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The Worth of a Comfortable Shoe

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The Worth of a Comfortable Shoe

Lee Honors College Thesis

Kristina Mellinger

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1. INTRODUCTION

Why I chose my topic

Trying to decide a thesis topic was very difficult for me. I wanted to research something fun that would keep my interest. I hoped to strike a balance between knowledge I've gained throughout my undergraduate experience as well as knowledge that will aid me



Why do women wear high heeled shoes?

during my future in medicine. I also wanted to write about a topic that had many possibilities of subtopics—I wanted some flexibility. This I am very excited to say, is my favorite part of my thesis project. I have been able to research several subtopics and I have had to stop myself from researching too deeply into other topics altogether. Some examples of topics that I had to forgo are the importance of foot care in diabetic patients and cosmetic foot surgery. I was fortunate to be able to learn a bit more about these topics anyway, aside from researching for my thesis. My topic opened many other interesting doors, as one could imagine, but I decided that it was important to have boundaries. At any rate, it has been difficult but I am pleased with the work I have done. The topic that I have chosen allows me to research not only the health concerns for wearing high heels (which was my original intent), but also the psychological, cultural, and historical aspects of wearing high

heels and even shoes in general. This has allowed me to have endless possibilities during my research. I have learned many interesting facts about the history of shoes, and I find myself reading into the wee hours of the night just to learn more. My interest in this topic is derived from my own experience of wearing uncomfortably high heels. When I wear these ridiculous shoes I always wonder why I knowingly put myself through so much pain and discomfort. The song “Girly Shoes” by the Chenille Sisters comes to mind. Ironically I thought of this idea for my thesis while I was brainstorming one evening. I am very glad that this topic stuck with me because it has been exciting to research and it has opened my eyes to the importance of preventative measures in health.

Why do women wear high heels?



Joanne Heaney answers the question of why many women wear high heeled shoes: “Why shoes? They fit if you gain or lose weight. They make me feel pretty. They make me feel sexy. They’re a great antidepressant. I don’t have a pet or a boyfriend. I have my shoes” (Newman 6). I believe that the most prominent reasons why women wear high heeled shoes

High heeled shoe guru Joanne Heaney says, “Why shoes? They fit if you gain or lose weight. They make me feel pretty. They make me feel sexy. They’re a great antidepressant. I don’t have a pet or a boyfriend. I have my shoes.”

are psychological and cultural. Manolo Blahnik, a legendary name in the shoe fashion industry, says “Yes [it is] only a shoe, but if I provide escape for

the woman who wears it, if for only a few minutes, it brings a bit of happiness to someone, well, then, perhaps, it is something more than a shoe” (Newman 2). A “Manolo,” as used in the show *Sex and the City*, is another nickname for high heel shoes (Newman 1). A professor at the School of the Art Institute of Chicago, Gillian Carrara, adds “Look what happens when I put on a high heel. The breasts go out; the derriere juts back; the leg elongates. Men find that very attractive” (Newman 3).

Some women also wear high heels because they desire more dainty and petite feet. This probably derives from the previous stereotype that women should have small feet. Women in the 1700 and 1800’s wore their shoes extremely tight so as to make their feet smaller, which was a sign of a refined lady. One could imagine how this practice kept women from leaving the home often (Rexford 46). At any rate, women who are tall and have athletic builds are often perceived as less feminine. Martin Tovee, evolutionary psychologist at Newcastle University in Britain, says that there are more subconscious reasons why women wear high heels and why men find them irresistible. Children’s legs only grow while they are young, so a woman who accentuates her long legs with heels radiates a message of healthy breeding potential...because after all, who else but those women without foot problems would wear such painful and foolish shoes (Luscombe 1)?

Being a woman myself, I find that I wear high heels because they boost my confidence. Adding a few inches to my height makes me feel more empowered and beautiful. I, like Gillian Carrara colorfully explained, wear heels because they accentuate all of the right places of my body. The contour of a high heel makes almost any woman’s legs seem more sexy and beautiful. Every woman seeks to feel and look beautiful, and half of the battle for a woman is to feel as beautiful as they look. I find

that my psychological view of myself is just as important to me as my physical view. It is important to analyze this question from a holistic aspect, and it is also important to consider cultural implications. I wear high heels because it is socially acceptable for women to wear heels. Look at any

