel Jorny and Arreive at Athens, Greece, Journy and areive at Athens, Greece, Journy 27 on December 7. Tothere there should be addressed him Armer Plant Bore Le addussed ding games Bled 3550. In expert Charles F. Fuller Twenday. L. McRuaid and Robert Unger 200 left an the 7.7. " Express tonight.

Figure 14.1 Sitting

Our hundon business is good, but Vienna and Bertin are quiet. MY. D. Mayd fas good to switestand and I hope for good news. He will be there for a week at 14.96 Zermott skeet and then got to Turin. and Rome and will join colonel parsy and arrive at Athens Greece. November 27 as December 2. Letter there should be addressed king James Blud. 2560. We appet Charles E. tylles Tuesday. Dr. L. McGuaid and Robert Unges Tay. lett on the ".Y.X. Express Tonight

Figure 14.2 Standing

Our London bisiness agend but Vienn and Bestin are quitet. Mr. D Llogd has some to switch and and I hope for and news. He will be there to a wreat at 1996 zermalite street and arrive at A theose brace a November 27 at December 2. Letters the se doubt be addressed king James Blod. 35 We aspect of fuller Thesday. Os L MC and hobert Unges, Eg., Jest on the CY. X? Express to night.

Figure 14.3 Walking

Sample – 15 Sex: M Age: 17			
Activities			
Characteristics	Sitting (Standard)	Standing (Questioned)	Walking (Questioned)
Size& Proportion	Normal	Normal	Decrease
Spacing	Normal	Normal	Decrease
Pressure	Normal	Normal	Decrease
Rhythm	Normal	Normal	Normal

OUT London business is good but vienna and Berlin are quiet MD. D. hloyd has gone to sufficient and there for good new. He will be there for a wreet at 1498 Jermalt stored and then goes to Junth and Rome and will join colonel parry and arrive At Altens proceed, November 27 of December 2 Letters there should be addressed king Sames nived 3580 we expect charles E. Fuller these Dry hac Avaid and Robest unger is gone lett on the y.X. "Express tanight

Figure 15.1 Sitting

Our London business is good but stanna and Berlin are Mr. O. Lleyd hus gone to suitz enland and there for good news the withle there for a week at the 2 connects street and then goes to twin and Rome and will sole colones poory and arrive at Allem a resce. November 27 or December 2 Letters there should be addressed king sames bird. 3550, we expect chains E. Super suesday on the recavaid and Robert unger. Esan lett on the yout specsonght

Figure 15.2 Standing

ONN' sondon busines is youd what vienna and Berlin ave quiet MA. D. Klayd has gone to switzerland and I here ser good news the will be there for a week a mar end Rame and will join celopel parry and arrive at Athens arreed, no runke 27 or presented 2 betters there should be addressed king jones and . 2000, and we expect charles E. Foller Tuesday. On he me awaid and Rabert unger. e sym. les on the 'Y.X & pares to right

Figure 15.3 Walking

Sample – 16 Sex: M Age: 21			
Activities			
Characteristics	Sitting S	Standing	Walking (Questioned)
		(Questioned)	
Slant	Vertical	Vertical	Vertical
Size& Proportion	Normal	Increase	Increase
Spacing	Normal	Increase	Increase
Pressure	Normal	Decrease	Decrease
Rhythm	Normal	Normal	Normal

and fonder business is good but Utenno and Bealin as a guard dir peloyal has gone to switzzealand it hope for good Acweek at there goes to turin and Rome and will gern athens areere nowered at athens areere nowered ar athens areere nowered ar ange a letter there ahould be addressed or ange and and Robert L. Mc quard and Robert Lange to regulate Express tonight

Figure 16.1 Sitting

Our London busines is good but bienne and Berlin and quaret dir Diloyd has gone to switezesland. I hope for good news. He will be those for a cover at light zerm and Rome and will goin colorel passy and assurat athens Greece Nouseber 27 or December 2 Letter there about be addressed. DR L. Mc quard and Robert unger 1 Esq. Mt on the y.x

Figure 16.2 Standing

Oun London business is good, business and Braith and guilt Swith and Braith and guilt Swith 2000 the Swith 2000 when and I hope Swith 2000 when and I hope Scanged at and then gos the mark and Brane and Unill gorth colonel pussy when a start at these gaves when these speaks be administration when these speaks be administration the start obset at allows a second when these speaks be administration the start obset and the second of the second be administration the start obset and the second of the second be administration the start obset and the second of the second be administration the start obset and the second of the second be administration the start obset and the second of the second be administration the second of the second of the second of the second be administration the second of the second of the second the second the second the second of the second the second the second the second the second of the second the se