Victoria's Secret magazine or Vogue or even a Kohl's catalogue; women model high heels and feminine clothing that accentuate the female physique. The media portrays women primarily in high heels, so naturally many women want to buy into that portrayed beauty. Admittedly, I have

purchased outfits because they look fantastic on the long-legged models, yet those same outfits are not so fantastic on

me. Many women have made this mistake at least once in their shopping experiences, whether it be for shoes or for other accessories. For some women professional attire for work in offices includes wearing dress shoes (high heels). In an article published in *Podiatry Now* Brendan Barber, General Secretary for Trades Union Congress (TUC) commented, "When researching case studies for the guide on footwear we were surprised how many times we found that employers' dress codes did not permit the wearing of comfortable sensible footwear by women. These dress codes—apart from being blatantly sexist—can lead to long-term foot and back problems as women are forced to stand or walk around in high heels or ill-fitting footwear" ("Drop



The media portrays women primarily in high heels, so naturally women want to buy into that portrayed beauty.

‘inappropriate’ footwear codes says TUC” 1). Though there are certainly indiscrepancies between what shoes are comfortable and uncomfortable, this article presents an interesting idea of the stereotypes of how women should present themselves professionally.

In contemplation of why women wear high heeled shoes I decided to compile my own list of why I think women wear high heels. I then thought maybe it would be pertinent to make a list of criteria that a women might have in purchasing a shoe. I came up with reasons like price, comfort, style, and durability. One of my reference articles delves a bit deeper into this subject by comparing comfortable shoes to uncomfortable shoes. While reading this article I decided that comfort is derivative of several individual-based factors. I then thought it would be appropriate to make a list of what I think makes shoes comfortable. Here is this list:

1. Ample arch/heel support (not too stiff nor too flimsy)
2. molds to the shape of my foot
3. roomy toe space
4. soft insoles and padding (no place for painful friction)
5. even distribution of weight

With that said, before discussing the psychological, cultural, and health effects of wearing high heels in too much detail, I think it would be appropriate to first discuss the history of heels. When and why did people start wearing high heels? How did trends of fashionable shoes change over the years? These are just a few of the questions I sought to answer during my research, and I now have a better understanding of the foundation of the history of high heeled shoes.

History of women's shoes

People have been experimenting with shoe heights for many centuries. Actors in Greece used to wear elevated shoes so that they towered above their audiences, as if to appear immortal. In Europe shoes were definitely symbolic of status. For example,



Whatever the purpose of constructing higher heeled shoes was, they have certainly been worn for many centuries.

Louis XIV and his court were known for wearing shoes with red heels during the late 1600s (Mitchell 39). Other nobility before Louis XIV, such as Queen Elizabeth I, were constantly trying to be the most fashionable as well; Queen Elizabeth I asked her shoemaker to construct a pair of high heeled Spanish leather shoes with arches for her in 1595 (Newman 3). One of the first written records of elevated heels, however, was from the Mongols during the 14th century. Theories suggest that they may have been used for keeping a horse rider's feet from slipping out of their stirrups (Rudicel 2). Whatever the purpose of constructing higher heeled shoes was, they have certainly been worn for many centuries.

The bulk of shoes that are in museums today are comprised of the most fashionable ones worn throughout history (Rexford 38). Shoes represented, and still represent, social class, as during the 1700 and 1800s the most elaborately fashionable shoes came from the French court in Paris. Fashions of shoes through the centuries have changed through heel heights, fabric, toe shapes, and décor styles. The influence of mass production encouraged the increasingly rapid change in fashions (Mitchell 17).

During the beginning of the 1700s women's shoes had pointed toes and solid, thick heels. They were usually fastened with buckles or ties of a varying decorative nature. Many fashionable shoes from the early



Many fashionable shoes from the early 1700s favored intricate patterns made with linen and silk (Mitchell 18).

1700s favored intricate patterns made with linen and silk; these patterns did not necessarily match the wearer's dress. Interestingly, over shoes known as "clogs" or sometimes "patterns" were worn to protect these expensive, fashionable shoes from muddy side streets and other elements. Mules were also fashionable during the 1700s. These snazzy shoes resembled backless slippers with high heels (Mitchell 18).

After the French Revolution women's fashionable shoes in Europe took on a simpler style. Shoes were decorated with plainer fabrics and most were made with leather. Slip-on shoes, with low or no heels became a popular style during this time. These shoes were very impractical for outdoor use; however they demonstrate the popularity of balls and other social events during this time period (Mitchell 24).

The stereotype of women being "submissive housewives" played an enormous role in the types of shoes they wore in the 1800's and 1900's. Women's shoes were often crafted from satin, silk taffeta, wool serge, and occasionally thin Moroccan leather. The soles were typically very thin, and even boots were made

uncharacteristically frail (Rexford 38). It is interesting to compare how unpractical women's shoes were during this time with how practical men's shoes were.

At any rate, by the 1850's shoes were becoming more elaborate again because of the prevalence of advanced machinery (Mitchell 36). By 1910 shoes played a direct role in fashion as skirts were shorter, revealing more of a woman's leg (Mitchell 42). Over the centuries shoes became more and more specialized for the increasingly active lives of men and especially women. Media also had a huge influence on the fashions of the early 1900s. Low-cut high heeled shoes were made popular by extravagant movie stars in Hollywood from the 1920's through the 1930's. The infamous stiletto heel became popular in the 1950's, and as it became more fashionable to accessorize, stiletto heels perfectly accentuated the rest of a woman's carefully planned attire (Mitchell 41-42).

Female stereotypes

Today women are not assumed to be laborers of the home. A man or a woman today might be dismayed by the stereotypes of a woman's role as the housekeeper and as the submissive wife who is confined to the home. However, it is important for us to consider this issue from the perspective of men and women from the time period when these stereotypes were commonplace. Actually, it was considered to be an honor and a privilege to be a woman limited to her home during the 1800s. Today it seems like "advancement" would not be an appropriate word to describe this role, but it would be appropriate to consider the actual advancements that

women made. Before the 19th century women were commonly thought of as simple minded and incapable of handling their own affairs (Rexford 41). In the mid-1800s men were considered to have talents in the arts and sciences that were outside of the



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home. To mirror this image of men was the corresponding image of women “that considered them rich in emotion but correspondingly weak in intellect” (Rexford 42). Men and women were thought to have clear innate abilities that made them distinctly different. A writer by the name of Park Benjamin colorfully describes the differences between men and women in his article “The True

Rights of Women” published in 1844. He says that women are “angels on earth” and that they exceed men in knowledge of the heart. It

follows, he says, that men exceed women in knowledge of the brain and that this is an irrefutable truth. Furthermore, he says that women should not strive to be as intellectually gifted as men because this is how the world works and this is how it will always be (Rexford 43). It would be foolish to deny that men and women don’t have distinct innate qualities, but it would also be foolish to say that *every* man and woman has a preconceived set of innate qualities. All women may have the physical means to birth and raise children but they do not all share the same enthusiasm and desire to do so. Likewise, all men may have the capacity to do physical labor and to educate themselves to be successful enough to provide for their families (or themselves), but this does not mean that all men desire to use their capacity to do

physical labor or to provide for a family. Indeed today many women are consciously choosing to be career women and not to have families. Some women are also choosing to be the primary providers for their families while their husbands, who “lack in knowledge of the heart,” stay home and serve as the primary care takers of the children. Women today are not confined by such stereotypes, but ideas of what is feminine are still as prevalent as they have been in the past.

Women’s stereotypes today can be seen in almost any magazine published. The idea of what makes a woman feminine includes accessories such as make-up, stylish hair and nails, fashionable dresses and clothes, and of course, high heels. Our society even perceives wearing high heels significant enough to offer fitness classes for women who want to exercise in their heels. The fitness company Crunch launched their Stiletto Strength classes in 2006 to New York City and the idea spread to other thriving metropolises like Chicago, San Francisco, and Los Angeles. Donna Cyrus, senior Vice President of programming for Crunch, says that the class was a hit from the start, but unfortunately (or not so unfortunately) it is no longer offered. Similarly Il Primo Passo, a posh shoe store in Los Angeles, offers monthly classes for teaching women how to walk in high heels (Luscombe 2). Since some women believe it is important to practice wearing high heels and even to exercise in them, it is no wonder that women suffer so many health problems associated with foot wear.

2. HEALTH CONCERNS WITH WEARING HIGH HEELS

“More than 55 million Americans experience an average of 1.4 foot problems each year and...women experience four times as many foot problems as men, according to statistics from the American Podiatric Medical Association (APMA).”