Figure 16.3 Walking

	Sample – 17	Sex: M Age: 19	
		Activities	
Characteristics	Sitting	Standing	Walking
	(Standard)	(Questioned)	(Questioned)
Slant	Vertical	Vertical	Vertical
Size& Proportion	Normal	Increase	Increase
Spacing	Normal	Increase	Increase
Pressure	Normal	Normal	Decrease
Rhythm	Normal	Normal	Normal

Dury London baimess in good, but Vienna and Berlin are quiet Mr D. Mayd bas gone to Santzerburd and Thole lon good news the civil be their Poros and their goes to Winn and and the goes to Winn and have should be addressed have have Should be addressed have have Should be addressed have have Should see a go go go. I may have should be addressed have have Should see a go go go.

Figure 17.1 Sitting

a were as in a weet as in ret and them and in anal tome and one former and and and Athenia Control and Control December 2. Letters Abere December 2. Letters Abere and be addressed King also E. Kuller Russday Con alest and Robert and Left on the Mil Engrad

Figure 17.2 Standing

an London business is good, but isense and benin are plan m O. Llagd has gone to builter has and there for good new decim be this sam and then goel to Jusin and and then goel to Jusin colorer para and win join colorer para and win join colorer para and win join colorer athere and win join colorer athere and win join colorer para and win join colorer athere and win join colorer a bould be addressed using thails for fullow There do parts for allow and and Robert inger for long link and

Figure 17.3 Walking

Sample – 18 Sex: M Age: 20				
Activities				
Characteristics	8	Standing	Walking (Questioned)	
		(Questioned)		
Slant	Vertical	Vertical	Vertical	
Size& Proportion	Normal	Normal	Normal	
Spacing	Normal	Normal	Normal	
Pressure	Normal	Normal	Decrease	
Rhythm	Normal	Normal	Dissimilar	

Dier London besiness so good, but viena and Berlin ale quict mr. D. I byd has gone its subjectional and I have angoned news. He will be there for a work out 1476 zernett street and then goesdo where non-emberry of an entropy. Turin and Rome and will join colored party and arrive at Alters. Defected werenber 27 of becombers. If they they they should be addressed king some Bird. 35% we expect charles F Direr Turing. De L. me graff and Robert conger Esq. less on the grz? Express donight.

Figure 18.1 Sitting

Our Longer but ness es goi. but vienna and ger pertin are quier. mit De Lingthes gene at subtractioned and I hape har good menos. He will be there for a neek at lagb trainets stored and item goes to the Turin and pome and will jobo calcol perty and attive at others. arreas, november 27 or De combet 2. letter a store should be to add rees have a store and and rebert. good to a store a spect and less a super unger, eq., lest on the "you" a provision right.

Our Longton but noss 25 god, but Vienna and Bos Bestin are quised, more lingths gene at suitz eabord end there for god menos, the will be there for a neck at 14gb remains speer and iten goes so the Turkin and pome and will go o cancel perry and attive at others. arreas, dover begand or be combert?. Letter 5 dere should be to add reesd Ming add me are and reesd and a star and pome and reesd Ming add me are are bord and reesd and a star should be to add reesd me and reesd Ming add me are are bord and rebert unger, Eq., lest on the "y.x." Expression and the Figure 18.2 Standing

Figure 18.3 Walking

Sample – 19 Sex: F Age: 21				
Activities				
Characteristics	stics Sitting (Standard)	Standing (Questioned)	Walking (Questioned)	
				Slant
Size& Proportion	Normal	Normal	Normal	
Spacing	Normal	Normal	Normal	
Pressure	Normal	Normal	Decrease	
Rhythm	Normal	Normal	Normal	

Our London business is good, but Vienna and Biolin are quiet. Ha D. Klogd bas gone to Switzenland and those for good ments. He will bethere find week at 1996 Zermott Street and them goes be Turin and Rome and will join colored parmy and againe at Athens, Cauce, November 21 on December 2 Letters there show be addressed king james Blud 3080. We empe chaster Fuller Averday. Da L Mc Quaid and Robert Unger, KSq. 1011 on the 'Y.X' Express tonight:

Figure 19.1 Sitting

Our hondon bussiness is good, but Viennaard Bealin and queits Mr. D. Hard has gone to Switzerland and Those for good news. He will be three for a week at 1498 zeamost street and then goes to Turin and Rome and will join colone paray and assive at plans, Garacce, New mohers 24 on December 2. Lettes there should be address bring gomes Blud 3580. We emped chades E tell Turinday Don & McQuaid and Robert Doges, Eg Tell on the 'Y x.' Express tonight.