Furthermore, the APMA carried out a survey in 2007 that found 21% of women complain of having pain in their heels, and 12% admitted that their shoes were the

culprit of their pain (Johnsen 1). According to research conducted by HBN Shoe/Insolia, 80 million or more women in America buy 200 million pairs of high heels every year. One can imagine how many total pairs of high-heeled shoes many women have in their closets. The president of HBN Shoe, Michael Backler, says that 80% of these women are uncomfortable in their high heel shoe inventory as well (Johnsen 2). Jayne Snyder, PT, MA and member of the American Physical Therapy Association says “centering the body’s weight on the ball of the foot instead of distributing it over the entire sole while shoving the toes into a narrow toe box may feel stylish, but it will likely cause posture problems and a host of other difficulties.” Simply put, heels cause the neck and back to hyperextend, which causes the body to compensate by flexing and bending the spine and the hips forward. It is a constant



Simply put, heels cause the neck and back to hyperextend, which causes the body to compensate by flexing and bending the spine and the hips forward. It is a constant balancing act.

balancing act. The muscles of the legs flex and while the curved contours of a woman's leg may look attractive, hours of this exaggerated flexing will cause fatigue (Snyder 1).

Women's feet are also anatomically different than most shoes suggest. A woman's foot is typically more slender at the heel and broader at the toes. This often causes women to purchase shoes that are too tight at the toes and that fit well at the heels as opposed to shoes that fit at the toes and are too big at the heels (Rudicel 1). This kind of information is what led me to research some of the common health concerns with wearing high-heeled shoes. Some of the health concerns that I researched include physical deformities and some include damages to the nerves of the foot; almost all of the conditions are unsightly and many can be very painful. I have found that many of these health concerns are preexisting, and high heels exacerbate the problem. My list of some of the most common health concerns with wearing high heels are: hallux valgus, corns/calluses, ingrown toenails, back pain, plantar fasciitis, Morton's neuroma, and hammertoes.

Hallux Valgus (Bunions)



Figure 2-1. Foot with severe hallux valgus deformity.

It is important to understand the basics of this condition because hallux valgus is the most typical pathologic condition that concerns the big toe (Hart 1). Hallux valgus is the name given to a deformity where the big toe shifts laterally towards the second

toe of the foot. A bunion is usually the result of this condition; it is a prominence where the metatarsophalangeal joint of the big toe becomes enlarged with excess fluid and/or the bone itself becomes enlarged. This knobby-looking bulge forms on the inside of the foot from the hallux valgus, though the condition is collectively referred to as just bunions. This bulge can become inflamed and can be very painful. Some people with bunions complain of severe pain yet others do not have pain at all, so the pain level is relative to each individual case (Kitson 1). It is commonly accepted that there is a genetic predisposition in the majority of cases of bunions, but there are some other factors that affect the course of this condition. The vast majority of cases in adults stem from the use of improper shoe wear. Also, preexisting foot abnormalities and neuromuscular disorders must be taken into account. A person who has had a stroke, cerebral palsy, or a spinal cord injury may have an abnormal gait because of foot deformities due to spasticity, or exaggerated reflexes/stiff muscle movement (Hart 2). A person who is looking for conservative treatment or preventative measures to avoid severe hallux valgus might try wearing soft leather shoes with adequate toe space and a low heel; the goal is to relieve pressure on the bunion. The use of high heeled shoes with slim toe space is highly discouraged, as this usually makes the bunion and its symptoms worse (Hart 2).

Ingrown Toenails

Onychocryptosis, a condition more commonly known as an ingrown toenail, happens when the nail plate of the toe ruptures the periungual skin—the skin surrounding the nail plate. The end result is usually a “painful, draining, and foul-

smelling lesion” (Heidelbaugh 1). This ordinarily happens to the big toe and inflammation and pain are associated. Though ingrown toenails are often caused by poor foot hygiene, incorrect toenail trimming, genetic factors, ill-fitting shoes can exacerbate the problem. Shoes, as one might guess, that have little toe space can put extra pressure on the big toe. Proper toenail trimming can significantly help to prevent ingrown toenails. The correct way to trim toenails is to cut the nail straight across, being careful to not cut the corners at an angle. Some other risk factors for ingrown toenails are repetitive stress, such as running or kick boxing, and unintentional stress, such as stubbing one’s toes often (Heidelbaugh 1). Problems with ingrown toenails usually present with a combination of any of these risk factors.

Corns/Calluses

Long-term excessive friction and pressure on the feet can cause the skin to undergo a typical physiologic reaction called hyperkeratosis (Freeman 1). The process of acquiring a corn or a callus can be described as: “mechanical stresses on the skin increase, the body attempts to protect irritated skin by forming a hyperkeratotic lesion, such as a corn or a callus; however, this lesion will increase the pressure in a tight shoe, thus creating a vicious cycle: increased pressure increases the formation of corns or calluses, which further increases the pressure” (Freeman 2). A corn is different from a callus in that corns have a “central” circular core of keratin that is the source of discomfort (Freeman 1). Corns are usually found in between the toes or on the tops of them at the various joints (Monson 1). A callus is characterized by having a uniform thickness of skin with indeterminate borders.

Calluses are typically found in areas of great pressure, and/or general irritation, which is usually on the bottom of the feet over high friction areas, i.e., the heel or pad of the foot (Freeman 2 and Monson 1). Some of the most common causes of corns and calluses are increased activity, foot deformities such as hammer toes, and improper shoe wear. The majority of cases of corns and calluses are easily rectified by using properly fitting shoe wear and by decreasing pressure and friction on the feet (Freeman 1).

A.



B.

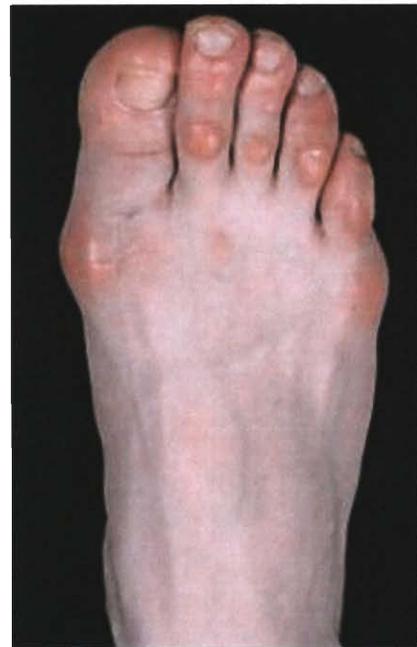


Figure 2-1. These photos demonstrate examples of **A)** Calluses on the plantar pad of the foot and **B)** corns on the interphalangeal joints of the toes.

Back Pain

According to a study published in the International Journal of Industrial Ergonomics, female workers can suffer added stresses on their bodies due to the pressures and demands of the fashion industry. This study was prompted by “a survey of 200 young women wearing high-heeled shoes [who] indicated frequent complaints of leg and low back pain” (Lee et al, 1). This study focused on measuring the lower back posture, the vertical movement of the center of the body mass, and the motion analysis of several body parts in five young women. The five volunteers were all in their 20’s and had no history of musculoskeletal injuries or, within the last six months, spinal surgery. Measurements were taken while in walking and standing positions and at heel heights of 0 cm, 4.5 cm, and 8 cm respectively (Lee et al, 2). Conclusions from this study revealed that wearing high heels creates a substantial deviation of the lumbar lordosis; this encourages more compression on the lumbar spine. Wearing heels also heightens the center of the body mass, causing the top half of a woman’s body to bear more weight than normal. This triggers the erector spinae muscles to work harder to compensate for the irregular posture. All of these alterations to a woman’s gait can cause added exhaustion, soreness, and pain for a woman who wears high heels to work. These findings explain why many of these women complain of lower back pain during and/or after wearing high heels at work (Lee et al, 5-6).

Plantar Fasciitis (heel pain)

Heel pain is thought to be caused by “acute or chronic injury to the origin of the plantar fascia from cumulative overload stress” (Cole 1). Added tension to the plantar fascia ligament can be painful throughout the foot as the ligament spans from the heel to the joints of the toes (Conti 1). Most people complain of a sharp or throbbing pain in the heel, but some people describe a pain that starts in the heel and “shoots” distally toward the toes. This condition is most common in people who are on their feet all day, who have little ankle flexion, and who are obese (Cole 1). Increased physical activity can also be a cause of heel pain (Conti 2). People often complain of having pain with weight-bearing activities and after times of inactivity. Increased activity for a short time helps alleviate the pain, but lengthened activity typically flares the pain. As with many of these other health effects, wearing high heels exacerbates the heel pain. More specifically, shoes that have inadequate cushioning and arch support and shoes that do not flex well under the heel of the foot are all culprits of heel pain (Conti 2). As most high heeled shoes would fall under at least one, if not all, of these criteria, people who wear high heeled shoes are more at risk for plantar fasciitis.