Figure 19.2 Standing

Cha London bussimess is good, but Viernaard Beabo ase Queit Hab Hoyd bas good to Switzesland and Thope Bas good towas. Head be these for a week at 1496 Izianott streetand then goes to Their and Rome and will pin colume pary and assive at Athurs, Greek, Novimber at an December 2. Letters these Bould be addressed king james Blud 3580 we emight charles & Twiller Twesday. Dr. McQuaid and Robest Unger, Esq. Telton the 'N.X.' Express tonight

Figure 19.3 Walking

Sample – 20 Sex: F Age: 21			
Activities			
Characteristics	ũ	Standing	Walking (Questioned)
		(Questioned)	
Slant	Right	Right	Right
Size& Proportion	Normal	Normal	Increase
Spacing	Normal	Normal	Increase
Pressure	Normal	Normal	Decrease
Rhythm	Normal	Normal	Dissimilar

The London Littler own porches business a good, but young and gentin any yours of the light has gone of southernbed and I have for good numer 1/2 and be thing for a week of 1498 sermost when and thin your to June and Rome and the join colored pomy and arrived as athens, ontre on noneration so an Dicerables 2 Letters there should be addressed long sames glud. 3500 We caped takes by Talks tureday of 2 characted and Robert angen, Esg., left ap 'y x' Capsus longht

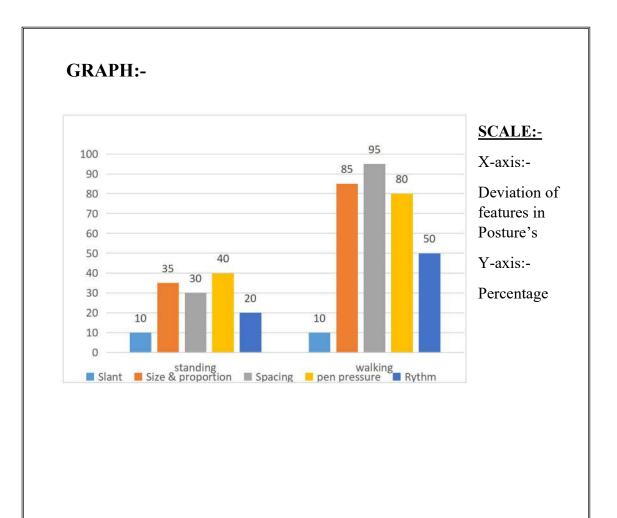
Figure20.1 Sitting

The London Letter our London buriness is good, but warned and gentin are genet Nor a blogd has good to switchard and I have be good news the will be that for a curt at 1496 sermott estimit and then goes to Tarin and Pome and will jain colored prosty and aniwed at 14400 will jain colored prosty and aniwed at 14400, connece, we can be 27 an cuember 2 I down where eshauld be addressed bing Journe stad 2000 - we can be addressed bing Journe stad 2000 - we can and Content wages, Esq."

Figure 20.2 Standing

and conclos business is good, but vienna and contin are queed. Mr. o. Lloyd has gone to suiterland and I hope for good nues. It will be there for a curit at 1496 zermost struct and then goes to crue alcumber of a counting that goes to crue alcumber of the counting that the state addressed king Games clud 3580 wh expect chales & Faller Tuesday or L. Mc council and Robert conges, Eng., left on the 'Y. X. ' Express storight.

Figure20.3 Walking



CHAPTER VI

RESULT AND CONCLUSION

RESULT:

All the samples collected while standing, & walking, have dissimilarity compared to standard writing. Out of all the five features used for analysis spacing, proportion & size, pen pressure are the features that shows more dissimilarity.

From the graph we can observe that in standing & walking position pen pressure is 40% & 80%, Space is 30% & 95%, proportion & size is 35% & 85% from this observation we can note that both samples taken while standing and walking has dissimilarity, when compared to standard writing handwriting samples in walking position shows more dissimilarity than the handwriting samples in standing position.

CONCLUSION:

From this observation we can say that handwriting samples taken while standing postures did not show significant changes. While the handwriting samples taken in walking posture showed more dissimilarity when compared to standard writing taken. From this we can conclude that body position does influence the handwriting of a person. In this topic much deeper study on more samples considering various factors like injury, intoxication, mental health etc and various standard to be collected as per suspicion is required.

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