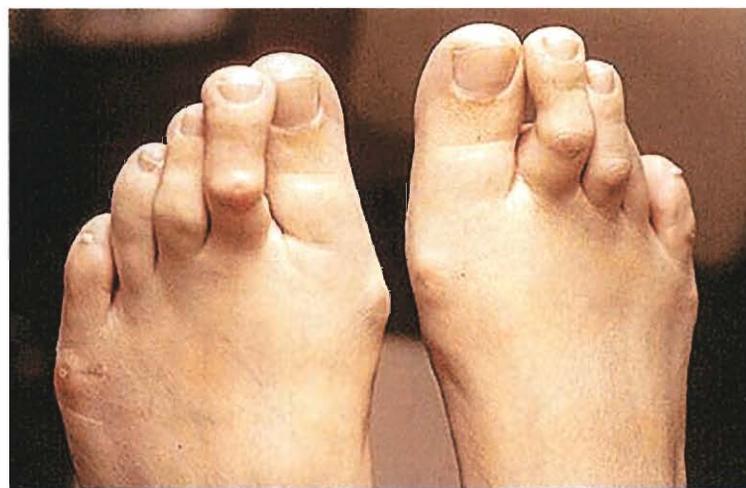
Morton’s neuroma

Aside from exacerbating bunions and ingrown toenails, high-heeled shoes can cause significant harm to the soft tissues of the foot. These shoes increase pressure

in the foot and excessive use over time exacerbates nerve irritation. Interdigital perineural fibroma, or Morton's syndrome, is a condition that is characterized by damage to the nerves of the toes, usually between the second and the third toes. This neuroma "causes pain in the forefoot between various metatarsal heads" but it is uncommon to have problems in the first or fourth toe spaces and it is uncommon to have more than one neuroma (Childs 1). Morton's syndrome occurs from "repeated compression stresses including pressure, friction, and biomechanical derangements causing peripheral nerves in the forefoot to become irritated. Chronic and cumulative irritation of the nerve tissue from entrapment and compression causes micro vascular changes in the nerve associated with ischemia. This eventually causes histomorphologic changes within the nerve tissue causing in to proliferate and swell". People with Morton's neuroma often complain of a characteristic burning pain between the toes (Childs 2).

Hammertoes

A hammertoe deformity is characterized by a curling of the lesser toes of the foot (Rudicell 3). This deviation usually happens to the proximal interphalangeal



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Figure 2-2. Hammertoe deformity with calluses over the PIP joints.

joint (PIP joint) of the toe, and the joint deviates into a vertical direction. The two important factors in this deformity are “plantar flexion of the PIP joint” and “dorsiflexion of the metatarsophalangeal joint” of the foot. Hammertoes are nearly always caused by wearing improper constrictive shoe wear, but neuromuscular imbalances can also be a culprit. Years of wearing shoes that are too tight in the toe box can cause the forefoot to appear like it was still thrust into a tight, constrictive shoe. People with hammertoe deformity often complain of pain when doing weight bearing activities; this is due to the added strain to the soft tissues, the tension on the joints, and the exaggerated stretching of the skin of the foot. A secondary condition of hammertoe deformity is the development of calluses over the joints of the lesser toes (Hurwitz 1). This is caused by the constant rubbing and the extra pressure on the PIP joint of the toes.

This list is, as mentioned previously, not exclusive. Long term use of high heeled shoes can lead to a host of problems, of which I have only minimally described. Also, the majority of these health problems are exacerbated by wearing high heeled shoes. Many women who present with these conditions have several other factors that should be taken into consideration; examples of some of these could be genetic factors, weight, and profession. Wearing high heeled shoes is not always a serious health concern, but excessive use over a long term period can definitely cause significant damage.

In my own health care experience, I have witnessed some of these conditions. While working at an assisted living home I have especially noticed that several

women at the facility have bunions or hammertoes or both. Many of the women have feet that look that they've been shoved into a tight shoe for 70 years, and sadly, this is probably the case. Speaking with one resident's daughter, I learned that her mother, Mildred, always wore skirts and high heeled shoes. The daughter could never remember an occasion when her mother wore pants, and Mildred still refuses to do so, but her choice of shoes to wear with her colorful skirts is now limited. For quite some time now she has suffered from at least severe bunions, hammertoes and plantar fasciitis, and she has to wear orthotic shoes that she complains about daily (because they are of course, very unfashionable!). In the elderly population cases such as Mildred's are fairly common. The difference we can make for future generations will hopefully be a change from lack of knowledge to a combined effort of merging fashion with comfort in a high heeled shoe. In the next section we will discuss this idea further.

3. CONCLUSIONS

How do we strike a balance?

A general misconception as to the importance of wearing healthy footwear has caused some definite problems in the female population. My accentuation on the adverse health effects of wearing high heeled shoes has been supported by several sources and I have witnessed it through my own personal healthcare experience. During my research I have read several articles from magazines, online journals, and online newspapers that emphasize the importance of smart shopping when purchasing high heels. One of the main reasons why women have health problems associated with wearing improper shoes is that many either don't know or don't care to know how to purchase the right shoes. It is especially important to learn how to purchase shoes, whether they are high heeled or not, that are the right fit for an individual woman's foot type. Of the reasons why women have health problems are that many don't wear the right shoe size, many don't allow enough toe space for their feet, and many are ignorant of the fact that they are doing it.

Clearly it is important to know one's shoe size. Nevertheless, many women (in the US and elsewhere) do not know their correct shoe size. A study of 356 women by the Council of Women's Footwear of the American Orthopedic Foot and Ankle Society suggested that out of the ladies 60 and older, 95% confirmed that since the age of 20 their feet had grown substantially. A staggering 75% of these same women admitted to not having their feet remeasured within the last five years.

Unsurprisingly, the vast majority of these women were wearing shoes that were too

small for their feet (Coughlin 2). Now the question arises, why were these women knowingly ignorant of their shoe size changes? Some women (myself previously included) do not know that feet grow with age or even that feet swell as the day progresses. As one might guess, it is best to purchase footwear in the late afternoon. Many women probably do not pay attention to what time of day they purchase shoes because it is difficult to work around careers, family, and other life commitments. Also, I have found that it is difficult to know one's exact shoe size when many shoes fit differently from one brand to another. I can wear anywhere from a shoe size 8 to a shoe size of 9 1/2 depending on the type of shoe and the brand. Sometimes the type of shoe is also a factor in what shoe size a woman needs as well. Pointed-toe shoes fit differently than open-toed shoes, and some fabrics/materials stretch more than others. This type of situation often makes it difficult for a woman to know what shoe size to buy.

It is also important to purchase shoes that are not constricting and that have a roomy toe box. Sometimes women buy high heels that fit snugly in the toe box in the hopes that they will not cause blisters at the end of the day. On the contrary, this type of constriction may cause severe pain or worse health concerns than blisters. If a shoe feels tight when you try it on at the store it will probably also feel tight if you wear it for several hours at a party. Wearing shoes that constrict your feet is not only painful at the time you're wearing them, but your feet will probably also throb after you've taken the shoes off. This type of abuse to your feet will do damage over time, so it is important to be aware of these concerns while purchasing shoes—it may prevent painful health problems in the future. Another important point to remember is that every woman does not have the same contours of their feet.

Therefore, every woman differentiates between comfortable and uncomfortable shoes in a variety of ways.

According to a study conducted in Hong Kong women distinguish comfortable and uncomfortable shoes by the sound, texture and smell of the shoes. Women from the study valued the feeling of the fabric from inside the shoe and the sound that the shoes make. Another obvious positive



One of the best ways to strike a balance between more fashionable and more comfortable qualities would be to purchase shoes that have a multi-sensorial appeal.

quality of shoes would be the visual attraction. Therefore, one of the best ways to strike a balance between more fashionable and more comfortable qualities would be to purchase shoes that have a multi-sensorial appeal. It can be difficult to find shoes that have all of the qualities that a woman desires, but balance can be found in seeking shoes that not only look great but feel great as well (Goonetilleke and Lee Au 7-8).

Some fashion designers are incorporating fashion into healthy footwear. An orthopedist from California brought her expertise in foot health to her passion of designing shoes. Taryn Rose says that the majority of women suffer seven times their normal body weight on the balls of their feet because of wearing high heels. She points out that her line of shoes uses orthotic arches to help reallocate weight and to relieve pressure, and she also tries to create shoes that have large toe boxes (as seen in figure 3-1). Rose's shoes feature unique qualities such as the use of poron, which

is a foamy substance that is very effective in shock absorption (“Foot Health for the Well-Heeled” 1). Poron has an “open cell” configuration that allows the poron to take in some of the moisture produced by the foot. This foamy substance is often used in top of the line orthotics as it doesn’t become brittle or shrink with usual wear and tear (“Poron Urethanes” 1). Another quality of her shoes is the use of kid leather, which adds extra moisture absorption and allows the foot to “breathe” (“Foot Health for the Well-Heeled” 1).



Taryn Rose shoes feature a roomy toe box and the use of orthotics to ensure comfort in a high heel.

To help improve the vast health problems associated with wearing high heels, physicians and other healthcare professionals will need to encourage more preventative measures and more education for patients. As we are already seeing, this shift in the idea of healthcare will be the foundation for transforming unhealthy patient behaviors (Vernon et al, 2). Though all of the health concerns that I have discussed usually only cause pain and irritation, some at-risk populations can have more severe problems. People with diabetes may risk foot ulceration and eventually amputation of lower appendages if they wear ill-fitting shoes such as high heels (Vernon et al, 3).

As mentioned previously, the media portrays women primarily in high heels, so naturally many women want to buy into that portrayed beauty. What if the media portrayed the idea that comfortable, healthier high heels can be fashionable too? There could be a significant cultural change if women modeled in comfortable, sensible heels. Some possible ways to achieve this could be to encourage popular

fashion TV shows to incorporate episodes that emphasize the alternative of wearing fashionable yet comfortable shoes. What if Oprah or Ellen Degeneres had Taryn Rose on their show to talk about the benefits of wearing comfortable, fashionable high heeled shoes? If we can influence those who influence millions, there could be a significant change in female stereotypes. If their were a fashion trend of wearing heels that are comfortable this would encourage women to take a more active role in preventing some of the long term health effects that are associated with wearing high heels. Women who are primarily concerned with fashion would be wearing shoes that are healthier for their feet while being trendy. To me this seems like a win-win situation. If women could make this kind of compromise it would be an incredible change; I would love to see more women taking pride in not only their fashion but their foot health as well.

Even if we don't see this issue reach influential media sources like the Oprah show or the Ellen Degeneres Show, change can happen on smaller scales as well. My thesis is an example of this. Even though many people may not read about my research efforts, I still have affected a few individuals who might talk to a few more individuals about the issue, who might talk to a few more individuals and so on and so forth. If enough individuals at least hear about the importance of wearing more comfortable high heeled shoes, then we have raised awareness (even if it isn't much). If I can share my efforts with a few of my female friends, then maybe the next time they shop for high heeled shoes they will think twice about buying a 5-inch tall pencil thin stiletto shoe. And, even if for nothing else, I will think twice about buying a fabulous 5-inch tall pair of stiletto heels the next time I shop for shoes (or I won't even think about it at all!).

Final Thoughts

The topic of wearing high heels has been an interesting one to pursue for this project. My own experience has taught me that wearing high heels is painful, but I did not know how many different long-term health concerns were correlated to their use—and I have only scratched the surface. This project has allowed me to learn more extensively about the issue of wearing high heels—their history, the stereotypes associated with their use, and the health concerns that are correlated to them as well.

I think that the struggle between the health concerns and the fashion concerns of wearing high heels will continue to be an issue of debate. My hope is that women will become more aware of the foolishness of sacrificing health for fashion. I hope that as a society we can strike a balance between the societal desires and the health needs of women. I believe that for this to happen we will need to influence those people in our society who influence women most profoundly. My examples were Oprah and Ellen Degeneres, but I think that any woman in the media could play a part in this change. We need to raise awareness in many different ways and on many different levels for there to be a significant change however. In this sense people like you and I can have a powerful impact as well.

In conclusion, the issue of the health concerns with wearing high heeled shoes is a very fascinating and complicated topic of debate. I have found that learning about the history of high heels and about the associated female stereotypes has broadened my perspective of the issue. I also researched about some of the health concerns

related to wearing high heels. Once I learned more about the issue at hand, I did some critical thinking of my own and I now have a full understanding of the importance of wearing high heeled shoes that are comfortable. I am very pleased with my project and I look forward to applying some of the knowledge that I've gained during my future in the medical field.

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